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CUAHSI WATERML 1.1

Draft Specification

Part 3: WaterML 1.1 Schema Description

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by:

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Distribution

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Scope

Water Markup Language (WaterML) specification defines an information exchange schema, which has been used in water data services within the Hydrologic Information System (HIS) project supported by the U.S. National Science Foundation, and has been adopted by several federal agencies as a format for serving hydrologic data. The goal of the first version of WaterML was to encode the semantics of hydrologic observation discovery and retrieval and implement water data services in a way that is both generic and unambiguous across different data providers, thus creating the least barriers for adoption by the hydrologic research community. Now in version 1.1, WaterML is evolving to reflect the deployment experience at hydrologic observatory testbeds around the U.S., and U.S. federal and state agency practices of serving observational data on the web. Data sources that can be queried via WaterML-compliant water data services include many national and international repositories of water data, and a growing number of academic observation networks registered by researchers associated with the hydrologic observatories.

WaterML 1.0 specification was published as an OGC discussion paper in 2007, and is available at the OGC web site. WaterML 1.1 is an updated version developed during 2008-2009, based on the feedback from HIS 1.0 deployment.

The WaterML 1.1 specification consists of three parts. The first part is a high-level description of WaterML scope, rationale, context and design drivers, main trade-offs in WaterML development, the evolution of WaterML, and the core WaterML constructs.

This first part follows a paper by Valentine, Zaslavsky and Whiteaker “CUAHSI WaterML: Design Drivers and Evolution Towards OGC Standards” (2009), currently in review. The second part reviews changes in WaterML 1.1 compared to the previous published specification. The third part (this document) is a detailed technical description of WaterML 1.1 schema.

Support and questions

Contact Dr. David Valentine, SDSC, valentin@sdsc.edu

INTRODUCTION

This schema documentation is exported from the published WaterML 1.1 schema using a DocFlex/XML XSDDoc. An online HTML version of the WaterML 1.1 documentation is found at: <http://water.sdsc.edu/doc/waterMldoc/v11/default.html>.

The starting point for using the WaterML schema is to examine the three response elements, and their complexType definitions:

	Element	ComplexType
Site	siteResponse	SiteResponseType
Variable	variablesResponse	VariablesResponseType
Time Series	timeSeriesResponse	TimeSeriesResponseType

XML Schema Documentation

Jun 11, 2009 11:43:09 AM

Namespace Summary

http://www.cuahsi.org/waterML/1.1/	<i>Page</i>
Targeting Schemas (1): cuahsiTimeSeries_v1_1.xsd	2
Targeting Components: 6 global elements , 157 local elements , 36 complexTypes , 31 simpleTypes , 5 global attributes	

Schema Summary	<i>Page</i>
cuahsiTimeSeries_v1_1.xsd Target Namespace: http://www.cuahsi.org/waterML/1.1/ Version: 1 Defined Components: 6 global elements, 137 local elements, 36 complexTypes, 31 simpleTypes, 5 global attributes Default Namespace-Qualified Form: Local Elements: qualified; Local Attributes: unqualified Schema Location: https://svn.sdsc.edu/repo/WATER/CUAHSI/WebServices/BaseWofService/WofSchemas/cuahsiTimeSeries_v1_1.xsd	18

Namespace "http://www.cuahsi.org/waterML/1.1/"
Targeting Schemas (1):[cuahsiTimeSeries_v1_1.xsd](#)**Targeting Components:**6 [global elements](#), 157 [local elements](#), 36 [complexTypes](#), 31 [simpleTypes](#), 5 [global attributes](#)

All Element Summary		Page
Abstract (in metadata)	Type: xsi:string Content: simple Defined: locally within complexType MetaDataTable [108] in cuahsiTimeSeries_v1_1.xsd , see XML source [18]	18
address (in contactInformation)	Type: xsi:anyType Content: any Defined: locally within complexType ContactInformationType [97] in cuahsiTimeSeries_v1_1.xsd , see XML source [18]	18
altname (in siteInfo)	Type: xsi:string Content: simple Defined: locally within complexType SiteInfoType [123] in cuahsiTimeSeries_v1_1.xsd , see XML source [19]	19
beginDateTime (in timeParam)	Type: xsi:string Content: simple Defined: locally within element timeParam [75] in cuahsiTimeSeries_v1_1.xsd , see XML source [19]	19
beginDateTime (in variableTimeInterval)	Type: xsi:dateTime Content: simple Defined: locally within complexType TimePeriodType [128] in cuahsiTimeSeries_v1_1.xsd , see XML source [20]	19
beginDateTimeUTC (in variableTimeInterval)	Type: xsi:dateTime Content: simple Defined: locally within complexType TimePeriodType [128] in cuahsiTimeSeries_v1_1.xsd , see XML source [20]	20
categories (in variable)	Type: anonymous complexType Content: complex, 1 element Defined: locally within complexType VariableInfoType [140] in cuahsiTimeSeries_v1_1.xsd , see XML source [20] Includes: definition of 1 element	20
category (in categories)	Type: anonymous complexType Content: complex, 1 attribute , 2 elements Defined: locally within element categories [21] in cuahsiTimeSeries_v1_1.xsd , see XML source [21] Includes: definitions of 1 attribute and 2 elements	21
censorCode (in censorCode in values)	Type: CensorCodeCodeList [143] Content: simple Defined: locally within complexType CensorCodeType [96] in cuahsiTimeSeries_v1_1.xsd , see XML source [22]	22
censorCode (in values)	Type: CensorCodeType [95] Content: complex, 1 attribute, 2 elements Defined: locally within complexType TsValuesSingleVariableType [133] in cuahsiTimeSeries_v1_1.xsd , see XML source [22]	22
censorCodeDescription (in censorCode in values)	Type: xsi:string Content: simple Defined: locally within complexType CensorCodeType [96] in cuahsiTimeSeries_v1_1.xsd , see XML source [23]	23

<u>citation</u> (type xsi:string)	Type: xsi:string Content: simple Defined: locally within complexType SourceType [126] in cuahsiTimeSeries_v1_1.xsd , see XML source [23]	23
<u>contactInformation</u> (type ContactInformationType)	Type: ContactInformationType [96] Content: complex, 5 elements Defined: locally within complexType SourceType [126] in cuahsiTimeSeries_v1_1.xsd , see XML source [24]	23
<u>contactName</u> (in contactInformation)	Type: xsi:string Content: simple Defined: locally within complexType ContactInformationType [97] in cuahsiTimeSeries_v1_1.xsd , see XML source [24]	24
<u>coordLatLong</u> (type CoordType)	Type: CoordType [97] Content: complex, 3 elements Defined: locally within complexType latLonLineString [106] in cuahsiTimeSeries_v1_1.xsd , see XML source [24]	24
<u>creationTime</u> (in queryInfo)	Type: xsi:dateTime Content: simple Defined: locally within complexType QueryInfoType [117] in cuahsiTimeSeries_v1_1.xsd , see XML source [25]	25
<u>criteria</u> (in queryInfo)	Type: anonymous complexType Content: complex, 1 attribute , 4 elements Defined: locally within complexType QueryInfoType [117] in cuahsiTimeSeries_v1_1.xsd , see XML source [25] Includes: definitions of 1 attribute and 4 elements	25
<u>dataSetDescription</u> (type xsi:string)	Type: xsi:string Content: simple Defined: locally within complexType DataSetInfoType [99] in cuahsiTimeSeries_v1_1.xsd , see XML source [26]	26
<u>dataSetIdentifier</u> (type xsi:string)	Type: xsi:string Content: simple Defined: locally within complexType DataSetInfoType [99] in cuahsiTimeSeries_v1_1.xsd , see XML source [27]	26
<u>dataSetLocation</u> (type GeogLocationType)	Type: GeogLocationType [101] Content: empty, 1 attribute Defined: locally within complexType DataSetInfoType [99] in cuahsiTimeSeries_v1_1.xsd , see XML source [27]	27
<u>dataSetProperty</u> (type PropertyType)	Type: .PropertyType [112] Content: simple, 3 attributes Defined: locally within complexType DataSetInfoType [100] in cuahsiTimeSeries_v1_1.xsd , see XML source [27]	27
<u>dataType</u> (type DataTypeCodeList)	Type: DataTypeCodeList [145] Content: simple Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd	27
<u>dataValue</u> (in category)	Type: xsi:decimal Content: simple Defined: locally within element category [22] in cuahsiTimeSeries_v1_1.xsd , see XML source [28]	28
<u>daylightSavingsTimeZone</u> (in timeZoneInfo : anonymous)	Type: anonymous (extension of TimeZoneType) Content: empty, 2 attributes Defined: locally within element timeZoneInfo [80] in cuahsiTimeSeries_v1_1.xsd , see XML source [29]	29
<u>daylightSavingsTimeZone</u> (in timeZoneInfo in siteInfo)	Type: anonymous (extension of TimeZoneType) Content: empty, 2 attributes Defined: locally within element timeZoneInfo [79] in cuahsiTimeSeries_v1_1.xsd , see XML source [29]	28

<u>defaultTimeZone</u> (in timeZoneInfo : anonymous)	Type: anonymous (extension of TimeZoneType) Content: empty, 2 attributes Defined: locally within element timeZoneInfo [81] in cuahsiTimeSeries_v1_1.xsd , see XML source [31]	30
<u>defaultTimeZone</u> (in timeZoneInfo in siteInfo)	Type: anonymous (extension of TimeZoneType) Content: empty, 2 attributes Defined: locally within element timeZoneInfo [79] in cuahsiTimeSeries_v1_1.xsd , see XML source [30]	30
<u>definition</u> (in qualityControlLevel)	Definition of Quality Control Level. Type: anonymous (restriction of xsi:string) Content: simple Defined: locally within complexType QualityControlLevelType [115] in cuahsiTimeSeries_v1_1.xsd , see XML source [32]	31
<u>description</u> (in category)	Type: xsi:string Content: simple Defined: locally within element category [22] in cuahsiTimeSeries_v1_1.xsd , see XML source [32]	32
<u>east</u> (type Longitude)	Type: Longitude [150] Content: simple Defined: locally within complexType LatLonBoxType [104] in cuahsiTimeSeries_v1_1.xsd , see XML source [32]	32
<u>elevation_m</u> (in siteInfo)	Type: xsi:double Content: simple Defined: locally within complexType siteInfoType [123] in cuahsiTimeSeries_v1_1.xsd , see XML source [33]	32
<u>email</u> (in contactInformation)	Type: xsi:normalizedString Content: simple Defined: locally within complexType ContactInformationType [97] in cuahsiTimeSeries_v1_1.xsd , see XML source [33]	33
<u>endDateTime</u> (in timeParam)	Type: xsi:string Content: simple Defined: locally within element timeParam [75] in cuahsiTimeSeries_v1_1.xsd , see XML source [34]	33
<u>endDateTime</u> (in variableTimeInterval)	Type: xsi:dateTime Content: simple Defined: locally within complexType TimePeriodType [129] in cuahsiTimeSeries_v1_1.xsd , see XML source [34]	34
<u>endDateTimeUTC</u> (in variableTimeInterval)	Type: xsi:dateTime Content: simple Defined: locally within complexType TimePeriodType [129] in cuahsiTimeSeries_v1_1.xsd , see XML source [34]	34
<u>explanation</u> (in qualityControlLevel)	Explanation of Quality Control Level eg "Raw data is defined as unprocessed data and data products that have not undergone quality control." Type: xsi:string Content: simple Defined: locally within complexType QualityControlLevelType [115] in cuahsiTimeSeries_v1_1.xsd , see XML source [35]	34
<u>extension</u>	Type: xsi:anyType Content: any Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [35] Used: at 6 locations	35
<u>generalCategory</u> (type GeneralCategoryCodeList)	Type: GeneralCategoryCodeList [148] Content: simple Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd	35

geogLocation (in geoLocation)	<p>Type: GeogLocationType [101]</p> <p>Content: empty, 1 attribute</p> <p>Defined: locally within element geoLocation [37] in cuahsiTimeSeries_v1_1.xsd, see XML source [36]</p>	36
geoLocation (in siteInfo)	<p>Type: anonymous complexType</p> <p>Content: complex, 2 elements</p> <p>Defined: locally within complexType SiteInfoType [123] in cuahsiTimeSeries_v1_1.xsd, see XML source [37]</p> <p>Includes: definitions of 2 elements</p>	36
labCode (in labMethod)	<p>The Abbreviation for the lab. e.g.</p> <p>Type: xsi:token</p> <p>Content: simple</p> <p>Defined: locally within complexType LabMethodType [103] in cuahsiTimeSeries_v1_1.xsd, see XML source [38]</p>	37
labMethod (in sample)	<p>Type: LabMethodType [102]</p> <p>Content: complex, 1 attribute, 7 elements</p> <p>Defined: locally within complexType SampleType [118] in cuahsiTimeSeries_v1_1.xsd, see XML source [38]</p>	38
labMethodDescription (in labMethod)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType LabMethodType [103] in cuahsiTimeSeries_v1_1.xsd, see XML source [39]</p>	38
labMethodLink (in labMethod)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType LabMethodType [103] in cuahsiTimeSeries_v1_1.xsd, see XML source [39]</p>	39
LabMethodName (in labMethod)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType LabMethodType [103] in cuahsiTimeSeries_v1_1.xsd, see XML source [39]</p>	39
labName (in labMethod)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType LabMethodType [103] in cuahsiTimeSeries_v1_1.xsd, see XML source [40]</p>	39
labOrganization (in labMethod)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType LabMethodType [103] in cuahsiTimeSeries_v1_1.xsd, see XML source [40]</p>	40
labSampleCode (in sample)	<p>Type: xsi:normalizedString</p> <p>Content: simple</p> <p>Defined: locally within complexType SampleType [118] in cuahsiTimeSeries_v1_1.xsd, see XML source [40]</p>	40
labSourceDetails (in labMethod)	<p>This is the contact information for a laboratory</p> <p>Type: SourceType [125]</p> <p>Content: complex, 1 attribute, 7 elements</p> <p>Defined: locally within complexType LabMethodType [103] in cuahsiTimeSeries_v1_1.xsd, see XML source [41]</p>	41
latitude (in coordLatLong)	<p>Type: Latitude [149]</p> <p>Content: simple</p> <p>Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd</p>	41
localSiteXY (in geoLocation)	<p>Type: anonymous complexType</p> <p>Content: complex, 1 attribute, 4 elements</p> <p>Defined: locally within element geoLocation [37] in cuahsiTimeSeries_v1_1.xsd, see XML source [42]</p> <p>Includes: definitions of 1 attribute and 4 elements</p>	42

<u>locationParam</u> (in criteria)	Type: xsi:string Content: simple Defined: locally within element criteria [26] in cuahsiTimeSeries_v1_1.xsd , see XML source [43]	43
<u>longitude</u> (in coordLatLong)	Type: Longitude [150] Content: simple Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd	43
<u>metadata</u> (type MetaDataType)	Type: MetaDataType [107] Content: complex, 5 elements Defined: locally within complexType SourceType [126] in cuahsiTimeSeries_v1_1.xsd , see XML source [44]	44
<u>MetadataLink</u> (in metadata)	Type: xsi:anyURI Content: simple Defined: locally within complexType MetaDataType [108] in cuahsiTimeSeries_v1_1.xsd , see XML source [45]	44
<u>method</u> (type MethodType)	Type: MethodType [108] Content: complex, 1 attribute, 3 elements Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd	45
<u>methodCode</u> (in method)	Type: xsi:token Content: simple Defined: locally within complexType MethodType [109] in cuahsiTimeSeries_v1_1.xsd , see XML source [46]	46
<u>methodDescription</u> (in method)	Type: xsi:string Content: simple Defined: locally within complexType MethodType [109] in cuahsiTimeSeries_v1_1.xsd , see XML source [46]	46
<u>methodLink</u> (in method)	Type: xsi:string Content: simple Defined: locally within complexType MethodType [109] in cuahsiTimeSeries_v1_1.xsd , see XML source [47]	46
<u>noDataValue</u> (in variable)	Type: xsi:double Content: simple Defined: locally within complexType VariableInfoType [141] in cuahsiTimeSeries_v1_1.xsd , see XML source [47]	47
<u>north</u> (type Latitude)	Type: Latitude [149] Content: simple Defined: locally within complexType LatLonBoxType [104] in cuahsiTimeSeries_v1_1.xsd , see XML source [47]	47
<u>note</u> (type NoteType)	Type: NoteType [109] Content: simple, 4 attributes Defined: locally at 6 locations in cuahsiTimeSeries_v1_1.xsd	47
<u>offset</u> (in values)	Type: OffsetType [110] Content: complex, 1 attribute, 6 elements Defined: locally within complexType TsValuesSingleVariableType [133] in cuahsiTimeSeries_v1_1.xsd , see XML source [49]	48
<u>offsetAzimuthDegrees</u> (in offset)	Type: xsi:int Content: simple Defined: locally within complexType OffsetType [111] in cuahsiTimeSeries_v1_1.xsd , see XML source [49]	49
<u>offsetDescription</u> (in offset)	Type: xsi:string Content: simple Defined: locally within complexType OffsetType [111] in cuahsiTimeSeries_v1_1.xsd , see XML source [49]	49
<u>offsetIsVertical</u> (in offset)	Type: xsi:boolean Content: simple Defined: locally within complexType OffsetType [111] in cuahsiTimeSeries_v1_1.xsd , see XML source [50]	49

<u>offsetTypeCode</u> (in offset)	<p>Type: xsi:token</p> <p>Content: simple</p> <p>Defined: locally within complexType OffsetType [112] in cuahsiTimeSeries_v1_1.xsd, see XML source [50]</p>	50
<u>offsetValue</u> (in offset)	<p>Type: xsi:float</p> <p>Content: simple</p> <p>Defined: locally within complexType OffsetType [112] in cuahsiTimeSeries_v1_1.xsd, see XML source [51]</p>	50
<u>option</u>	<p>Option elements are key-value pair elements that control how a variable might be utilized in a service.</p> <p>Type: anonymous (extension of xsi:string)</p> <p>Content: simple, 3 attributes</p> <p>Defined: globally in cuahsiTimeSeries_v1_1.xsd, see XML source [51]</p> <p>Includes: definitions of 3 attributes</p> <p>Used: at 1 location</p>	51
<u>options</u>	<p>A list of options.</p> <p>Type: anonymous complexType</p> <p>Content: complex, 1 element</p> <p>Defined: globally in cuahsiTimeSeries_v1_1.xsd, see XML source [52]</p> <p>Includes: definition of 1 element</p> <p>Used: at 1 location</p>	52
<u>organization</u> (type xsi:string)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType SourceType [126] in cuahsiTimeSeries_v1_1.xsd, see XML source [53]</p>	53
<u>parameter</u> (in criteria)	<p>Type: anonymous complexType</p> <p>Content: empty, 2 attributes</p> <p>Defined: locally within element criteria [26] in cuahsiTimeSeries_v1_1.xsd, see XML source [54]</p> <p>Includes: definitions of 2 attributes</p>	53
<u>parentCode</u> (in related)	<p>Type: anonymous (extension of xsi:string)</p> <p>Content: simple, 3 attributes</p> <p>Defined: locally within element related [60] in cuahsiTimeSeries_v1_1.xsd, see XML source [54]</p> <p>Includes: definitions of 3 attributes</p>	54
<u>phone</u> (in contactInformation)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType ContactInformationType [97] in cuahsiTimeSeries_v1_1.xsd, see XML source [55]</p>	55
<u>ProfileVersion</u> (in metadata)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType MetaDataType [108] in cuahsiTimeSeries_v1_1.xsd, see XML source [56]</p>	55
<u>qualifier</u> (in values)	<p>Type: QualifierType [113]</p> <p>Content: complex, 4 attributes, 2 elements</p> <p>Defined: locally within complexType TsValuesSingleVariableType [133] in cuahsiTimeSeries_v1_1.xsd, see XML source [56]</p>	56
<u>qualifierCode</u> (in qualifier)	<p>Type: xsi:token</p> <p>Content: simple</p> <p>Defined: locally within complexType QualifierType [114] in cuahsiTimeSeries_v1_1.xsd, see XML source [57]</p>	56
<u>qualifierDescription</u> (in qualifier)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType QualifierType [114] in cuahsiTimeSeries_v1_1.xsd, see XML source [57]</p>	57

qualityControlLevel (type QualityControlLevelType)	Type: QualityControlLevelType [114] Content: complex, 1 attribute, 3 elements Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd	57
qualityControlLevelCode (in qualityControlLevel)	Code used to identify the level of quality control to which data values have been subjected. Type: xsi:token Content: simple Defined: locally within complexType QualityControlLevelType [115] in cuahsiTimeSeries_v1_1.xsd , see XML source [58]	58
queryInfo (type QueryInfoType)	Type: QueryInfoType [116] Content: complex, 5 elements Defined: locally at 3 locations in cuahsiTimeSeries_v1_1.xsd	58
queryURL (in queryInfo)	Type: xsi:string Content: simple Defined: locally within complexType QueryInfoType [117] in cuahsiTimeSeries_v1_1.xsd , see XML source [59]	59
realTimeDataPeriod (type xsi:duration)	Type: xsi:duration Content: simple Defined: locally within complexType TimePeriodRealTimeType [127] in cuahsiTimeSeries_v1_1.xsd , see XML source [59]	59
related (in variable)	Type: anonymous complexType Content: complex, 2 elements Defined: locally within complexType VariableInfoType [141] in cuahsiTimeSeries_v1_1.xsd , see XML source [60] Includes: definitions of 2 elements	59
relatedCode (in related)	Type: anonymous (extension of xsi:string) Content: simple, 3 attributes Defined: locally within element related [60] in cuahsiTimeSeries_v1_1.xsd , see XML source [61] Includes: definitions of 3 attributes	60
sample (in values)	Type: SampleType [117] Content: complex, 1 attribute, 3 elements Defined: locally within complexType TsValuesSingleVariableType [133] in cuahsiTimeSeries_v1_1.xsd , see XML source [62]	61
sampleMedium (type SampleMediumCodeList)	Type: SampleMediumCodeList [153] Content: simple Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd	62
sampleType (in sample)	Type: SampleTypeCodeList [155] Content: simple Defined: locally within complexType SampleType [118] in cuahsiTimeSeries_v1_1.xsd , see XML source [63]	62
series (in seriesCatalog)	Type: anonymous complexType Content: complex, 11 elements Defined: locally within complexType seriesCatalogType [120] in cuahsiTimeSeries_v1_1.xsd , see XML source [63] Includes: definitions of 11 elements	63
seriesCatalog (in site)	Type: seriesCatalogType [118] Content: complex, 2 attributes, 4 elements Defined: locally within element site [67] in cuahsiTimeSeries_v1_1.xsd , see XML source [65]	65
seriesCatalogProperty (in seriesCatalog)	Type: .PropertyType [112] Content: simple, 3 attributes Defined: locally within complexType seriesCatalogType [120] in cuahsiTimeSeries_v1_1.xsd , see XML source [66]	66

<u>seriesProperty</u> (in series)	<p>Type: PropertyParams [112]</p> <p>Content: simple, 3 attributes</p> <p>Defined: locally within element series [64] in cuahsiTimeSeries_v1_1.xsd, see XML source [66]</p>	66
<u>site</u> (in sitesResponse)	<p>Type: anonymous complexType</p> <p>Content: complex, 3 elements</p> <p>Defined: locally within complexType SiteInfoResponseType [121] in cuahsiTimeSeries_v1_1.xsd, see XML source [67]</p> <p>Includes: definitions of 3 elements</p>	66
<u>siteCode</u> (in siteInfo)	<p>A siteID is an identifier that this site is referred to as.</p> <p>Type: anonymous (extension of xsi:token)</p> <p>Content: simple, 5 attributes</p> <p>Defined: locally within complexType SiteInfoType [123] in cuahsiTimeSeries_v1_1.xsd, see XML source [68]</p> <p>Includes: definitions of 5 attributes</p>	67
<u>siteInfo</u> (in site)	<p>Type: SiteInfoType [121]</p> <p>Content: complex, 2 attributes, 11 elements</p> <p>Defined: locally within element site [67] in cuahsiTimeSeries_v1_1.xsd, see XML source [70]</p>	69
<u>siteName</u> (in siteInfo)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType SiteInfoType [124] in cuahsiTimeSeries_v1_1.xsd, see XML source [70]</p>	70
<u>siteProperty</u> (in siteInfo)	<p>Type: PropertyParams [112]</p> <p>Content: simple, 3 attributes</p> <p>Defined: locally within complexType SiteInfoType [124] in cuahsiTimeSeries_v1_1.xsd, see XML source [70]</p>	70
<u>sitesResponse</u>	<p>Type: SiteInfoResponseType [120]</p> <p>Content: complex, 2 elements</p> <p>Defined: globally in cuahsiTimeSeries_v1_1.xsd, see XML source [71]</p> <p>Used: never</p>	71
<u>siteType</u> (in siteInfo)	<p>Type: SiteTypeCodeList [157]</p> <p>Content: simple</p> <p>Defined: locally within complexType SiteInfoType [124] in cuahsiTimeSeries_v1_1.xsd, see XML source [71]</p>	71
<u>source</u> (type SourceType)	<p>Type: SourceType [125]</p> <p>Content: complex, 1 attribute, 7 elements</p> <p>Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd</p>	71
<u>sourceCode</u> (type xsi:token)	<p>The abbreviation for the source. e.g.</p> <p>Type: xsi:token</p> <p>Content: simple</p> <p>Defined: locally within complexType SourceType [126] in cuahsiTimeSeries_v1_1.xsd, see XML source [72]</p>	72
<u>sourceDescription</u> (type xsi:string)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType SourceType [126] in cuahsiTimeSeries_v1_1.xsd, see XML source [73]</p>	72
<u>sourceInfo</u> (in timeSeries)	<p>Type: SourceInfoType [124]</p> <p>Content: empty</p> <p>Defined: locally within complexType TimeSeriesType [130] in cuahsiTimeSeries_v1_1.xsd, see XML source [73]</p>	73
<u>sourceLink</u> (type xsi:anyURI)	<p>Type: xsi:anyURI</p> <p>Content: simple</p> <p>Defined: locally within complexType SourceType [126] in cuahsiTimeSeries_v1_1.xsd, see XML source [74]</p>	73

<u>south</u> (type Latitude)	Type: Latitude [149] Content: simple Defined: locally within complexType LatLonBoxType [104] in cuahsiTimeSeries_v1_1.xsd , see XML source [74]	74
<u>speciation</u> (in variable)	Type: SpeciationCodeList [158] Content: simple Defined: locally within complexType VariableInfoType [141] in cuahsiTimeSeries_v1_1.xsd , see XML source [74]	74
<u>timeParam</u> (in criteria)	Type: anonymous complexType Content: complex, 2 elements Defined: locally within element criteria [26] in cuahsiTimeSeries_v1_1.xsd , see XML source [75] Includes: definitions of 2 elements	74
<u>timeScale</u> (in variable)	Element containing the time support (or temporal footprint) of the data values. Type: anonymous complexType Content: complex, 1 attribute , 3 elements Nillable: <i>(can be declared as nil using xsi:nil attribute in instance XML documents)</i> Defined: locally within complexType VariableInfoType [142] in cuahsiTimeSeries_v1_1.xsd , see XML source [76] Includes: definitions of 1 attribute and 3 elements	75
<u>timeSeries</u> (in timeSeriesResponse)	Type: TimeSeriesType [129] Content: complex, 1 attribute, 3 elements Defined: locally within complexType TimeSeriesResponseType [129] in cuahsiTimeSeries_v1_1.xsd , see XML source [77]	76
<u>timeSeriesResponse</u>	Type: TimeSeriesResponseType [129] Content: complex, 2 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [77] Used: never	77
<u>timeSingle</u> (type xsi:dateTime)	Type: xsi:dateTime Content: simple Defined: locally within complexType TimeSingleType [131] in cuahsiTimeSeries_v1_1.xsd , see XML source [78]	77
<u>timeSpacing</u> (in timeScale)	Type: xsi:float Content: simple Defined: locally within element timeScale [76] in cuahsiTimeSeries_v1_1.xsd , see XML source [78]	78
<u>timeSupport</u> (in timeScale)	Type: xsi:float Content: simple Defined: locally within element timeScale [76] in cuahsiTimeSeries_v1_1.xsd , see XML source [78]	78
<u>timeZoneInfo</u> (in siteInfo)	the default time zone for this site (+00:00) and if this site shifts to daylight savings time (attribute: usesDaylightSavingsTime) Type: anonymous complexType Content: complex, 1 attribute , 2 elements Defined: locally within complexType SiteInfoType [124] in cuahsiTimeSeries_v1_1.xsd , see XML source [79] Includes: definitions of 1 attribute and 2 elements	78
<u>timeZoneInfo</u> (type anonymous)	the default time zone for this site (+00:00) and if this site shifts to daylight savings time (attribute: usesDaylightSavingsTime) Type: anonymous complexType Content: complex, 1 attribute , 2 elements Defined: locally within complexType DataSetInfoType [100] in cuahsiTimeSeries_v1_1.xsd , see XML source [80] Includes: definitions of 1 attribute and 2 elements	80

<u>Title</u> (in metadata)	Type: xsi:string Content: simple Defined: locally within complexType MetaDataType [108] in cuahsiTimeSeries_v1_1.xsd , see XML source [81]	81
<u>TopicCategory</u> (in metadata)	Type: xsi:string Content: simple Defined: locally within complexType MetaDataType [108] in cuahsiTimeSeries_v1_1.xsd , see XML source [81]	81
<u>typeOfContact</u> (in contactInformation)	Type: xsi:normalizedString Content: simple Defined: locally within complexType ContactInformationType [97] in cuahsiTimeSeries_v1_1.xsd , see XML source [82]	81
<u>unit</u> (type UnitsType)	Type: UnitsType [134] Content: complex, 1 attribute, 5 elements Defined: locally at 3 locations in cuahsiTimeSeries_v1_1.xsd	82
<u>unitAbbreviation</u> (in unit)	Type: xsi:string Content: simple Defined: locally within complexType UnitsType [134] in cuahsiTimeSeries_v1_1.xsd , see XML source [83]	83
<u>unitCode</u> (in unit)	Type: xsi:token Content: simple Defined: locally within complexType UnitsType [135] in cuahsiTimeSeries_v1_1.xsd , see XML source [83]	83
<u>unitDescription</u> (in unit)	Type: xsi:string Content: simple Defined: locally within complexType UnitsType [135] in cuahsiTimeSeries_v1_1.xsd , see XML source [84]	83
<u>unitName</u> (in unit)	Type: xsi:string Content: simple Defined: locally within complexType UnitsType [135] in cuahsiTimeSeries_v1_1.xsd , see XML source [84]	84
<u>unitType</u> (in unit)	Type: UnitsTypeCodeList [161] Content: simple Defined: locally within complexType UnitsType [135] in cuahsiTimeSeries_v1_1.xsd , see XML source [84]	84
<u>value</u> (in values)	text Type: ValueSingleVariable [135] Content: simple, 20 attributes Defined: locally within complexType TsValuesSingleVariableType [133] in cuahsiTimeSeries_v1_1.xsd , see XML source [85]	84
<u>valueCount</u> (in series)	Type: anonymous (extension of positiveInt) Content: simple, 1 attribute Defined: locally within element series [65] in cuahsiTimeSeries_v1_1.xsd , see XML source [86] Includes: definition of 1 attribute	85
<u>values</u> (in timeSeries)	Type: TsValuesSingleVariableType [132] Content: complex, 8 elements Defined: locally within complexType TimeSeriesType [130] in cuahsiTimeSeries_v1_1.xsd , see XML source [87]	86
<u>valueType</u> (type ValueTypeCodeList)	Type: ValueTypeCodeList [163] Content: simple Defined: locally at 2 locations in cuahsiTimeSeries_v1_1.xsd	87
<u>variable</u> (type VariableInfoType)	Type: VariableInfoType [138] Content: complex, 2 attributes, 17 elements Defined: locally at 3 locations in cuahsiTimeSeries_v1_1.xsd	87

variableCode (in variable)	<p>Type: anonymous (extension of xsi:token)</p> <p>Content: simple, 4 attributes</p> <p>Defined: locally within complexType VariableInfoType [142] in cuahsiTimeSeries_v1_1.xsd, see XML source [89]</p> <p>Includes: definitions of 4 attributes</p>	88
variableDescription (in variable)	A detailed descriptn of the variable.	89
	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType VariableInfoType [142] in cuahsiTimeSeries_v1_1.xsd, see XML source [90]</p>	
variableName (in variable)	A brief name of the variable that could be shown in a menu	90
	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType VariableInfoType [142] in cuahsiTimeSeries_v1_1.xsd, see XML source [90]</p>	
variableParam (in criteria)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within element criteria [26] in cuahsiTimeSeries_v1_1.xsd, see XML source [91]</p>	90
variableProperty (in variable)	<p>Type: .PropertyType [112]</p> <p>Content: simple, 3 attributes</p> <p>Defined: locally within complexType VariableInfoType [142] in cuahsiTimeSeries_v1_1.xsd, see XML source [91]</p>	91
variables (in variablesResponse)	<p>Type: anonymous complexType</p> <p>Content: complex, 1 element</p> <p>Defined: locally within complexType VariablesResponseType [143] in cuahsiTimeSeries_v1_1.xsd, see XML source [92]</p> <p>Includes: definition of 1 element</p>	91
variablesResponse	<p>Type: VariablesResponseType [142]</p> <p>Content: complex, 2 elements</p> <p>Defined: globally in cuahsiTimeSeries_v1_1.xsd, see XML source [92]</p> <p>Used: never</p>	92
variableTimeInterval (in series)	<p>Type: TimePeriodType [128]</p> <p>Content: complex, 4 elements</p> <p>Defined: locally within element series [65] in cuahsiTimeSeries_v1_1.xsd, see XML source [93]</p>	92
verticalDatum (in siteInfo)	<p>Type: xsi:string</p> <p>Content: simple</p> <p>Defined: locally within complexType SiteInfoType [124] in cuahsiTimeSeries_v1_1.xsd, see XML source [93]</p>	93
west (type Longitude)	<p>Type: Longitude [150]</p> <p>Content: simple</p> <p>Defined: locally within complexType LatLonBoxType [104] in cuahsiTimeSeries_v1_1.xsd, see XML source [93]</p>	93
x (in localSiteXY)	<p>Type: xsi:double</p> <p>Content: simple</p> <p>Defined: locally within element localSiteXY [43] in cuahsiTimeSeries_v1_1.xsd, see XML source [94]</p>	93
y (in localSiteXY)	<p>Type: xsi:double</p> <p>Content: simple</p> <p>Defined: locally within element localSiteXY [43] in cuahsiTimeSeries_v1_1.xsd, see XML source [94]</p>	94
z (in coordLatLong)	<p>Type: xsi:decimal</p> <p>Content: simple</p> <p>Defined: locally within complexType CoordType [98] in cuahsiTimeSeries_v1_1.xsd, see XML source [95]</p>	95

Z (in localSiteXY)	Type: xsi:double Content: simple Defined: locally within element localSiteXY [43] in cuahsiTimeSeries_v1_1.xsd , see XML source [95]	94
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Complex Type Summary		Page
CensorCodeType	Content: complex, 1 attribute , 2 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [96] Includes: definitions of 1 attribute and 2 elements Used: at 1 location	95
ContactInformationType	Content: complex, 5 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [97] Includes: definitions of 5 elements Used: at 1 location	96
CoordType	Represents a coordinate tuple in one, two, or three dimensions. ===== There are two ways to represent coordinates: (1) as a sequence of <coord> elements that encapsulate tuples, or (2) using a single <coordinates> string Content: complex, 3 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [98] Includes: definitions of 3 elements Used: at 1 location	97
DataSetInfoType	Content: complex, 7 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [99] Includes: definitions of 7 elements Used: never	98
DocumentationType	Content: mixed, 4 attributes Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [100] Includes: definitions of 4 attributes Used: never	100
GeogLocationType	Content: empty, 1 attribute Abstract: (cannot be assigned directly to elements used in instance XML documents) Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [101] Includes: definition of 1 attribute Used: at 5 locations	101
LabMethodType	Content: complex, 1 attribute , 7 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [102] Includes: definitions of 1 attribute and 7 elements Used: at 1 location	102
LatLonBoxType	Content: complex, 1 attribute, 4 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [104] Includes: definitions of 4 elements Used: never	103
LatLonLineString	Content: complex, 2 attributes , 1 element Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [105] Includes: definitions of 1 attribute and 1 element Used: never	105
LatLonPointType	Content: complex, 1 attribute, 2 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [106] Includes: definitions of 2 elements Used: never	106
MetaDataType	Content: complex, 5 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [107] Includes: definitions of 5 elements Used: at 1 location	107

MethodType	Content: complex, 1 attribute , 3 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [108] Includes: definitions of 1 attribute and 3 elements Used: at 1 location	108
NoteType	Content: simple, 4 attributes Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [110] Includes: definitions of 4 attributes Used: at 1 location	109
OffsetType	Content: complex, 1 attribute , 6 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [111] Includes: definitions of 1 attribute and 6 elements Used: at 1 location	110
.PropertyType	Content: simple, 3 attributes Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [112] Includes: definitions of 3 attributes Used: at 5 locations	112
QualifierType	Content: complex, 4 attributes , 2 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [113] Includes: definitions of 4 attributes and 2 elements Used: at 1 location	113
QualityControlLevelType	Content: complex, 1 attribute , 3 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [115] Includes: definitions of 1 attribute and 3 elements Used: at 1 location	114
QueryInfoType	Content: complex, 5 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [116] Includes: definitions of 5 elements Used: at 1 location	116
SampleType	Content: complex, 1 attribute , 3 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [118] Includes: definitions of 1 attribute and 3 elements Used: at 1 location	117
seriesCatalogType	Content: complex, 2 attributes , 4 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [119] Includes: definitions of 2 attributes and 4 elements Used: at 1 location	118
siteInfoResponseType	Content: complex, 2 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [120] Includes: definitions of 2 elements Used: at 1 location	120
siteInfoType	A sampling station is any place where data are collected. Content: complex, 2 attributes , 11 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [122] Includes: definitions of 2 attributes and 11 elements Used: at 1 location	121
SourceInfoType	Content: empty Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [125] Used: at 3 locations	124
SourceType	Content: complex, 1 attribute , 7 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [125] Includes: definitions of 1 attribute and 7 elements Used: at 2 locations	125
TimeIntervalType	Content: complex, 4 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [127] Used: never	126

<u>TimePeriodRealTimeType</u>	Content: complex, 5 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [127] Includes: definition of 1 element Used: never	127
<u>TimePeriodType</u>	Content: complex, 4 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [128] Includes: definitions of 4 elements Used: at 4 locations	128
<u>TimeSeriesResponseType</u>	Content: complex, 2 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [129] Includes: definitions of 2 elements Used: at 1 location	129
<u>TimeSeriesType</u>	Content: complex, 1 attribute , 3 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [130] Includes: definitions of 1 attribute and 3 elements Used: at 1 location	129
<u>TimeSingleType</u>	Content: complex, 5 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [131] Includes: definition of 1 element Used: never	131
<u>TimeZoneType</u>	Content: empty, 2 attributes Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [132] Includes: definitions of 2 attributes Used: at 4 locations	131
<u>TsValuesSingleVariableType</u>	Content: complex, 8 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [133] Includes: definitions of 8 elements Used: at 1 location	132
<u>UnitsType</u>	Content: complex, 1 attribute , 5 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [134] Includes: definitions of 1 attribute and 5 elements Used: at 1 location	134
<u>ValueSingleVariable</u>	Content: simple, 20 attributes Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [136] Includes: definitions of 20 attributes Used: at 1 location	135
<u>VariableInfoType</u>	Content: complex, 2 attributes , 17 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [139] Includes: definitions of 2 attributes and 17 elements Used: at 1 location	138
<u>VariablesResponseType</u>	Content: complex, 2 elements Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [143] Includes: definitions of 2 elements Used: at 1 location	142

Simple Type Summary	Page
<u>CensorCodeCodeList</u>	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [144] Used: at 2 locations
<u>CensorCodeEnum</u>	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [145] Used: at 1 location
<u>DataTypeCodeList</u>	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [145] Used: at 1 location
<u>dataTypeEnum</u>	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [146] Used: at 1 location

DocumentationEnumTypes	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [147] Used: at 1 location	147
doubleList	XML List based on XML Schema double type. Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [148] Used: never	147
GeneralCategoryCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [148] Used: at 1 location	148
generalCategoryEnum	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [149] Used: at 1 location	148
Latitude	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [150] Used: at 3 locations	149
Longitude	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [151] Used: at 3 locations	150
positiveInt	.Net serializer work around. Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [152] Used: at 7 locations	151
QualityControlLevelCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [152] Used: never	152
QualityControlLevelEnum	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [153] Used: at 1 location	153
SampleMediumCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [154] Used: at 1 location	153
SampleMediumEnum	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [155] Used: at 1 location	154
SampleTypeCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [155] Used: at 1 location	155
sampleTypeEnum	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [156] Used: at 1 location	156
SiteTypeCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [157] Used: at 1 location	157
SiteTypeEnum	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [158] Used: at 1 location	157
SpeciationCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [158] Used: at 1 location	158
SpeciationEnum	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [159] Used: at 1 location	159
TimeOffsetType	This represents an offset for the time zone. [+/-]hh:mm Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [160] Used: at 1 location	159
TopicCategoryCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [160] Used: never	160
TopicCategoryEnum	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [161] Used: at 1 location	161
UnitsTypeCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [162] Used: at 1 location	161
UnitsTypeEnum	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [162] Used: at 1 location	162
ValueTypeCodeList	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [163] Used: at 1 location	163

<u>valueTypeEnum</u>	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [164] Used: at 1 location	163
<u>VerticalDatumCodeList</u>	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [165] Used: never	164
<u>VerticalDatumEnum</u>	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [165] Used: at 1 location	165
<u>zDirectionEnum</u>	Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [166] Used: at 1 location	165

Global Attribute Summary		Page
<u>default</u>	Type: xsi:boolean Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [167] Used: at 1 location	166
<u>metadataTime</u>	Type: xsi:dateTime Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [167] Used: at 3 locations	167
<u>network</u>	Type: xsi:NMTOKEN Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [167] Used: at 1 location	167
<u>oid</u>	Type: xsi:normalizedString Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [168] Used: at 3 locations	167
<u>vocabulary</u>	Type: xsi:NMTOKEN Defined: globally in cuahsiTimeSeries_v1_1.xsd , see XML source [168] Used: at 1 location	168

XML Schema "cuahsiTimeSeries_v1_1.xsd"

Target Namespace:

<http://www.cuahsi.org/waterML/1.1/>

Version:

1

Defined Components:

6 global elements, 137 local elements, 36 complexTypes, 31 simpleTypes, 5 global attributes

Default Namespace-Qualified Form:

Local Elements: qualified; Local Attributes: unqualified

Schema Location:

https://svn.sdsc.edu/repo/WATER/CUAHSI/WebServices/BaseWofService/WofSchemas/cuahsiTimeSeries_v1_1.xsd

element <Abstract>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [MetaDataType](#) [108] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [18]

XML Representation Summary

```
<Abstract  
    Content: { xsi:string }  
</Abstract>
```

Included in content model of elements (1):

[metadata](#) (type [MetaDataType](#)) [44]

XML Source

```
<xsi:element minOccurs="0" name="Abstract" type="xsi:string"/>
```

element <address>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:anyType

Content: any

Defined: [locally](#) within complexType [ContactInformationType](#) [97] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [18]

XML Representation Summary

```
<address  
    Content: { xsi:anyType }  
</address>
```

Included in content model of elements (1):

[contactInformation](#) (type [ContactInformationType](#)) [23]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="address" type="xsi:anyType"/>
```

element <altname>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [SiteInfoType](#) [123] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [19]

XML Representation Summary

```
<altname
  Content: { xsi:string }
</altname>
```

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

XML Source

```
<xsi:element minOccurs="0" name="altname" type="xsi:string"/>
```

element <beginDateTime>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within element [timeParam](#) [75] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [19]

XML Representation Summary

```
<beginDateTime
  Content: { xsi:string }
</beginDateTime>
```

Included in content model of elements (1):

[timeParam](#) (in [criteria](#)) [74]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="beginDateTime" type="xsi:string"/>
```

element <beginDateTime>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:dateTime

Content: simple

Defined: [locally](#) within complexType [TimePeriodType](#) [128] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [20]

XML Representation Summary

```
<beginDateTime
  Content: { xsi:dateTime }
</beginDateTime>
```

Included in content model of elements (1):

element <beginDateTime> (in variableTimeInterval)

[variableTimeInterval](#) (in [series](#)) [92]

XML Source

```
<xsi:element name="beginDateTime" type="xsi:dateTime"/>
```

element <beginDateTimeUTC>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:dateTime

Content: simple

Defined: [locally](#) within complexType [TimePeriodType](#) [128] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [20]

XML Representation Summary

```
<beginDateTimeUTC  
  Content: { xsi:dateTime }</beginDateTimeUTC>
```

Included in content model of elements (1):

[variableTimeInterval](#) (in [series](#)) [92]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="beginDateTimeUTC" type="xsi:dateTime"/>
```

element <categories>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: anonymous complexType

Content: complex, 1 [element](#)

Defined: [locally](#) within complexType [VariableInfoType](#) [140] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [20]

Includes: definition of 1 [element](#)

XML Representation Summary

```
<categories>  
  Content: category*</categories>
```

Content model elements (1):

[category](#) (in [categories](#)) [21]

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="categories">  
  <xsi:complexType>  
    <xsi:sequence>  
      <xsi:element maxOccurs="unbounded" minOccurs="0" name="category">  
        <xsi:complexType>  
          <xsi:sequence>
```

element <categories> (in variable)

```
<xsi:element name="dataValue" type="xsi:decimal"/>
<xsi:element maxOccurs="1" minOccurs="0" name="description" type="xsi:string"/>
</xsi:sequence>
<xsi:attribute name="categoryID" type="xsi:int"/>
</xsi:complexType>
</xsi:element>
</xsi:sequence>
</xsi:complexType>
</xsi:element>
```

Content Element Detail (defined in [this](#) component only; 1/1)



[category](#) [21]

Type: anonymous, complex content

element <category>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: anonymous complexType

Content: complex, 1 [attribute](#), 2 [elements](#)

Defined: [locally](#) within element [categories](#) [21] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [21]

Includes: definitions of 1 [attribute](#) and 2 [elements](#)

XML Representation Summary

```
<category
  categoryID = xsi:int
  >
  Content: dataValue, description?
</category>
```

Content model elements (2):

[dataValue](#) (in [category](#)) [28], [description](#) (in [category](#)) [32]

Included in content model of elements (1):

[categories](#) (in [variable](#)) [20]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="category">
<xsi:complexType>
<xsi:sequence>
<xsi:element name="dataValue" type="xsi:decimal"/>
<xsi:element maxOccurs="1" minOccurs="0" name="description" type="xsi:string"/>
</xsi:sequence>
<xsi:attribute name="categoryID" type="xsi:int"/>
</xsi:complexType>
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 1/1)



[categoryID](#)

Type: xsi:int, predefined

Use: optional

Content Element Detail (defined in [this](#) component only; 2/2)

[dataValue](#) [28]

Type: xsi:decimal, predefined, simple content

[description](#) [32]

Type: xsi:string, predefined, simple content

element <censorCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [CensorCodeType](#) [95]

Content: complex, 1 attribute, 2 elements

Defined: [locally](#) within complexType [TsValuesSingleVariableType](#) [133] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [22]

XML Representation Summary

```
<censorCode  
    censorCodeID = xsi:int  
>  
    Content: censorCode, censorCodeDescription  
</censorCode>
```

Content model elements (2):

[censorCode](#) (in [censorCode](#) in [values](#)) [22], [censorCodeDescription](#) (in [censorCode](#) in [values](#)) [23]

Included in content model of elements (1):

[values](#) (in [timeSeries](#)) [86]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="censorCode" type="CensorCodeType" />
```

element <censorCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [CensorCodeCodeList](#) [143]

Content: simple

Defined: [locally](#) within complexType [CensorCodeType](#) [96] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [22]

XML Representation Summary

```
<censorCode  
    Content: { ("lt" | "gt" | "nc" | "nd" | "pnq") | xsi:string }  
</censorCode>
```

Included in content model of elements (1):

[censorCode](#) (in [values](#)) [22]

XML Source

```
<xsi:element name="censorCode" type="CensorCodeCodeList" />
```

element <censorCodeDescription>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [CensorCodeType](#) [96] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [23]

XML Representation Summary

```
<censorCodeDescription
  Content: { xsi:string }
</censorCodeDescription>
```

Included in content model of elements (1):

[censorCode](#) (in [values](#)) [22]

XML Source

```
<xsi:element name="censorCodeDescription" type="xsi:string"/>
```

element <citation>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [SourceType](#) [126] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [23]

XML Representation Summary

```
<citation
  Content: { xsi:string }
</citation>
```

Included in content model of elements (2):

[labSourceDetails](#) (in [labMethod](#)) [41], [source](#) (type [SourceType](#)) [71]

XML Source

```
<xsi:element minOccurs="0" name="citation" type="xsi:string"/>
```

element <contactInformation>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [ContactInformationType](#) [96]
Content: complex, 5 elements
Defined: [locally](#) within complexType [SourceType](#) [126] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [24]

XML Representation Summary

```
<contactInformation
  Content: contactName, typeOfContact?, email*, phone*, address*
</contactInformation>
```

Content model elements (5):

[address](#) (in contactInformation) [18], [phone](#) (in contactInformation) [55],
[contactName](#) (in contactInformation) [24], [typeOfContact](#) (in contactInformation) [81]
[email](#) (in contactInformation) [33],

Included in content model of elements (2):

[labSourceDetails](#) (in labMethod) [41], [source](#) (type SourceType) [71]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="contactInformation" type="ContactInformationType"/>
```

element <contactName>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [ContactInformationType](#) [97] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [24]

XML Representation Summary

```
<contactName  
    Content: { xsi:string }  
</contactName>
```

Included in content model of elements (1):

[contactInformation](#) (type ContactInformationType) [23]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="1" name="contactName" type="xsi:string"/>
```

element <coordLatLong>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [CoordType](#) [97]

Content: complex, 3 elements

Defined: [locally](#) within complexType [latLonLineString](#) [106] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [24]

XML Representation Summary

```
<coordLatLong>  
    Content: latitude, longitude, Z?  
</coordLatLong>
```

Content model elements (3):

[latitude](#) (in coordLatLong) [41], [Z](#) (in coordLatLong) [95]
[longitude](#) (in coordLatLong) [43],

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="2" name="coordLatLong" type="CoordType"/>
```

element <creationTime>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:dateTime

Content: simple

Defined: [locally](#) within complexType [QueryInfoType](#) [117] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [25]

XML Representation Summary

```
<creationTime  
    Content: { xsi:dateTime }>  
</creationTime>
```

Included in content model of elements (1):

[queryInfo](#) (type [QueryInfoType](#)) [58]

XML Source (w/o annotations (1))

```
<xsi:element minOccurs="0" name="creationTime" type="xsi:dateTime"/>
```

element <criteria>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: anonymous complexType

Content: complex, 1 [attribute](#), 4 [elements](#)

Defined: [locally](#) within complexType [QueryInfoType](#) [117] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [25]

Includes: definitions of 1 [attribute](#) and 4 [elements](#)

XML Representation Summary

```
<criteria  
    MethodCalled = xsi:normalizedString  
    >  
    Content: (locationParam?, variableParam?, timeParam?, parameter\*)?  
</criteria>
```

Content model elements (4):

[locationParam](#) (in [criteria](#)) [43], [timeParam](#) (in [criteria](#)) [74],
[parameter](#) (in [criteria](#)) [53], [variableParam](#) (in [criteria](#)) [90]

Included in content model of elements (1):

[queryInfo](#) (type [QueryInfoType](#)) [58]

XML Source (w/o annotations (3))

```
<xsi:element minOccurs="0" name="criteria">  
  <xsi:complexType>  
    <xsi:sequence minOccurs="0">  
      <xsi:element minOccurs="0" name="locationParam" type="xsi:string"/>  
      <xsi:element minOccurs="0" name="variableParam" type="xsi:string"/>  
      <xsi:element minOccurs="0" name="timeParam">  
        <xsi:complexType>  
          <xsi:sequence>  
            <xsi:element maxOccurs="1" minOccurs="0" name="beginDateTime" type="xsi:string"/>  
            <xsi:element maxOccurs="1" minOccurs="0" name="endDateTime" type="xsi:string"/>  
          </xsi:sequence>  
        </xsi:complexType>  
      </xsi:element>  
    </xsi:sequence>  
  </xsi:complexType>  
</xsi:element>
```

element <criteria> (in queryInfo)

```
</xsi:complexType>
</xsi:element>
<xsi:element maxOccurs="unbounded" minOccurs="0" name="parameter">
  <xsi:complexType>
    <xsi:attribute name="name" type="xsi:token"/>
    <xsi:attribute name="value" type="xsi:string"/>
  </xsi:complexType>
</xsi:element>
</xsi:sequence>
<xsi:attribute name="MethodCalled" type="xsi:normalizedString"/>
</xsi:complexType>
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 1/1)

MethodCalled

Type: xsi:normalizedString, predefined
Use: optional

Content Element Detail (defined in [this](#) component only; 4/4)

[locationParam](#) [43]

Type: xsi:string, predefined, simple content

[parameter](#) [53]

Type: anonymous, empty content

[timeParam](#) [74]

Type: anonymous, complex content

[variableParam](#) [90]

Type: xsi:string, predefined, simple content

element <dataSetDescription>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [DataSetInfoType](#) [99] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [26]

XML Representation Summary

```
<dataSetDescription
  Content: { xsi:string }
</dataSetDescription>
```

XML Source

```
<xsi:element name="dataSetDescription" type="xsi:string"/>
```

element <dataSetIdentifier>

element <dataSetIdentifier> (type xsi:string)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [DataSetInfoType](#) [99] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [27]

XML Representation Summary

```
<dataSetIdentifier
    Content: { xsi:string }
</dataSetIdentifier>
```

XML Source

```
<xsi:element name="dataSetIdentifier" type="xsi:string"/>
```

element <dataSetLocation>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [GeogLocationType](#) [101]
Content: empty, 1 attribute
Defined: [locally](#) within complexType [DataSetInfoType](#) [99] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [27]

XML Representation Summary

```
<dataSetLocation
    srs = xsi:string : "EPSG:4326"
/>
```

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="dataSetLocation" type="GeogLocationType" />
```

element <dataSetProperty>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [.PropertyType](#) [112]
Content: simple, 3 attributes
Defined: [locally](#) within complexType [DataSetInfoType](#) [100] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [27]

XML Representation Summary

```
<dataSetProperty
    name = xsi:normalizedString
    type = xsi:token
    uri = xsi:anyURI
    >
    Content: { xsi:string }
</dataSetProperty>
```

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="dataSetProperty" type=".PropertyType" />
```

element <dataType>

element <dataType> (type DataTypeCodeList)

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [DataTypeCodeList](#) [145]

Content: simple

Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

<dataType

Content: { ("Continuous" | "Instantaneous" | "Cumulative" | "Incremental" | "Average" | "Maximum" | "Minimum" | "Constant Over Interval" | "Categorical" | "Best Easy Systematic Estimator" | "Unknown" | "Variance" | "Median" | "Mode" | "Best Easy Systematic Estimator" | "Standard Deviation" | "Skewness" | "Equivalent Mean" | "Sporadic" | "Unknown") | xsi:string }

</dataType>

Included in content model of elements (2):

[series](#) (in [seriesCatalog](#)) [63], [variable](#) (type [VariableInfoType](#)) [87]

Definition Locations

- Within global complexTypes (1):

[VariableInfoType](#) [140]

- Within anonymous complexTypes of elements (1):

[series](#) (in [seriesCatalog](#)) [64]

element <dataValue>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:decimal

Content: simple

Defined: [locally](#) within element [category](#) [22] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [28]

XML Representation Summary

<dataValue

Content: { xsi:decimal }

</dataValue>

Included in content model of elements (1):

[category](#) (in [categories](#)) [21]

XML Source

```
<xsi:element name="dataValue" type="xsi:decimal"/>
```

element <daylightSavingsTimeZone>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [anonymous](#) (extension of [TimeZoneType](#))

Content: empty, 2 attributes

Defined: [locally](#) within element [timeZoneInfo](#) [79] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [29]

XML Representation Summary

```
<daylightSavingsTimeZone  
    zoneAbbreviation = xsi:token  
    zoneOffset          = xsi:normalizedString  
/>
```

Included in content model of elements (1):

[timeZoneInfo](#) (in [siteInfo](#)) [78]

Anonymous Type Detail

Type Derivation Tree

```
TimeZoneType [131]  
└ complexType (extension)
```

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="daylightSavingsTimeZone">  
  <xsi:complexType>  
    <xsi:complexContent mixed="false">  
      <xsi:extension base="TimeZoneType" />  
    </xsi:complexContent>  
  </xsi:complexType>  
</xsi:element>
```

element <daylightSavingsTimeZone>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [anonymous](#) (extension of [TimeZoneType](#))

Content: empty, 2 attributes

Defined: [locally](#) within element [timeZoneInfo](#) [80] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [29]

XML Representation Summary

```
<daylightSavingsTimeZone  
    zoneAbbreviation = xsi:token  
    zoneOffset          = xsi:normalizedString  
/>
```

Included in content model of elements (1):

[timeZoneInfo](#) (type anonymous) [80]

Anonymous Type Detail

Type Derivation Tree

```
TimeZoneType [131]  
└ complexType (extension)
```

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="daylightSavingsTimeZone">
```

element <daylightSavingsTimeZone> (in timeZoneInfo : anonymous)

```
<xsi:complexType>
  <xsi:complexContent mixed="false">
    <xsi:extension base="TimeZoneType" />
  </xsi:complexContent>
</xsi:complexType>
</xsi:element>
```

element <defaultTimeZone>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [anonymous](#) (extension of [TimeZoneType](#))

Content: empty, 2 attributes

Defined: [locally](#) within element [timeZoneInfo](#) [79] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [30]

XML Representation Summary

```
<defaultTimeZone
  zoneAbbreviation = xsi:token
  zoneOffset           = xsi:normalizedString
/>
```

Included in content model of elements (1):

[timeZoneInfo](#) (in [siteInfo](#)) [78]

Anonymous Type Detail

Type Derivation Tree

[TimeZoneType](#) [131]

└ [complexType](#) (extension)

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="defaultTimeZone">
  <xsi:complexType>
    <xsi:complexContent mixed="false">
      <xsi:extension base="TimeZoneType" />
    </xsi:complexContent>
  </xsi:complexType>
</xsi:element>
```

element <defaultTimeZone>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [anonymous](#) (extension of [TimeZoneType](#))

Content: empty, 2 attributes

Defined: [locally](#) within element [timeZoneInfo](#) [81] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [31]

XML Representation Summary

```
<defaultTimeZone
  zoneAbbreviation = xsi:token
  zoneOffset           = xsi:normalizedString
/>
```

Included in content model of elements (1):

[timeZoneInfo](#) (type anonymous) [80]

Anonymous Type Detail

Type Derivation Tree

[TimeZoneType](#) [131]

└ **complexType** (extension)

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="defaultTimeZone">
  <xsi:complexType>
    <xsi:complexContent mixed="false">
      <xsi:extension base="TimeZoneType" />
    </xsi:complexContent>
  </xsi:complexType>
</xsi:element>
```

element <definition>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [anonymous](#) (restriction of xsi:string)

Content: simple

Defined: [locally](#) within complexType [QualityControlLevelType](#) [115] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [32]

XML Representation Summary

```
<definition
  Content: { xsi:string }
</definition>
```

Simple Content Detail:

MaxLength: 255

MinLength: 0

Included in content model of elements (1):

[qualityControlLevel](#) (type [QualityControlLevelType](#)) [57]

Annotation

Definition of Quality Control Level. “Raw Data”, “Quality Controlled Data”

Anonymous Type Detail

Type Derivation Tree

xsi:string

└ **simpleType** (restriction)

Derivation: restriction of xsi:string

Facets: **maxLength:** 255

minLength: 0

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="1" minOccurs="0" name="definition">
  <xsi:simpleType>
    <xsi:restriction base="xsi:string">
      <xsi:maxLength value="255"/>
      <xsi:minLength value="0"/>
    </xsi:restriction>
  </xsi:simpleType>
</xsi:element>
```

element <description>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within element [category](#) [22] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [32]

XML Representation Summary

```
<description
  Content: { xsi:string }>
</description>
```

Included in content model of elements (1):

[category](#) (in [categories](#)) [21]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="description" type="xsi:string"/>
```

element <east>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [Longitude](#) [150]

Content: simple

Defined: [locally](#) within complexType [LatLonBoxType](#) [104] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [32]

XML Representation Summary

```
<east
  Content: { xsi:double }>
</east>
```

Simple Content Detail:

MaxInclusive: 180.00

MinInclusive: -180.00

XML Source

```
<xsi:element name="east" type="Longitude"/>
```

element <elevation_m>

element <elevation_m> (in siteInfo)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:double
Content: simple
Defined: [locally](#) within complexType [SiteInfoType](#) [123] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [33]

XML Representation Summary

```
<elevation_m
  Content: { xsi:double }
</elevation_m>
```

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="elevation_m" type="xsi:double"/>
```

element <email>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:normalizedString
Content: simple
Defined: [locally](#) within complexType [ContactInformationType](#) [97] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [33]

XML Representation Summary

```
<email
  Content: { xsi:normalizedString }
</email>
```

Included in content model of elements (1):

[contactInformation](#) (type [ContactInformationType](#)) [23]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="email" type="xsi:normalizedString"/>
```

element <endDateTime>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within element [timeParam](#) [75] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [34]

XML Representation Summary

```
<endDateTime
  Content: { xsi:string }
</endDateTime>
```

Included in content model of elements (1):

[timeParam](#) (in [criteria](#)) [74]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="endDateTime" type="xsi:string"/>
```

element <endDateTime>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:dateTime

Content: simple

Defined: [locally](#) within complexType [TimePeriodType](#) [129] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [34]

XML Representation Summary

```
<endDateTime
  Content: { xsi:dateTime }
</endDateTime>
```

Included in content model of elements (1):

[variableTimeInterval](#) (in [series](#)) [92]

XML Source

```
<xsi:element name="endDateTime" type="xsi:dateTime"/>
```

element <endDateTimeUTC>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:dateTime

Content: simple

Defined: [locally](#) within complexType [TimePeriodType](#) [129] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [34]

XML Representation Summary

```
<endDateTimeUTC
  Content: { xsi:dateTime }
</endDateTimeUTC>
```

Included in content model of elements (1):

[variableTimeInterval](#) (in [series](#)) [92]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="endDateTimeUTC" type="xsi:dateTime"/>
```

element <explanation>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [QualityControlLevelType](#) [115] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [35]

XML Representation Summary

```
<explanation  
    Content: { xsi:string }  
</explanation>
```

Included in content model of elements (1):

[qualityControlLevel](#) (type [QualityControlLevelType](#)) [57]

Annotation

Explanation of Quality Control Level eg “Raw data is defined as unprocessed data and data products that have not undergone quality control.”

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="1" minOccurs="0" name="explanation" type="xsi:string"/>
```

element <extension>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:anyType

Content: any

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [35]

Used: at 6 [locations](#)

XML Representation Summary

```
<extension  
    Content: { xsi:anyType }  
</extension>
```

Included in content model of elements (5):

[queryInfo](#) (type [QueryInfoType](#)) [58], [siteInfo](#) (in [site](#)) [69],
[seriesCatalog](#) (in [site](#)) [65], [variable](#) (type [VariableInfoType](#)) [87]
[site](#) (in [sitesResponse](#)) [66],

Known Usage Locations

- Within global complexTypes (5):

[DataSetInfoType](#) [100], [QueryInfoType](#) [117], [SiteInfoType](#) [123], [VariableInfoType](#) [141],
[seriesCatalogType](#) [119]

- Within anonymous complexTypes of elements (1):

[site](#) (in [sitesResponse](#)) [67]

XML Source

```
<xsi:element name="extension" type="xsi:anyType"/>
```

element <generalCategory>

element <generalCategory> (type GeneralCategoryCodeList)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [GeneralCategoryCodeList](#) [148]
Content: simple
Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<generalCategory
  Content: { ("Water Quality" | "Climate" | "Hydrology" | "Geology" | "Biota" | "Unknown" |
             "Instrumentation") | xsi:string }
</generalCategory>
```

Included in content model of elements (2):

[series](#) (in [seriesCatalog](#)) [63], [variable](#) (type [VariableInfoType](#)) [87]

Definition Locations

- Within global complexTypes (1):

[VariableInfoType](#) [141]

- Within anonymous complexTypes of elements (1):

[series](#) (in [seriesCatalog](#)) [64]

element <geogLocation>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [GeogLocationType](#) [101]
Content: empty, 1 attribute
Defined: locally within element [geoLocation](#) [37] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [36]

XML Representation Summary

```
<geogLocation
  SRS = xsi:string : "EPSG:4326"
/>
```

Included in content model of elements (1):

[geoLocation](#) (in [siteInfo](#)) [36]

XML Source

```
<xsi:element name="geogLocation" type="GeogLocationType" />
```

element <geoLocation>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: anonymous complexType
Content: complex, 2 [elements](#)
Defined: locally within complexType [SiteInfoType](#) [123] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [37]
Includes: definitions of 2 [elements](#)

XML Representation Summary

```
<geoLocation>
  Content: geogLocation, localSiteXY*
</geoLocation>
```

Content model elements (2):

[geogLocation](#) (in [geoLocation](#)) [36], [localSiteXY](#) (in [geoLocation](#)) [42]

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

XML Source

```
<xsi:element name="geoLocation">
  <xsi:complexType>
    <xsi:sequence>
      <xsi:element name="geogLocation" type="GeogLocationType" />
      <xsi:element maxOccurs="unbounded" minOccurs="0" name="localSiteXY">
        <xsi:complexType>
          <xsi:sequence>
            <xsi:element name="X" type="xsi:double"/>
            <xsi:element name="Y" type="xsi:double"/>
            <xsi:element maxOccurs="1" minOccurs="0" name="Z" type="xsi:double"/>
            <xsi:element maxOccurs="unbounded" minOccurs="0" name="note" type="NoteType"/>
          </xsi:sequence>
          <xsi:attribute name="projectionInformation" type="xsi:string"/>
        </xsi:complexType>
      </xsi:element>
    </xsi:sequence>
  </xsi:complexType>
</xsi:element>
```

Content Element Detail

 (defined in [this](#) component only; 2/2)

 [geogLocation](#) [36]

Type: [GeogLocationType](#) [101], empty content

 [localSiteXY](#) [42]

Type: anonymous, complex content

element <labCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:token
Content: simple
Defined: [locally](#) within complexType [LabMethodType](#) [103] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [38]

XML Representation Summary

```
<labCode>
  Content: { xsi:token }
</labCode>
```

Included in content model of elements (1):

[labMethod](#) (in [sample](#)) [38]

element <labCode> (in labMethod)

Annotation

The Abbreviation for the lab. e.g. BETA for Beta Analytical

XML Source (w/o annotations (1))

```
<xsi:element name="labCode" type="xsi:token"/>
```

element <labMethod>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [LabMethodType](#) [102]

Content: complex, 1 attribute, 7 elements

Defined: [locally](#) within complexType [SampleType](#) [118] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [38]

XML Representation Summary

```
<labMethod  
    labMethodID = xsi:int  
    >  
    Content: labCode, labName?, labOrganization?, LabMethodName?, labMethodDescription?, labMethodLink?,  
            labSourceDetails?  
</labMethod>
```

Content model elements (7):

[labCode](#) (in [labMethod](#)) [37], [labName](#) (in [labMethod](#)) [39],
[labMethodDescription](#) (in [labMethod](#)) [38], [labOrganization](#) (in [labMethod](#)) [40],
[labMethodLink](#) (in [labMethod](#)) [39], [labSourceDetails](#) (in [labMethod](#)) [41]
[LabMethodName](#) (in [labMethod](#)) [39],

Included in content model of elements (1):

[sample](#) (in [values](#)) [61]

XML Source

```
<xsi:element minOccurs="0" name="labMethod" type="LabMethodType"/>
```

element <labMethodDescription>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [LabMethodType](#) [103] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [39]

XML Representation Summary

```
<labMethodDescription  
    Content: { xsi:string }  
</labMethodDescription>
```

Included in content model of elements (1):

[labMethod](#) (in [sample](#)) [38]

XML Source

```
<xsi:element minOccurs="0" name="labMethodDescription" type="xsi:string"/>
```

element <labMethodLink>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [LabMethodType](#) [103] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [39]

XML Representation Summary

```
<labMethodLink  
    Content: { xsi:string }</labMethodLink>
```

Included in content model of elements (1):

[labMethod](#) (in [sample](#)) [38]

XML Source

```
<xsi:element minOccurs="0" name="labMethodLink" type="xsi:string"/>
```

element <LabMethodName>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [LabMethodType](#) [103] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [39]

XML Representation Summary

```
<LabMethodName  
    Content: { xsi:string }</LabMethodName>
```

Included in content model of elements (1):

[labMethod](#) (in [sample](#)) [38]

XML Source

```
<xsi:element minOccurs="0" name="LabMethodName" type="xsi:string"/>
```

element <labName>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [LabMethodType](#) [103] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [40]

XML Representation Summary

```
<labName  
    Content: { xsi:string }  
</labName>
```

Included in content model of elements (1):

[labMethod](#) (in [sample](#)) [38]

XML Source

```
<xsi:element minOccurs="0" name="labName" type="xsi:string"/>
```

element <labOrganization>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [LabMethodType](#) [103] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [40]

XML Representation Summary

```
<labOrganization  
    Content: { xsi:string }  
</labOrganization>
```

Included in content model of elements (1):

[labMethod](#) (in [sample](#)) [38]

XML Source

```
<xsi:element minOccurs="0" name="labOrganization" type="xsi:string"/>
```

element <labSampleCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:normalizedString

Content: simple

Defined: [locally](#) within complexType [SampleType](#) [118] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [40]

XML Representation Summary

```
<labSampleCode  
    Content: { xsi:normalizedString }  
</labSampleCode>
```

Included in content model of elements (1):

[sample](#) (in [values](#)) [61]

XML Source

```
<xsi:element minOccurs="0" name="labSampleCode" type="xsi:normalizedString"/>
```

element <labSourceDetails>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [SourceType](#) [125]

Content: complex, 1 attribute, 7 elements

Defined: locally within complexType [LabMethodType](#) [103] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [41]

XML Representation Summary

```
<labSourceDetails
  sourceID = xsi:int
>
  Content: sourceCode?, organization?, sourceDescription?, metadata?, contactInformation\*, sourceLink\*,
citation?
</labSourceDetails>
```

Content model elements (7):

[citation](#) (type [xsi:string](#)) [23],
[contactInformation](#) (type [ContactInformationType](#)) [23],
[metadata](#) (type [MetaDataType](#)) [44],
[organization](#) (type [xsi:string](#)) [53],

[sourceCode](#) (type [xsi:token](#)) [72],
[sourceDescription](#) (type [xsi:string](#)) [72],
[sourceLink](#) (type [xsi:anyURI](#)) [73]

Included in content model of elements (1):

[labMethod](#) (in [sample](#)) [38]

Annotation

This is the contact information for a laboratory

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="1" minOccurs="0" name="labSourceDetails" type="SourceType"/>
```

element <latitude>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [Latitude](#) [149]

Content: simple

Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<latitude
  Content: { xsi:double }
</latitude>
```

Simple Content Detail:

MaxInclusive: 90.00

MinInclusive: -90.00

Included in content model of elements (1):

[coordLatLong](#) (type [CoordType](#)) [24]

Definition Locations

- Within global complexTypes (2):

[CoordType](#) [98], [LatLonPointType](#) [106]

Annotations (1) (by all definition locations)

Location:

within complexType [LatLonPointType](#) [106]

Annotation:

The latitude of the site in a decimal degrees as calculated in terms of the given datum.

element <localSiteXY>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: anonymous complexType

Content: complex, 1 [attribute](#), 4 [elements](#)

Defined: [locally](#) within element [geoLocation](#) [37] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [42]

Includes: definitions of 1 [attribute](#) and 4 [elements](#)

XML Representation Summary

```
<localSiteXY
    projectionInformation = xsi:string
    >
    Content: X, Y, Z?, note*
</localSiteXY>
```

Content model elements (4):

[note](#) (type [NoteType](#)) [47], [Y](#) (in [localSiteXY](#)) [94],
[X](#) (in [localSiteXY](#)) [93], [Z](#) (in [localSiteXY](#)) [94]

Included in content model of elements (1):

[geoLocation](#) (in [siteInfo](#)) [36]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="localSiteXY">
  <xsi:complexType>
    <xsi:sequence>
      <xsi:element name="X" type="xsi:double"/>
      <xsi:element name="Y" type="xsi:double"/>
      <xsi:element maxOccurs="1" minOccurs="0" name="Z" type="xsi:double"/>
      <xsi:element maxOccurs="unbounded" minOccurs="0" name="note" type="NoteType"/>
    </xsi:sequence>
    <xsi:attribute name="projectionInformation" type="xsi:string"/>
  </xsi:complexType>
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 1/1)

projectionInformation

Type: xsi:string, predefined

Use: optional

Content Element Detail (defined in [this](#) component only; 4/4)

 [note](#) [47]

Type: [NoteType](#) [109], simple content

Simple Content

xsi:string

 [X](#) [93]

Type: xsi:double, predefined, simple content

 [Y](#) [94]

Type: xsi:double, predefined, simple content

 [Z](#) [94]

Type: xsi:double, predefined, simple content

element <locationParam>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within element [criteria](#) [26] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [43]

XML Representation Summary

```
<locationParam  
    Content: { xsi:string }>  
</locationParam>
```

Included in content model of elements (1):

[criteria](#) (in [queryInfo](#)) [25]

XML Source (w/o annotations (1))

```
<xsi:element minOccurs="0" name="locationParam" type="xsi:string"/>
```

element <longitude>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [Longitude](#) [150]

Content: simple

Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<longitude  
    Content: { xsi:double }>  
</longitude>
```

Simple Content Detail:

MaxInclusive: 180.00

element <longitude> (in coordLatLong)

MinInclusive: -180.00

Included in content model of elements (1):

[coordLatLong](#) (type [CoordType](#)) [24]

Definition Locations

- Within global complexTypes (2):

[CoordType](#) [98], [LatLonPointType](#) [107]

Annotations (1) (by all definition locations)

Location:

within complexType [LatLonPointType](#) [107]

Annotation:

The longitude of the site in a decimal degrees as calculated in terms of the given datum.

element <metadata>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [MetaDataTable](#) [107]

Content: complex, 5 elements

Defined: [locally](#) within complexType [SourceType](#) [126] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [44]

XML Representation Summary

```
<metadata>
  Content: TopicCategory?, Title?, Abstract?, ProfileVersion?, MetadataLink?
</metadata>
```

Content model elements (5):

[Abstract](#) (in [metadata](#)) [18], [Title](#) (in [metadata](#)) [81],
[MetadataLink](#) (in [metadata](#)) [44], [TopicCategory](#) (in [metadata](#)) [81]
[ProfileVersion](#) (in [metadata](#)) [55],

Included in content model of elements (2):

[labSourceDetails](#) (in [labMethod](#)) [41], [source](#) (type [SourceType](#)) [71]

XML Source

```
<xsi:element minOccurs="0" name="metadata" type="MetaDataTable" />
```

element <MetadataLink>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:anyURI

Content: simple

Defined: [locally](#) within complexType [MetaDataTable](#) [108] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [45]

XML Representation Summary

```
<MetadataLink  
    Content: { xsi:anyURI }  
</MetadataLink>
```

Included in content model of elements (1):

[metadata](#) (type [MetaDataType](#)) [44]

XML Source

```
<xsi:element minOccurs="0" name="MetadataLink" type="xsi:anyURI"/>
```

element <method>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [MethodType](#) [108]

Content: complex, 1 attribute, 3 elements

Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<method  
    methodID = xsi:int  
    >  
    Content: methodCode?, methodDescription?, methodLink?  
</method>
```

Content model elements (3):

[methodCode](#) (in [method](#)) [46], [methodLink](#) (in [method](#)) [46]
[methodDescription](#) (in [method](#)) [46],

Included in content model of elements (2):

[series](#) (in [seriesCatalog](#)) [63], [values](#) (in [timeSeries](#)) [86]

Definition Locations

- Within global complexTypes (1):

[TsValuesSingleVariableType](#) [133]

- Within anonymous complexTypes of elements (1):

[series](#) (in [seriesCatalog](#)) [64]

Annotations (1) (by all definition locations)

Location:

within complexType [TsValuesSingleVariableType](#) [133]

Annotation:

Multiple <method>s lists the methods used to collect the data and any additional information about the method. Different instruments should be represented as different methods, according to ODM best practices.

element <methodCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:token

Content: simple

Defined: [locally](#) within complexType [MethodType](#) [109] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [46]

XML Representation Summary

```
<methodCode
  Content: { xsi:token }
</methodCode>
```

Included in content model of elements (1):

[method](#) (type [MethodType](#)) [45]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="methodCode" type="xsi:token"/>
```

element <methodDescription>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [MethodType](#) [109] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [46]

XML Representation Summary

```
<methodDescription
  Content: { xsi:string }
</methodDescription>
```

Included in content model of elements (1):

[method](#) (type [MethodType](#)) [45]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="methodDescription" type="xsi:string"/>
```

element <methodLink>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [MethodType](#) [109] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [47]

XML Representation Summary

```
<methodLink
  Content: { xsi:string }
</methodLink>
```

element <methodLink> (in method)

Included in content model of elements (1):

[method](#) (type [MethodType](#)) [45]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="methodLink" type="xsi:string"/>
```

element <noDataValue>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:double

Content: simple

Defined: [locally](#) within complexType [VariableInfoType](#) [141] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [47]

XML Representation Summary

```
<noDataValue
  Content: { xsi:double }
</noDataValue>
```

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

XML Source

```
<xsi:element minOccurs="0" name="noDataValue" type="xsi:double"/>
```

element <north>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [Latitude](#) [149]

Content: simple

Defined: [locally](#) within complexType [LatLonBoxType](#) [104] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [47]

XML Representation Summary

```
<north
  Content: { xsi:double }
</north>
```

Simple Content Detail:

MaxInclusive: 90.00

MinInclusive: -90.00

XML Source

```
<xsi:element name="north" type="Latitude"/>
```

element <note>

element <note> (type NoteType)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [NoteType](#) [109]
Content: simple, 4 attributes
Defined: locally at 6 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<note
  href = xsi:string
  show = xsi:string
  title = xsi:string
  type = xsi:token
>
  Content: { xsi:string }
</note>
```

Included in content model of elements (5):

[localSiteXY](#) (in [geoLocation](#)) [42], [siteInfo](#) (in [site](#)) [69],
[queryInfo](#) (type [QueryInfoType](#)) [58], [variable](#) (type [VariableInfoType](#)) [87]
[seriesCatalog](#) (in [site](#)) [65],

Definition Locations

- Within global complexTypes (5):
[DataSetInfoType](#) [100], [QueryInfoType](#) [117], [SiteInfoType](#) [123], [VariableInfoType](#) [141],
[seriesCatalogType](#) [120]
- Within anonymous complexTypes of elements (1):
[localSiteXY](#) (in [geoLocation](#)) [43]

element <offset>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [OffsetType](#) [110]
Content: complex, 1 attribute, 6 elements
Defined: [locally](#) within complexType [TsValuesSingleVariableType](#) [133] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [49]

XML Representation Summary

```
<offset
  offsetTypeID = xsi:int
>
  Content: offsetTypeCode?, offsetValue, offsetDescription?, unit, offsetIsVertical, offsetAzimuthDegrees?
</offset>
```

Content model elements (6):

[offsetAzimuthDegrees](#) (in [offset](#)) [49], [offsetTypeCode](#) (in [offset](#)) [50],
[offsetDescription](#) (in [offset](#)) [49], [offsetValue](#) (in [offset](#)) [50],
[offsetIsVertical](#) (in [offset](#)) [49], [unit](#) (type [UnitsType](#)) [82]

Included in content model of elements (1):

[values](#) (in [timeSeries](#)) [86]

element <offset> (in values)

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="offset" type="OffsetType"/>
```

element <offsetAzimuthDegrees>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:int

Content: simple

Defined: [locally](#) within complexType [OffsetType](#) [111] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [49]

XML Representation Summary

```
<offsetAzimuthDegrees
  Content: { xsi:int }
</offsetAzimuthDegrees>
```

Included in content model of elements (1):

[offset](#) (in [values](#)) [48]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="offsetAzimuthDegrees" type="xsi:int"/>
```

element <offsetDescription>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [OffsetType](#) [111] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [49]

XML Representation Summary

```
<offsetDescription
  Content: { xsi:string }
</offsetDescription>
```

Included in content model of elements (1):

[offset](#) (in [values](#)) [48]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="offsetDescription" type="xsi:string"/>
```

element <offsetIsVertical>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:boolean

Content: simple

Defined: [locally](#) within complexType [OffsetType](#) [111] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [50]

XML Representation Summary

```
<offsetIsVertical
  Content: { xsi:boolean }
</offsetIsVertical>
```

Simple Content Detail:

Default: "true"

Included in content model of elements (1):

[offset](#) (in [values](#)) [48]

XML Source

```
<xsi:element default="true" name="offsetIsVertical" type="xsi:boolean"/>
```

element <offsetTypeCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:token

Content: simple

Defined: [locally](#) within complexType [OffsetType](#) [112] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [50]

XML Representation Summary

```
<offsetTypeCode
  Content: { xsi:token }
</offsetTypeCode>
```

Included in content model of elements (1):

[offset](#) (in [values](#)) [48]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="offsetTypeCode" type="xsi:token"/>
```

element <offsetValue>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:float

Content: simple

Defined: [locally](#) within complexType [OffsetType](#) [112] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [51]

XML Representation Summary

```
<offsetValue
  Content: { xsi:float }
</offsetValue>
```

Included in content model of elements (1):

[offset](#) (in [values](#)) [48]

XML Source

```
<xsi:element name="offsetValue" type="xsi:float"/>
```

element <option>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [anonymous](#) (extension of xsi:string)
Content: simple, 3 [attributes](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [51]
Includes: definitions of 3 [attributes](#)
Used: at 1 [location](#)

XML Representation Summary

```
<option
    name          = xsi:normalizedString
    optionCode     = xsi:token
    optionID       = xsi:integer
  >
  Content: { xsi:string }
</option>
```

Included in content model of elements (1):

[options](#) [52]

Known Usage Locations

- Within anonymous complexTypes of elements (1):

[options](#) [53]

Annotation

Option elements are key-value pair elements that control how a variable might be utilized in a service. Examples: MODIS web service. Information is aggregated over land or ocean or both. The plotarea option can include: plotarea=land, plotarea=land, plotarea=landocean USGS uses a statistic code, 0003, to represent a value type of 'Average'. The USGS statistic codes also several options that do not fit the ODM data model.

Anonymous Type Detail

Type Derivation Tree

```
xsi:string
└ complexType (extension)
```

Derivation: extension of xsi:string

XML Source (w/o annotations (1))

```
<xsi:element name="option">
  <xsi:complexType>
    <xsi:simpleContent>
      <xsi:extension base="xsi:string">
        <xsi:attribute name="name" type="xsi:normalizedString"/>
        <xsi:attribute name="optionID" type="xsi:integer"/>
        <xsi:attribute name="optionCode" type="xsi:token"/>
      </xsi:extension>
```

element <option>

```
</xsi:simpleContent>
</xsi:complexType>
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 3/3)

■ name

Type: xsi:normalizedString, predefined
Use: optional

■ optionCode

Type: xsi:token, predefined
Use: optional

■ optionID

Type: xsi:integer, predefined
Use: optional

element <options>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: anonymous complexType
Content: complex, 1 [element](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [52]
Includes: definition of 1 [element](#)
Used: at 1 [location](#)

XML Representation Summary

```
<options>
  Content: option*
</options>
```

Content model elements (1):

[option](#) [51]

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

Known Usage Locations

- Within global complexTypes (1):

[VariableInfoType](#) [141]

Annotation

A list of options. Option elements are key-value pair elements that control how a variable might be utilized in a service. Examples: MODIS web service. Information is aggregated over land or ocean or both. The plotarea option can include: plotarea=land, plotarea=land, plotarea=land/ocean USGS uses a statistic code, 0003, to represent a value type of 'Average'. The USGS statistic codes also several options that do not fit the ODM data model.

XML Source (w/o annotations (2))

```
<xsi:element name="options">
```

element <options>

```
<xsi:complexType>
  <xsi:sequence>
    <xsi:element maxOccurs="unbounded" minOccurs="0" ref="option"/>
  </xsi:sequence>
</xsi:complexType>
</xsi:element>
```

Content Element Detail (defined in [this](#) component only; 1/1)

 [option](#) [51]

Type: [anonymous](#) (extension of `xsi:string`), simple content

Option elements are key-value pair elements that control how a variable might be utilized in a service. Examples: MODIS web service. Information is aggregated over land or ocean or both. The plotarea option can include: plotarea=land, plotarea=land, plotarea=landocean USGS uses a statistic code, 0003, to represent a value type of 'Average'. The USGS statistic codes also several options that do not fit the ODM data model.

Simple Content

```
xsi:string
```

element <organization>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: `xsi:string`

Content: simple

Defined: [locally](#) within complexType [SourceType](#) [126] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [53]

XML Representation Summary

```
<organization
  Content: { xsi:string }
</organization>
```

Included in content model of elements (2):

[labSourceDetails](#) (in [labMethod](#)) [41], [source](#) (type [SourceType](#)) [71]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="organization" type="xsi:string"/>
```

element <parameter>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: anonymous complexType

Content: empty, 2 [attributes](#)

Defined: [locally](#) within element [criteria](#) [26] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [54]

Includes: definitions of 2 [attributes](#)

XML Representation Summary

```
<parameter
  name = xsi:token
  value = xsi:string
/>
```

Included in content model of elements (1):

[criteria](#) (in [queryInfo](#)) [25]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="parameter">
  <xsi:complexType>
    <xsi:attribute name="name" type="xsi:token"/>
    <xsi:attribute name="value" type="xsi:string"/>
  </xsi:complexType>
</xsi:element>
```

Attribute Detail

 (defined in [this component](#) only; 2/2)

■ name

Type: xsi:token, predefined
Use: optional

■ value

Type: xsi:string, predefined
Use: optional

element <parentCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: anonymous (extension of xsi:string)
Content: simple, 3 [attributes](#)
Defined: locally within element [related](#) [60] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [54]
Includes: definitions of 3 [attributes](#)

XML Representation Summary

```
<parentCode
  default      = xsi:boolean
  network      = xsi:token
  vocabulary = xsi:token
>
  Content: { xsi:string }
</parentCode>
```

Included in content model of elements (1):

[related](#) (in [variable](#)) [59]

Anonymous Type Detail

Type Derivation Tree

```
xsi:string
  └─complexType (extension)
```

Derivation: extension of xsi:string

XML Source

 (w/o annotations (2))

```
<xsi:element name="parentCode">
  <xsi:complexType>
    <xsi:simpleContent>
```

element <parentCode> (in related)

```
<xsi:extension base="xsi:string">
  <xsi:attribute name="network" type="xsi:token"/>
  <xsi:attribute name="vocabulary" type="xsi:token"/>
  <xsi:attribute name="default" type="xsi:boolean"/>
</xsi:extension>
</xsi:simpleContent>
</xsi:complexType>
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 3/3)

■ default

Type: xsi:boolean, predefined
Use: optional

■ network

Type: xsi:token, predefined
Use: optional

■ vocabulary

Type: xsi:token, predefined
Use: optional

element <phone>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [ContactInformationType](#) [97] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [55]

XML Representation Summary

```
<phone
  Content: { xsi:string }
</phone>
```

Included in content model of elements (1):

[contactInformation](#) (type [ContactInformationType](#)) [23]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="phone" type="xsi:string"/>
```

element <ProfileVersion>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [MetaDataType](#) [108] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [56]

XML Representation Summary

```
<ProfileVersion
  Content: { xsi:string }
</ProfileVersion>
```

Included in content model of elements (1):

[metadata](#) (type [MetaDataType](#)) [44]

XML Source

```
<xsi:element minOccurs="0" name="ProfileVersion" type="xsi:string"/>
```

element <qualifier>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [QualifierType](#) [113]

Content: complex, 4 attributes, 2 elements

Defined: [locally](#) within complexType [TsValuesSingleVariableType](#) [133] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [56]

XML Representation Summary

```
<qualifier
  default      = xsi:boolean
  network      = xsi:NMTOKEN
  qualifierID = xsi:int
  vocabulary   = xsi:NMTOKEN
>
  Content: qualifierCode, qualifierDescription?
</qualifier>
```

Content model elements (2):

[qualifierCode](#) (in [qualifier](#)) [56], [qualifierDescription](#) (in [qualifier](#)) [57]

Included in content model of elements (1):

[values](#) (in [timeSeries](#)) [86]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="qualifier" type="QualiferType"/>
```

element <qualifierCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:token

Content: simple

Defined: [locally](#) within complexType [QualifierType](#) [114] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [57]

XML Representation Summary

```
<qualifierCode
  Content: { xsi:token }
</qualifierCode>
```

Included in content model of elements (1):

[qualifier](#) (in [values](#)) [56]

XML Source

```
<xsi:element name="qualifierCode" type="xsi:token"/>
```

element <qualifierDescription>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [QualifierType](#) [114] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [57]

XML Representation Summary

```
<qualifierDescription  
  Content: { xsi:string }  
</qualifierDescription>
```

Included in content model of elements (1):

[qualifier](#) (in [values](#)) [56]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="qualifierDescription" type="xsi:string"/>
```

element <qualityControlLevel>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [QualityControlLevelType](#) [114]

Content: complex, 1 attribute, 3 elements

Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<qualityControlLevel  
  qualityControlLevelID = xsi:int  
  >  
  Content: qualityControlLevelCode?, definition?, explanation?  
</qualityControlLevel>
```

Content model elements (3):

[definition](#) (in [qualityControlLevel](#)) [31], [qualityControlLevelCode](#) (in [qualityControlLevel](#)) [58]
[explanation](#) (in [qualityControlLevel](#)) [34],

Included in content model of elements (2):

[series](#) (in [seriesCatalog](#)) [63], [values](#) (in [timeSeries](#)) [86]

Definition Locations

- Within global complexTypes (1):

[TsValuesSingleVariableType](#) [133]

- Within anonymous complexTypes of elements (1):

[series](#) (in [seriesCatalog](#)) [64]

element <qualityControlLevelCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:token

Content: simple

Defined: locally within complexType [QualityControlLevelType](#) [115] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [58]

XML Representation Summary

```
<qualityControlLevelCode
  Content: { xsi:token }
</qualityControlLevelCode>
```

Included in content model of elements (1):

[qualityControlLevel](#) (type [QualityControlLevelType](#)) [57]

Annotation

Code used to identify the level of quality control to which data values have been subjected. This code is used to link a quality element (qualityControlLevelType) to a dataValue/@ququalityControlLevel "1", "1.1", "Raw", "QCChecked". A quality control level code of -9999 is suggested for data whose quality control level is unknown

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="1" minOccurs="0" name="qualityControlLevelCode" type="xsi:token"/>
```

element <queryInfo>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [QueryInfoType](#) [116]

Content: complex, 5 elements

Defined: locally at 3 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<queryInfo>
  Content: creationTime?, queryURL?, criteria?, note*, extension?
</queryInfo>
```

Content model elements (5):

[creationTime](#) (in [queryInfo](#)) [25], [note](#) (type [NoteType](#)) [47],
[criteria](#) (in [queryInfo](#)) [25], [queryURL](#) (in [queryInfo](#)) [59]
[extension](#) [35],

Included in content model of elements (3):

[sitesResponse](#) [71], [timeSeriesResponse](#) [77], [variablesResponse](#) [92]

Definition Locations

- Within global complexTypes (3):

[SiteInfoResponseType](#) [121], [TimeSeriesResponseType](#) [129], [VariablesResponseType](#) [143]

element <queryURL>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [QueryInfoType](#) [117] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [59]

XML Representation Summary

```
<queryURL
  Content: { xsi:string }
</queryURL>
```

Included in content model of elements (1):

[queryInfo](#) (type [QueryInfoType](#)) [58]

XML Source (w/o annotations (1))

```
<xsi:element minOccurs="0" name="queryURL" type="xsi:string"/>
```

element <realTimeDataPeriod>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:duration
Content: simple
Defined: [locally](#) within complexType [TimePeriodRealTimeType](#) [127] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [59]

XML Representation Summary

```
<realTimeDataPeriod
  Content: { xsi:duration }
</realTimeDataPeriod>
```

XML Source

```
<xsi:element name="realTimeDataPeriod" type="xsi:duration"/>
```

element <related>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: anonymous complexType
Content: complex, 2 [elements](#)
Defined: [locally](#) within complexType [VariableInfoType](#) [141] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [60]
Includes: definitions of 2 [elements](#)

XML Representation Summary

```
<related>
  Content: (parentCode, relatedCode) +
</related>
```

Content model elements (2):

[parentCode](#) (in [related](#)) [54], [relatedCode](#) (in [related](#)) [60]

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

XML Source (w/o annotations (4))

```
<xsi:element minOccurs="0" name="related">
  <xsi:complexType>
    <xsi:sequence maxOccurs="unbounded">
      <xsi:element name="parentCode">
        <xsi:complexType>
          <xsi:simpleContent>
            <xsi:extension base="xsi:string">
              <xsi:attribute name="network" type="xsi:token"/>
              <xsi:attribute name="vocabulary" type="xsi:token"/>
              <xsi:attribute name="default" type="xsi:boolean"/>
            </xsi:extension>
          </xsi:simpleContent>
        </xsi:complexType>
      </xsi:element>
      <xsi:element name="relatedCode">
        <xsi:complexType>
          <xsi:simpleContent>
            <xsi:extension base="xsi:string">
              <xsi:attribute name="network" type="xsi:token"/>
              <xsi:attribute name="vocabulary" type="xsi:token"/>
              <xsi:attribute name="default" type="xsi:boolean"/>
            </xsi:extension>
          </xsi:simpleContent>
        </xsi:complexType>
      </xsi:element>
    </xsi:sequence>
  </xsi:complexType>
</xsi:element>
```

Content Element Detail (defined in [this component](#) only; 2/2)

 [parentCode](#) [54]

Type: [anonymous](#) (extension of `xsi:string`), simple content

Simple Content

`xsi:string`

 [relatedCode](#) [60]

Type: [anonymous](#) (extension of `xsi:string`), simple content

Simple Content

`xsi:string`

element <relatedCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [anonymous](#) (extension of `xsi:string`)

Content: simple, 3 [attributes](#)

Defined: [locally](#) within element [related](#) [60] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [61]

Includes: definitions of 3 [attributes](#)

XML Representation Summary

```
<relatedCode
  default      = xsi:boolean
  network      = xsi:token
  vocabulary = xsi:token
>
Content: { xsi:string }
</relatedCode>
```

Included in content model of elements (1):

[related](#) (in [variable](#)) [59]

Anonymous Type Detail

Type Derivation Tree

```
xsi:string
└ complexType (extension)
```

Derivation: extension of xsi:string

XML Source (w/o annotations (2))

```
<xsi:element name="relatedCode">
  <xsi:complexType>
    <xsi:simpleContent>
      <xsi:extension base="xsi:string">
        <xsi:attribute name="network" type="xsi:token"/>
        <xsi:attribute name="vocabulary" type="xsi:token"/>
        <xsi:attribute name="default" type="xsi:boolean"/>
      </xsi:extension>
    </xsi:simpleContent>
  </xsi:complexType>
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 3/3)

default

Type: xsi:boolean, predefined
Use: optional

network

Type: xsi:token, predefined
Use: optional

vocabulary

Type: xsi:token, predefined
Use: optional

element <sample>

element <sample> (in values)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [SampleType](#) [117]
Content: complex, 1 attribute, 3 elements
Defined: [locally](#) within complexType [TsValuesSingleVariableType](#) [133] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [62]

XML Representation Summary

```
<sample
    sampleID = xsi:int
  >
  Content: labSampleCode?, sampleType?, labMethod?
</sample>
```

Content model elements (3):

[labMethod](#) (in [sample](#)) [38], [sampleType](#) (in [sample](#)) [62]
[labSampleCode](#) (in [sample](#)) [40],

Included in content model of elements (1):

[values](#) (in [timeSeries](#)) [86]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="sample" type="SampleType"/>
```

element <sampleMedium>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [SampleMediumCodeList](#) [153]
Content: simple
Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<sampleMedium
  Content: { ("Surface Water" | "Ground Water" | "Sediment" | "Soil" | "Air" | "Tissue" |
             "Precipitation" | "Unknown" | "Other" | "Snow" | "Not Relevant") | xsi:string }
</sampleMedium>
```

Included in content model of elements (2):

[series](#) (in [seriesCatalog](#)) [63], [variable](#) (type [VariableInfoType](#)) [87]

Definition Locations

- Within global complexTypes (1):
[VariableInfoType](#) [141]
- Within anonymous complexTypes of elements (1):
[series](#) (in [seriesCatalog](#)) [64]

element <sampleType>

element <sampleType> (in sample)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [SampleTypeCodeList](#) [155]
Content: simple
Defined: [locally](#) within complexType [SampleType](#) [118] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [63]

XML Representation Summary

```
<sampleType
  Content: { ("FD" | "FF" | "FL" | "LF" | "GW" | "PB" | "PD" | "PE" | "PI" | "PW" | "RE" | "SE" | "SR"
             | "SS" | "SW" | "TE" | "TI" | "TW" | "VE" | "VI" | "VW" | "Grab" | "Unknown" | "No Sample")
             | xsi:string }
</sampleType>
```

Included in content model of elements (1):

[sample](#) (in [values](#)) [61]

XML Source

```
<xsi:element minOccurs="0" name="sampleType" type="SampleTypeCodeList"/>
```

element <series>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: anonymous complexType
Content: complex, 11 [elements](#)
Defined: [locally](#) within complexType [seriesCatalogType](#) [120] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [63]
Includes: definitions of 11 [elements](#)

XML Representation Summary

```
<series>
  Content: dataType?, variable, valueCount?, variableTimeInterval, valueType?, generalCategory?,
            sampleMedium?, method?, source?, qualityControlLevel?, seriesProperty*
</series>
```

Content model elements (11):

dataType (type DataTypeCodeList) [27],	source (type SourceType) [71],
generalCategory (type GeneralCategoryCodeList) [35],	valueCount (in series) [85],
method (type MethodType) [45],	valueType (type ValueTypeCodeList) [87],
qualityControlLevel (type QualityControlLevelType) [57],	variable (type VariableInfoType) [87],
sampleMedium (type SampleMediumCodeList) [62],	variableTimeInterval (in series) [92]
seriesProperty (in series) [66],	

Included in content model of elements (1):

[seriesCatalog](#) (in [site](#)) [65]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="series">
  <xsi:complexType>
    <xsi:sequence>
      <xsi:element maxOccurs="1" minOccurs="0" name="dataType" type="DataTypeCodeList"/>
      <xsi:element name="variable" type="VariableInfoType"/>
      <xsi:element minOccurs="0" name="valueCount">
        <xsi:complexType>
          <xsi:simpleContent>
            <xsi:extension base="positiveInt">
              <xsi:attribute name="countsEstimated" type="xsi:boolean"/>
            </xsi:extension>
          </xsi:simpleContent>
        </xsi:complexType>
      </xsi:element>
    </xsi:sequence>
  </xsi:complexType>
</xsi:element>
```

```
</xsi:simpleContent>
</xsi:complexType>
</xsi:element>
<xsi:element name="variableTimeInterval" type="TimePeriodType"/>
<xsi:element maxOccurs="1" minOccurs="0" name="valueType" type="ValueTypeCodeList"/>
<xsi:element maxOccurs="1" minOccurs="0" name="generalCategory" type="GeneralCategoryCodeList"/>
<xsi:element maxOccurs="1" minOccurs="0" name="sampleMedium" type="SampleMediumCodeList"/>
<xsi:element maxOccurs="1" minOccurs="0" name="method" type="MethodType"/>
<xsi:element maxOccurs="1" minOccurs="0" name="source" type="SourceType"/>
<xsi:element maxOccurs="1" minOccurs="0" name="qualityControlLevel" type="QualityControlLevelType"/>
<xsi:element maxOccurs="unbounded" minOccurs="0" name="seriesProperty" type=".PropertyType"/>
</xsi:sequence>
</xsi:complexType>
</xsi:element>
```

Content Element Detail (defined in [this](#) component only; 11/11)

[dataType](#) [27]

Type: [DataTypeCodeList](#) [145], simple content

Simple Content

```
( "Continuous" | "Instantaneous" | "Cumulative" | "Incremental" | "Average" | "Maximum" | "Minimum"
| "Constant Over Interval" | "Categorical" | "Best Easy Systematic Estimator" | "Unknown" |
"Variance" | "Median" | "Mode" | "Best Easy Systematic Estimator" | "Standard Deviation" |
"Skewness" | "Equivalent Mean" | "Sporadic" | "Unknown") | xsi:string
```

[generalCategory](#) [35]

Type: [GeneralCategoryCodeList](#) [148], simple content

Simple Content

```
("Water Quality" | "Climate" | "Hydrology" | "Geology" | "Biota" | "Unknown" | "Instrumentation")
| xsi:string
```

[method](#) [45]

Type: [MethodType](#) [108], complex content

[qualityControlLevel](#) [57]

Type: [QualityControlLevelType](#) [114], complex content

[sampleMedium](#) [62]

Type: [SampleMediumCodeList](#) [153], simple content

Simple Content

```
("Surface Water" | "Ground Water" | "Sediment" | "Soil" | "Air" | "Tissue" | "Precipitation" |
"Unknown" | "Other" | "Snow" | "Not Relevant") | xsi:string
```

[seriesProperty](#) [66]

Type: [.PropertyType](#) [112], simple content

Simple Content

```
xsi:string
```

element <series> (in seriesCatalog)

source [71]

Type: [SourceType](#) [125], complex content

valueCount [85]

Type: [anonymous](#) (extension of [positiveInt](#)), simple content

Simple Content

xsi:int

minInclusive: 0

valueType [87]

Type: [ValueTypeCodeList](#) [163], simple content

Simple Content

xsi:string | ("Field Observation" | "Sample" | "Model Simulation Result" | "Derived Value" | "Unknown")

variable [87]

Type: [VariableInfoType](#) [138], complex content

variableTimeInterval [92]

Type: [TimePeriodType](#) [128], complex content

element <seriesCatalog>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [seriesCatalogType](#) [118]

Content: complex, 2 attributes, 4 elements

Defined: [locally](#) within element [site](#) [67] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [65]

XML Representation Summary

```
<seriesCatalog
    menuGroupName = xsi:normalizedString
    serviceWsdl = xsi:anyURI
    >
    Content: note*, series*, seriesCatalogProperty*, extension?
</seriesCatalog>
```

Content model elements (4):

[extension](#) [35], [series](#) (in [seriesCatalog](#)) [63],
[note](#) (type [NoteType](#)) [47], [seriesCatalogProperty](#) (in [seriesCatalog](#)) [66]

Included in content model of elements (1):

[site](#) (in [sitesResponse](#)) [66]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="seriesCatalog" type="seriesCatalogType"/>
```

element <seriesCatalogProperty>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [.PropertyType](#) [112]
Content: simple, 3 attributes
Defined: [locally](#) within complexType [seriesCatalogType](#) [120] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [66]

XML Representation Summary

```
<seriesCatalogProperty
  name = xsi:normalizedString
  type = xsi:token
  uri  = xsi:anyURI
>
  Content: { xsi:string }
</seriesCatalogProperty>
```

Included in content model of elements (1):

[seriesCatalog](#) (in [site](#)) [65]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="seriesCatalogProperty" type=".PropertyType"/>
```

element <seriesProperty>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [PropertyParams](#) [112]
Content: simple, 3 attributes
Defined: [locally](#) within element [series](#) [64] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [66]

XML Representation Summary

```
<seriesProperty
  name = xsi:normalizedString
  type = xsi:token
  uri  = xsi:anyURI
>
  Content: { xsi:string }
</seriesProperty>
```

Included in content model of elements (1):

[series](#) (in [seriesCatalog](#)) [63]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="seriesProperty" type="PropertyParams"/>
```

element <site>

element <site> (in sitesResponse)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: anonymous complexType
Content: complex, 3 [elements](#)
Defined: [locally](#) within complexType [SiteInfoResponseType](#) [121] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [67]
Includes: definitions of 3 [elements](#)

XML Representation Summary

```
<site>
  Content: siteInfo, seriesCatalog*, extension*
</site>
```

Content model elements (3):

[extension](#) [35], [siteInfo](#) (in [site](#)) [69]
[seriesCatalog](#) (in [site](#)) [65],

Included in content model of elements (1):

[sitesResponse](#) [71]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="site">
  <xsi:complexType>
    <xsi:sequence>
      <xsi:element maxOccurs="1" minOccurs="1" name="siteInfo" type="SiteInfoType"/>
      <xsi:element maxOccurs="unbounded" minOccurs="0" name="seriesCatalog" type="seriesCatalogType"/>
      <xsi:element maxOccurs="unbounded" minOccurs="0" ref="extension"/>
    </xsi:sequence>
  </xsi:complexType>
</xsi:element>
```

Content Element Detail (defined in [this](#) component only; 3/3)

● [extension](#) [35]

Type: xsi:anyType, any content

● [seriesCatalog](#) [65]

Type: [seriesCatalogType](#) [118], complex content

● [siteInfo](#) [69]

Type: [SiteInfoType](#) [121], complex content

element <siteCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [anonymous](#) ([extension of](#) xsi:token)
Content: simple, 5 [attributes](#)
Defined: [locally](#) within complexType [SiteInfoType](#) [123] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [68]
Includes: definitions of 5 [attributes](#)

XML Representation Summary

```
<siteCode  
    agencyCode = xsi:normalizedString  
    agencyName = xsi:normalizedString  
    default = xsi:boolean  
    network = xsi:token  
    siteID = xsi:int  
>  
Content: { xsi:token }  
</siteCode>
```

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

Annotation

A siteID is an identifier that this site is referred to as. There may be multiple siteID elements. Only one should be labeled as the defaultID (set attribute defaultID=true) Multiple siteID elements are allowed because site identifiers may change, and different observation networks may refer to the same site with different identifiers.

Anonymous Type Detail

Type Derivation Tree

```
xsi:token  
└ complexType (extension)
```

Derivation: extension of xsi:token

XML Source (w/o annotations (4))

```
<xsi:element maxOccurs="unbounded" name="siteCode">  
  <xsi:complexType>  
    <xsi:simpleContent>  
      <xsi:extension base="xsi:token">  
        <xsi:attribute name="default" type="xsi:boolean"/>  
        <xsi:attribute name="network" type="xsi:token" use="required"/>  
        <xsi:attribute name="siteID">  
          <xsi:simpleType>  
            <xsi:restriction base="positiveInt">  
              <xsi:minInclusive value="0"/>  
            </xsi:restriction>  
          </xsi:simpleType>  
        </xsi:attribute>  
        <xsi:attribute name="agencyCode" type="xsi:normalizedString"/>  
        <xsi:attribute name="agencyName" type="xsi:normalizedString"/>  
      </xsi:extension>  
    </xsi:simpleContent>  
  </xsi:complexType>  
</xsi:element>
```

Attribute Detail

 (defined in [this](#) component only; 5/5)

 agencyCode

Type: xsi:normalizedString, predefined
Use: optional

element <siteCode> (in siteInfo)

agencyName

Type: xsi:normalizedString, predefined
Use: optional

default

Type: xsi:boolean, predefined
Use: optional

True if this is the main identifier that this service uses to access this site. default value is false.

network

Type: xsi:token, predefined
Use: required

The name of the observation network that this site identification is use for.

siteID

Type: [anonymous](#) (restriction of [positiveInt](#))
Use: optional

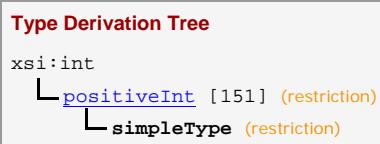
An identifier of the site, the type of identifier must be specified.

Attribute Value

xsi:int

MinInclusive: 0

Anonymous simpleType



Derivation: restriction of [positiveInt](#)

Facets: minInclusive: 0

element <siteInfo>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [SiteInfoType](#) [121]

Content: complex, 2 attributes, 11 elements

Defined: [locally](#) within element [site](#) [67] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [70]

XML Representation Summary

```
<siteInfo
  metadataTime = xsi:dateTime
  oid          = xsi:normalizedString
>
  Content: siteName, siteCode+, timeZoneInfo?, geoLocation, elevation_m?, verticalDatum?, note*, extension?,
           altname?, siteType*, siteProperty*
</siteInfo>
```

Content model elements (11):

[altname](#) (in [siteInfo](#)) [19], [siteName](#) (in [siteInfo](#)) [70],
[elevation_m](#) (in [siteInfo](#)) [32], [siteProperty](#) (in [siteInfo](#)) [70],
[extension](#) [35], [siteType](#) (in [siteInfo](#)) [71],
[geoLocation](#) (in [siteInfo](#)) [36], [timeZoneInfo](#) (in [siteInfo](#)) [78],

element <siteInfo> (in site)

[note](#) (type [NoteType](#)) [47], [verticalDatum](#) (in [siteInfo](#)) [93]
[siteCode](#) (in [siteInfo](#)) [67],

Included in content model of elements (1):

[site](#) (in [sitesResponse](#)) [66]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="1" name="siteInfo" type="SiteInfoType"/>
```

element <siteName>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [SiteInfoType](#) [124] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [70]

XML Representation Summary

```
<siteName
  Content: { xsi:string }
</siteName>
```

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

XML Source

```
<xsi:element name="siteName" type="xsi:string"/>
```

element <siteProperty>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [.PropertyType](#) [112]
Content: simple, 3 attributes
Defined: [locally](#) within complexType [SiteInfoType](#) [124] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [70]

XML Representation Summary

```
<siteProperty
  name = xsi:normalizedString
  type = xsi:token
  uri = xsi:anyURI
  >
  Content: { xsi:string }
</siteProperty>
```

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="siteProperty" type=".PropertyType"/>
```

element <sitesResponse>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [SiteInfoResponseType](#) [120]
Content: complex, 2 elements
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [71]
Used: never

XML Representation Summary

```
<sitesResponse>
  Content: queryInfo?, site\*
</sitesResponse>
```

Content model elements (2):

[queryInfo](#) (type [QueryInfoType](#)) [58], [site](#) (in [sitesResponse](#)) [66]

XML Source

```
<xsi:element name="sitesResponse" type="SiteInfoResponseType" />
```

element <siteType>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [SiteTypeCodeList](#) [157]
Content: simple
Defined: [locally](#) within complexType [SiteInfoType](#) [124] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [71]

XML Representation Summary

```
<siteType
  Content: { xsi:string | xsi:string }
</siteType>
```

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="siteType" type="SiteTypeCodeList" />
```

element <source>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [SourceType](#) [125]
Content: complex, 1 attribute, 7 elements
Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<source
  sourceID = xsi:int
  >
  Content: sourceCode?, organization?, sourceDescription?, metadata?, contactInformation*, sourceLink*,
            citation?
</source>
```

Content model elements (7):

citation (type xsi:string) [23],
contactInformation (type ContactInformationType) [23],
metadata (type MetaDataType) [44],
organization (type xsi:string) [53],

sourceCode (type xsi:token) [72],
sourceDescription (type xsi:string) [72],
sourceLink (type xsi:anyURI) [73]

Included in content model of elements (2):

series (in seriesCatalog) [63], values (in timeSeries) [86]

Definition Locations

- Within global complexTypes (1):

TsValuesSingleVariableType [133]

- Within anonymous complexTypes of elements (1):

series (in seriesCatalog) [65]

element <sourceCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:token

Content: simple

Defined: locally within complexType SourceType [126] in cuahsiTimeSeries_v1_1.xsd, see XML source [72]

XML Representation Summary

```
<sourceCode
  Content: { xsi:token }
</sourceCode>
```

Included in content model of elements (2):

labSourceDetails (in labMethod) [41], source (type SourceType) [71]

Annotation

The abbreviation for the source. e.g. USGS for US Geological Survey.

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="1" minOccurs="0" name="sourceCode" type="xsi:token"/>
```

element <sourceDescription>

element <sourceDescription> (type xsi:string)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [SourceType](#) [126] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [73]

XML Representation Summary

```
<sourceDescription
  Content: { xsi:string }
</sourceDescription>
```

Included in content model of elements (2):

[labSourceDetails](#) (in [LabMethod](#)) [41], [source](#) (type [SourceType](#)) [71]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="sourceDescription" type="xsi:string"/>
```

element <sourceInfo>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [SourceInfoType](#) [124]
Content: empty
Defined: [locally](#) within complexType [TimeSeriesType](#) [130] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [73]

XML Representation Summary

```
<sourceInfo/>
```

Included in content model of elements (1):

[timeSeries](#) (in [timeSeriesResponse](#)) [76]

XML Source

```
<xsi:element name="sourceInfo" type="SourceInfoType"/>
```

element <sourceLink>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:anyURI
Content: simple
Defined: [locally](#) within complexType [SourceType](#) [126] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [74]

XML Representation Summary

```
<sourceLink
  Content: { xsi:anyURI }
</sourceLink>
```

Included in content model of elements (2):

[labSourceDetails](#) (in [LabMethod](#)) [41], [source](#) (type [SourceType](#)) [71]

element <sourceLink> (type xsi:anyURI)

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="sourceLink" type="xsi:anyURI"/>
```

element <south>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [Latitude](#) [149]

Content: simple

Defined: [locally](#) within complexType [LatLonBoxType](#) [104] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [74]

XML Representation Summary

```
<south
  Content: { xsi:double }
</south>
```

Simple Content Detail:

MaxInclusive: 90.00

MinInclusive: -90.00

XML Source

```
<xsi:element name="south" type="Latitude"/>
```

element <speciation>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [SpeciationCodeList](#) [158]

Content: simple

Defined: [locally](#) within complexType [VariableInfoType](#) [141] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [74]

XML Representation Summary

```
<speciation
  Content: { xsi:string | xsi:string }
</speciation>
```

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

XML Source

```
<xsi:element minOccurs="0" name="speciation" type="SpeciationCodeList"/>
```

element <timeParam>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: anonymous complexType

Content: complex, 2 [elements](#)

Defined: [locally](#) within element [criteria](#) [26] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [75]

Includes: definitions of 2 [elements](#)

XML Representation Summary

```
<timeParam>
  Content: beginDateTime?, endDateTime?
</timeParam>
```

Content model elements (2):

[beginDateTime](#) (in [timeParam](#)) [19], [endDateTime](#) (in [timeParam](#)) [33]

Included in content model of elements (1):

[criteria](#) (in [queryInfo](#)) [25]

XML Source (w/o annotations (1))

```
<xsi:element minOccurs="0" name="timeParam">
  <xsi:complexType>
    <xsi:sequence>
      <xsi:element maxOccurs="1" minOccurs="0" name="beginDateTime" type="xsi:string"/>
      <xsi:element maxOccurs="1" minOccurs="0" name="endDateTime" type="xsi:string"/>
    </xsi:sequence>
  </xsi:complexType>
</xsi:element>
```

Content Element Detail (defined in [this](#) component only; 2/2)

● [beginDateTime](#) [19]

Type: xsi:string, predefined, simple content

● [endDateTime](#) [33]

Type: xsi:string, predefined, simple content

element <timeScale>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: anonymous complexType
Content: complex, 1 [attribute](#), 3 [elements](#)
Nullable: (can be declared as nil using xsi:nil attribute in instance XML documents)
Defined: [locally](#) within complexType [VariableInfoType](#) [142] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [76]
Includes: definitions of 1 [attribute](#) and 3 [elements](#)

XML Representation Summary

```
<timeScale
  isRegular = xsi:boolean : "false"
  >
  Content: unit?, timeSpacing?, timeSupport?
</timeScale>
```

Content model elements (3):

[timeSpacing](#) (in [timeScale](#)) [78], [unit](#) (type [UnitsType](#)) [82]
[timeSupport](#) (in [timeScale](#)) [78],

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

Annotation

Element containing the time support (or temporal footprint) of the data values. @isRegular indicates if the spacing is regular. the timeInterval is the spacing between the observations, with the units being the units of the spacing. This basically communicates the precision of the observation. If timeSupport isReqular, and has units of 1 day, then clients should reformat output to spreadsheets and applications to day values. In waterML 1.0, there is a divergence of mean between ODM, and WaterML. WaterML only communicates the regularity, and the spacing of the observations (timeInterval). Whereas timesupport in the ODM is associated with the dataType, and time support. This will be addressed in 1.1

XML Source (w/o annotations (1))

```
<xsi:element minOccurs="0" name="timeScale" nillable="true">
  <xsi:complexType>
    <xsi:sequence>
      <xsi:element maxOccurs="1" minOccurs="0" name="unit" type="UnitsType"/>
      <xsi:element maxOccurs="1" minOccurs="0" name="timeSpacing" type="xsi:float"/>
      <xsi:element maxOccurs="1" minOccurs="0" name="timeSupport" type="xsi:float"/>
    </xsi:sequence>
    <xsi:attribute default="false" name="isRegular" type="xsi:boolean"/>
  </xsi:complexType>
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 1/1)

isRegular

Type: xsi:boolean, predefined

Use: optional

Attribute Value

Default: "false"

Content Element Detail (defined in [this](#) component only; 3/3)

[timeSpacing](#) [78]

Type: xsi:float, predefined, simple content

[timeSupport](#) [78]

Type: xsi:float, predefined, simple content

[unit](#) [82]

Type: [UnitsType](#) [134], complex content

element <timeSeries>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [TimeSeriesType](#) [129]

Content: complex, 1 attribute, 3 elements

Defined: [locally](#) within complexType [TimeSeriesResponseType](#) [129] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [77]

XML Representation Summary

```
<timeSeries  
    name = xsi:normalizedString  
    >  
    Content: sourceInfo, variable, values+  
</timeSeries>
```

Content model elements (3):

[sourceInfo](#) (in timeSeries) [73], [variable](#) (type VariableInfoType) [87]
[values](#) (in timeSeries) [86],

Included in content model of elements (1):

[timeSeriesResponse](#) [77]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="1" name="timeSeries" type="TimeSeriesType"/>
```

element <timeSeriesResponse>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [TimeSeriesResponseType](#) [129]
Content: complex, 2 elements
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [77]
Used: never

XML Representation Summary

```
<timeSeriesResponse  
    Content: queryInfo?, timeSeries+  
</timeSeriesResponse>
```

Content model elements (2):

[queryInfo](#) (type QueryInfoType) [58], [timeSeries](#) (in timeSeriesResponse) [76]

XML Source

```
<xsi:element name="timeSeriesResponse" type="TimeSeriesResponseType"/>
```

element <timeSingle>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:dateTime
Content: simple
Defined: [locally](#) within complexType TimeSingleType [131] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [78]

XML Representation Summary

```
<timeSingle  
    Content: { xsi:dateTime }  
</timeSingle>
```

element <timeSingle> (type xsi:dateTime)

XML Source

```
<xsi:element name="timeSingle" type="xsi:dateTime"/>
```

element <timeSpacing>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:float

Content: simple

Defined: [locally](#) within element [timeScale](#) [76] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [78]

XML Representation Summary

```
<timeSpacing  
    Content: { xsi:float }  
</timeSpacing>
```

Included in content model of elements (1):

[timeScale](#) (in [variable](#)) [75]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="timeSpacing" type="xsi:float"/>
```

element <timeSupport>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:float

Content: simple

Defined: [locally](#) within element [timeScale](#) [76] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [78]

XML Representation Summary

```
<timeSupport  
    Content: { xsi:float }  
</timeSupport>
```

Included in content model of elements (1):

[timeScale](#) (in [variable](#)) [75]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="timeSupport" type="xsi:float"/>
```

element <timeZoneInfo>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: anonymous complexType

Content: complex, 1 [attribute](#), 2 [elements](#)

Defined: [locally](#) within complexType [SiteInfoType](#) [124] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [79]

Includes: definitions of 1 [attribute](#) and 2 [elements](#)

XML Representation Summary

```
<timeZoneInfo  
    siteUsesDaylightSavingsTime = xsi:boolean  
>  
Content: defaultTimeZone?, daylightSavingsTimeZone?  
</timeZoneInfo>
```

Content model elements (2):

[daylightSavingsTimeZone](#) (in [timeZoneInfo](#) in [siteInfo](#)) [28], [defaultTimeZone](#) (in [timeZoneInfo](#) in [siteInfo](#)) [30]

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

Annotation

the default time zone for this site (+00:00) and if this site shifts to daylight savings time (attribute: usesDaylightSavingsTime)

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="1" minOccurs="0" name="timeZoneInfo">  
  <xsi:complexType>  
    <xsi:sequence>  
      <xsi:element maxOccurs="1" minOccurs="0" name="defaultTimeZone">  
        <xsi:complexType>  
          <xsi:complexContent mixed="false">  
            <xsi:extension base="TimeZoneType"/>  
          </xsi:complexContent>  
        </xsi:complexType>  
      </xsi:element>  
      <xsi:element maxOccurs="1" minOccurs="0" name="daylightSavingsTimeZone">  
        <xsi:complexType>  
          <xsi:complexContent mixed="false">  
            <xsi:extension base="TimeZoneType"/>  
          </xsi:complexContent>  
        </xsi:complexType>  
      </xsi:element>  
    </xsi:sequence>  
    <xsi:attribute name="siteUsesDaylightSavingsTime" type="xsi:boolean"/>  
  </xsi:complexType>  
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 1/1)

■ [siteUsesDaylightSavingsTime](#)

Type: xsi:boolean, predefined
Use: optional

Content Element Detail (defined in [this](#) component only; 2/2)

● [daylightSavingsTimeZone](#) [28]

Type: [anonymous](#) (extension of [TimeZoneType](#)), empty content

● [defaultTimeZone](#) [30]

Type: [anonymous](#) (extension of [TimeZoneType](#)), empty content

element <timeZoneInfo>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: anonymous complexType
Content: complex, 1 [attribute](#), 2 [elements](#)
Defined: [locally](#) within complexType [DataSetInfoType](#) [100] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [80]
Includes: definitions of 1 [attribute](#) and 2 [elements](#)

XML Representation Summary

```
<timeZoneInfo
    siteUsesDaylightSavingsTime = xsi:boolean
    >
    Content: defaultTimeZone?, daylightSavingsTimeZone?
</timeZoneInfo>
```

Content model elements (2):

[daylightSavingsTimeZone](#) (in [timeZoneInfo](#) :
anonymous) [29],

[defaultTimeZone](#) (in [timeZoneInfo](#) :
anonymous) [30]

Annotation

the default time zone for this site (+00:00) and if this site shifts to daylight savings time (attribute: usesDaylightSavingsTime)

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="1" minOccurs="0" name="timeZoneInfo">
  <xsi:complexType>
    <xsi:sequence>
      <xsi:element maxOccurs="1" minOccurs="0" name="defaultTimeZone">
        <xsi:complexType>
          <xsi:complexContent mixed="false">
            <xsi:extension base="TimeZoneType"/>
          </xsi:complexContent>
        </xsi:complexType>
      </xsi:element>
      <xsi:element maxOccurs="1" minOccurs="0" name="daylightSavingsTimeZone">
        <xsi:complexType>
          <xsi:complexContent mixed="false">
            <xsi:extension base="TimeZoneType"/>
          </xsi:complexContent>
        </xsi:complexType>
      </xsi:element>
    </xsi:sequence>
    <xsi:attribute name="siteUsesDaylightSavingsTime" type="xsi:boolean"/>
  </xsi:complexType>
</xsi:element>
```

Attribute Detail (defined in [this](#) component only; 1/1)

■ [siteUsesDaylightSavingsTime](#)

Type: xsi:boolean, predefined
Use: optional

Content Element Detail (defined in [this](#) component only; 2/2)

● [daylightSavingsTimeZone](#) [29]

Type: anonymous (extension of [TimeZoneType](#)), empty content

element <timeZoneInfo> (type anonymous)

● [defaultTimeZone](#) [30]

Type: [anonymous](#) (extension of [TimeZoneType](#)), empty content

element <Title>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [MetaDataType](#) [108] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [81]

XML Representation Summary

```
<Title
  Content: { xsi:string }
</Title>
```

Included in content model of elements (1):

[metadata](#) (type [MetaDataType](#)) [44]

XML Source

```
<xsi:element minOccurs="0" name="Title" type="xsi:string"/>
```

element <TopicCategory>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [MetaDataType](#) [108] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [81]

XML Representation Summary

```
<TopicCategory
  Content: { xsi:string }
</TopicCategory>
```

Included in content model of elements (1):

[metadata](#) (type [MetaDataType](#)) [44]

XML Source

```
<xsi:element minOccurs="0" name="TopicCategory" type="xsi:string"/>
```

element <typeOfContact>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:normalizedString

Content: simple

Defined: [locally](#) within complexType [ContactInformationType](#) [97] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [82]

XML Representation Summary

```
<typeOfContact
  Content: { xsi:normalizedString }
</typeOfContact>
```

Included in content model of elements (1):

[contactInformation](#) (type [ContactInformationType](#)) [23]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="typeOfContact" type="xsi:normalizedString"/>
```

element <unit>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [UnitsType](#) [134]

Content: complex, 1 attribute, 5 elements

Defined: locally at 3 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<unit
  unitID = xsi:int
  >
  Content: unitName?, unitDescription?, unitType?, unitAbbreviation?, unitCode
</unit>
```

Content model elements (5):

[unitAbbreviation](#) (in [unit](#)) [83], [unitName](#) (in [unit](#)) [84],
[unitCode](#) (in [unit](#)) [83], [unitType](#) (in [unit](#)) [84]
[unitDescription](#) (in [unit](#)) [83],

Included in content model of elements (3):

[offset](#) (in [values](#)) [48], [variable](#) (type [VariableInfoType](#)) [87]
[timeScale](#) (in [variable](#)) [75],

Definition Locations

- Within global complexTypes (2):

[OffsetType](#) [112], [VariableInfoType](#) [142]

- Within anonymous complexTypes of elements (1):

[timeScale](#) (in [variable](#)) [76]

Annotations (1) (by all definition locations)

Location:

within complexType [VariableInfoType](#) [142]

Annotation:

The units of the measurement.

element <unitAbbreviation>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [UnitsType](#) [134] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [83]

XML Representation Summary

```
<unitAbbreviation
  Content: { xsi:string }
</unitAbbreviation>
```

Included in content model of elements (1):

[unit](#) (type [UnitsType](#)) [82]

XML Source

```
<xsi:element minOccurs="0" name="unitAbbreviation" type="xsi:string"/>
```

element <unitCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:token

Content: simple

Defined: [locally](#) within complexType [UnitsType](#) [135] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [83]

XML Representation Summary

```
<unitCode
  Content: { xsi:token }
</unitCode>
```

Included in content model of elements (1):

[unit](#) (type [UnitsType](#)) [82]

XML Source

```
<xsi:element name="unitCode" type="xsi:token"/>
```

element <unitDescription>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [UnitsType](#) [135] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [84]

XML Representation Summary

```
<unitDescription
  Content: { xsi:string }
</unitDescription>
```

Included in content model of elements (1):

[unit](#) (type [UnitsType](#)) [82]

XML Source

```
<xsi:element minOccurs="0" name="unitDescription" type="xsi:string"/>
```

element <unitName>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [UnitsType](#) [135] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [84]

XML Representation Summary

```
<unitName
  Content: { xsi:string }
/>
```

Included in content model of elements (1):

[unit](#) (type [UnitsType](#)) [82]

XML Source

```
<xsi:element minOccurs="0" name="unitName" type="xsi:string"/>
```

element <unitType>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [UnitsTypeCodeList](#) [161]

Content: simple

Defined: [locally](#) within complexType [UnitsType](#) [135] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [84]

XML Representation Summary

```
<unitType
  Content: { xsi:string | ("Angle" | "Area" | "Dimensionless" | "Energy" | "Energy Flux" | "Flow" |
    "Force" | "Frequency" | "Length" | "Light" | "Mass" | "Permeability" | "Power" | "Pressure/Stress" |
    "Resolution" | "Scale" | "Temperature" | "Time" | "Velocity" | "Volume" ) }
/>
```

Included in content model of elements (1):

[unit](#) (type [UnitsType](#)) [82]

XML Source

```
<xsi:element minOccurs="0" name="unitType" type="UnitsTypeCodeList"/>
```

element <value>

element <value> (in values)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [valueSingleVariable](#) [135]
Content: simple, 20 attributes
Defined: [locally](#) within complexType [TsValuesSingleVariableType](#) [133] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [85]

XML Representation Summary

```
<value
  accuracyStdDev           = xsi:double
  censorCode                = ("lt" | "gt" | "nc" | "nd" | "png") | xsi:string
  codedVocabulary           = xsi:boolean
  codedVocabularyTerm       = xsi:normalizedString
  dateTime                  = xsi:dateTime
  dateTimeUTC               = xsi:dateTime
  labSampleCode              = xsi:token
  metadataTime               = xsi:dateTime
  methodCode                = xsi:token
  methodID                  = xsi:nonNegativeInteger
  offsetTypeCode             = xsi:token
  offsetTypeID               = xsi:nonNegativeInteger
  offsetValue                = xsi:double
  oid                       = xsi:normalizedString
  qualifiers                = xsi:NMTOKENS
  qualityControlLevelCode   = xsi:token
  sampleID                  = xsi:nonNegativeInteger
  sourceCode                 = xsi:token
  sourceID                  = xsi:nonNegativeInteger
  timeOffset                = xsi:normalizedString
  >
  Content: { xsi:decimal }
</value>
```

Included in content model of elements (1):

[values](#) (in [timeSeries](#)) [86]

Annotation

text

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="value" type="ValueSingleVariable" />
```

element <valueCount>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [anonymous](#) ([extension of positiveInt](#))
Content: simple, 1 [attribute](#)
Defined: [locally](#) within element [series](#) [65] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [86]
Includes: definition of 1 [attribute](#)

XML Representation Summary

```
<valueCount  
    countIsEstimated = xsi:boolean  
    >  
    Content: { xsi:int }  
</valueCount>
```

Simple Content Detail:

MinInclusive: 0

Included in content model of elements (1):

[series](#) (in [seriesCatalog](#)) [63]

Anonymous Type Detail

Type Derivation Tree

```
xsi:int  
└ positiveInt [151] (restriction)  
    └ complexType (extension)
```

Derivation: extension of [positiveInt](#)

XML Source

```
<xsi:element minOccurs="0" name="valueCount">  
  <xsi:complexType>  
    <xsi:simpleContent>  
      <xsi:extension base="positiveInt">  
        <xsi:attribute name="countsEstimated" type="xsi:boolean"/>  
      </xsi:extension>  
    </xsi:simpleContent>  
  </xsi:complexType>  
</xsi:element>
```

Attribute Detail

 (defined in [this](#) component only; 1/1)

[countIsEstimated](#)

Type: xsi:boolean, predefined

Use: optional

element <values>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [TsValuesSingleVariableType](#) [132]

Content: complex, 8 elements

Defined: [locally](#) within complexType [TimeSeriesType](#) [130] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [87]

XML Representation Summary

```
<values>  
  Content: value* , qualifier* , qualityControlLevel* , method* , source* , offset* , sample* , censorCode*  
</values>
```

Content model elements (8):

[censorCode](#) (in [values](#)) [22], [qualityControlLevel](#) (type [QualityControlLevelType](#)) [57],
[method](#) (type [MethodType](#)) [45], [sample](#) (in [values](#)) [61],
[offset](#) (in [values](#)) [48], [source](#) (type [SourceType](#)) [71],
[qualifier](#) (in [values](#)) [56], [value](#) (in [values](#)) [84]

Included in content model of elements (1):

[timeSeries](#) (in [timeSeriesResponse](#)) [76]

XML Source

```
<xsi:element maxOccurs="unbounded" name="values" type="TsValuesSingleVariableType"/>
```

element <valueType>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [ValueTypeCodeList](#) [163]
Content: simple
Defined: locally at 2 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<valueType
  Content: { xsi:string | ("Field Observation" | "Sample" | "Model Simulation Result" | "Derived
             Value" | "Unknown") }
</valueType>
```

Included in content model of elements (2):

[series](#) (in [seriesCatalog](#)) [63], [variable](#) (type [VariableInfoType](#)) [87]

Definition Locations

- **Within global complexTypes (1):**
[VariableInfoType](#) [142]
- **Within anonymous complexTypes of elements (1):**
[series](#) (in [seriesCatalog](#)) [65]

element <variable>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [VariableInfoType](#) [138]
Content: complex, 2 attributes, 17 elements
Defined: locally at 3 [locations](#) in [cuahsiTimeSeries_v1_1.xsd](#)

XML Representation Summary

```
<variable
  metadataTime = xsi:dateTime
  oid          = xsi:normalizedString
  >
  Content: variableCode+, variableName?, variableDescription?, valueType?, dataType?, generalCategory?,
            sampleMedium?, unit?, options?, note*, related?, extension?, noDataValue?, timeScale?, speciation?,
            categories?, variableProperty*
</variable>
```

Content model elements (17):

[categories](#) (in [variable](#)) [20],
[dataType](#) (type [DataTypeCodeList](#)) [27],
[extension](#) [35],
[generalCategory](#) (type [GeneralCategoryCodeList](#)) [35],
[noDataValue](#) (in [variable](#)) [47],
[note](#) (type [NoteType](#)) [47],
[options](#) [52],
[related](#) (in [variable](#)) [59],
[sampleMedium](#) (type [SampleMediumCodeList](#)) [62],
[speciation](#) (in [variable](#)) [74],
[timeScale](#) (in [variable](#)) [75],
[unit](#) (type [UnitsType](#)) [82],
[valueType](#) (type [ValueTypeCodeList](#)) [87],
[variableCode](#) (in [variable](#)) [88],
[variableDescription](#) (in [variable](#)) [89],
[variableName](#) (in [variable](#)) [90],
[variableProperty](#) (in [variable](#)) [91]

Included in content model of elements (3):

[series](#) (in [seriesCatalog](#)) [63], [variables](#) (in [variablesResponse](#)) [91]
[timeSeries](#) (in [timeSeriesResponse](#)) [76],

Definition Locations

- Within global complexTypes (1):

[TimeSeriesType](#) [130]

- Within anonymous complexTypes of elements (2):

[series](#) (in [seriesCatalog](#)) [65], [variables](#) (in [variablesResponse](#)) [92]

element <variableCode>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [anonymous](#) (extension of [xsi:token](#))
Content: simple, 4 [attributes](#)
Defined: [locally](#) within complexType [VariableInfoType](#) [142] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [89]
Includes: definitions of 4 [attributes](#)

XML Representation Summary

```
<variableCode  
    default      = xsi:boolean  
    network      = xsi:token  
    variableID   = xsi:int  
    vocabulary   = xsi:token  
    >  
    Content: { xsi:token }  
</variableCode>
```

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

Anonymous Type Detail

Type Derivation Tree

```
xsi:token  
└complexType (extension)
```

Derivation: extension of [xsi:token](#)

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="1" name="variableCode">
  <xsi:complexType>
    <xsi:simpleContent>
      <xsi:extension base="xsi:token">
        <xsi:attribute name="network" type="xsi:token"/>
        <xsi:attribute name="vocabulary" type="xsi:token"/>
        <xsi:attribute name="default" type="xsi:boolean"/>
        <xsi:attribute name="variableID">
          <xsi:simpleType>
            <xsi:restriction base="positiveInt">
              <xsi:minInclusive value="0"/>
            </xsi:restriction>
          </xsi:simpleType>
        </xsi:attribute>
      </xsi:extension>
    </xsi:simpleContent>
  </xsi:complexType>
</xsi:element>
```

Attribute Detail

 (defined in [this component](#) only; 4/4)

default

Type: xsi:boolean, predefined
Use: optional

network

Type: xsi:token, predefined
Use: optional

variableID

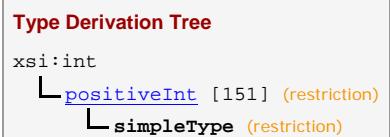
Type: [anonymous](#) (restriction of [positiveInt](#))
Use: optional

Attribute Value

xsi:int

MinInclusive: 0

Anonymous simpleType



Derivation: restriction of [positiveInt](#)

Facets: minInclusive: 0

vocabulary

Type: xsi:token, predefined
Use: optional

element <variableDescription>

element <variableDescription> (in variable)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [VariableInfoType](#) [142] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [90]

XML Representation Summary

```
<variableDescription
  Content: { xsi:string }
</variableDescription>
```

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

Annotation

A detailed descriptn of the variable. May include processing information and other details.

XML Source (w/o annotations (1))

```
<xsi:element minOccurs="0" name="variableDescription" type="xsi:string"/>
```

element <variableName>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within complexType [VariableInfoType](#) [142] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [90]

XML Representation Summary

```
<variableName
  Content: { xsi:string }
</variableName>
```

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

Annotation

A brief name of the variable that could be shown in a menu

XML Source (w/o annotations (1))

```
<xsi:element maxOccurs="1" minOccurs="0" name="variableName" type="xsi:string"/>
```

element <variableParam>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:string
Content: simple
Defined: [locally](#) within element [criteria](#) [26] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [91]

XML Representation Summary

```
<variableParam
  Content: { xsi:string }
</variableParam>
```

Included in content model of elements (1):

[criteria](#) (in [queryInfo](#)) [25]

XML Source (w/o annotations (1))

```
<xsi:element minOccurs="0" name="variableParam" type="xsi:string"/>
```

element <variableProperty>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [.PropertyType](#) [112]

Content: simple, 3 attributes

Defined: [locally](#) within complexType [VariableInfoType](#) [142] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [91]

XML Representation Summary

```
<variableProperty
  name = xsi:normalizedString
  type = xsi:token
  uri = xsi:anyURI
  >
  Content: { xsi:string }
</variableProperty>
```

Included in content model of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

XML Source

```
<xsi:element maxOccurs="unbounded" minOccurs="0" name="variableProperty" type=".PropertyType"/>
```

element <variables>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: anonymous complexType

Content: complex, 1 [element](#)

Defined: [locally](#) within complexType [VariablesResponseType](#) [143] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [92]

Includes: definition of 1 [element](#)

XML Representation Summary

```
<variables>
  Content: variable*
</variables>
```

Content model elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

Included in content model of elements (1):

[variablesResponse](#) [92]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="1" name="variables">
  <xsi:complexType>
    <xsi:sequence>
      <xsi:element maxOccurs="unbounded" minOccurs="0" name="variable" type="VariableInfoType"/>
    </xsi:sequence>
  </xsi:complexType>
</xsi:element>
```

Content Element Detail

 (defined in [this](#) component only; 1/1)

● [variable](#) [87]

Type: [VariableInfoType](#) [138], complex content

element <variablesResponse>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [VariablesResponseType](#) [142]
Content: complex, 2 elements
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [92]
Used: never

XML Representation Summary

```
<variablesResponse>
  Content: queryInfo?, variables
</variablesResponse>
```

Content model elements (2):

[queryInfo](#) (type [QueryInfoType](#)) [58], [variables](#) (in [variablesResponse](#)) [91]

XML Source

```
<xsi:element name="variablesResponse" type="VariablesResponseType"/>
```

element <variableTimeInterval>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: [TimePeriodType](#) [128]
Content: complex, 4 elements
Defined: [locally](#) within element [series](#) [65] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [93]

XML Representation Summary

```
<variableTimeInterval>
  Content: beginDateTime, endDateTime, beginDateTimeUTC?, endDateTimeUTC?
</variableTimeInterval>
```

Content model elements (4):

[beginDateTime](#) (in [variableTimeInterval](#)) [19],
[beginDateTimeUTC](#) (in [variableTimeInterval](#)) [20],

[endDateTime](#) (in [variableTimeInterval](#)) [34],
[endDateTimeUTC](#) (in [variableTimeInterval](#)) [34]

Included in content model of elements (1):

[series](#) (in [seriesCatalog](#)) [63]

XML Source

```
<xsi:element name="variableTimeInterval" type="TimePeriodType"/>
```

element <verticalDatum>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:string

Content: simple

Defined: [locally](#) within complexType [SiteInfoType](#) [124] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [93]

XML Representation Summary

```
<verticalDatum
  Content: { xsi:string }
</verticalDatum>
```

Included in content model of elements (1):

[siteInfo](#) (in [site](#)) [69]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="verticalDatum" type="xsi:string"/>
```

element <west>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: [Longitude](#) [150]

Content: simple

Defined: [locally](#) within complexType [LatLonBoxType](#) [104] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [93]

XML Representation Summary

```
<west
  Content: { xsi:double }
</west>
```

Simple Content Detail:

MaxInclusive: 180.00

MinInclusive: -180.00

XML Source

```
<xsi:element name="west" type="Longitude"/>
```

element <X>

element <X> (in localSiteXY)

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:double
Content: simple
Defined: [locally](#) within element [localSiteXY](#) [43] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [94]

XML Representation Summary

```
<X
  Content: { xsi:double }
/>
```

Included in content model of elements (1):

[localSiteXY](#) (in [geoLocation](#)) [42]

XML Source

```
<xsi:element name="X" type="xsi:double"/>
```

element <Y>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:double
Content: simple
Defined: [locally](#) within element [localSiteXY](#) [43] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [94]

XML Representation Summary

```
<Y
  Content: { xsi:double }
/>
```

Included in content model of elements (1):

[localSiteXY](#) (in [geoLocation](#)) [42]

XML Source

```
<xsi:element name="Y" type="xsi:double"/>
```

element <Z>

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:double
Content: simple
Defined: [locally](#) within element [localSiteXY](#) [43] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [95]

XML Representation Summary

```
<Z
  Content: { xsi:double }
/>
```

Included in content model of elements (1):

[localSiteXY](#) (in [geoLocation](#)) [42]

XML Source

```
<xsi:element maxOccurs="1" minOccurs="0" name="Z" type="xsi:double"/>
```

element <Z>

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:decimal

Content: simple

Defined: [locally](#) within complexType [CoordType](#) [98] in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [95]

XML Representation Summary

```
<Z
  Content: { xsi:decimal }
</Z>
```

Included in content model of elements (1):

[coordLatLong](#) (type [CoordType](#)) [24]

XML Source

```
<xsi:element minOccurs="0" name="Z" type="xsi:decimal"/>
```

complexType "CensorCodeType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 1 [attribute](#), 2 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [96]

Includes: definitions of 1 [attribute](#) and 2 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...
  censorCodeID = xsi:int
  ...
  Content: censorCode, censorCodeDescription
</...>
```

Content Model Elements (2):

[censorCode](#) (in [censorCode](#) in [values](#)) [22], [censorCodeDescription](#) (in [censorCode](#) in [values](#)) [23]

All Direct / Indirect Based Elements (1):

[censorCode](#) (in [values](#)) [22]

Known Usage Locations

- As direct type of elements (1):

[censorCode](#) (in [values](#)) [22]

complexType "CensorCodeType"

XML Source

```
<xsi:complexType name="CensorCodeType">
  <xsi:sequence>
    <xsi:element name="censorCode" type="CensorCodeCodeList" />
    <xsi:element name="censorCodeDescription" type="xsi:string" />
  </xsi:sequence>
  <xsi:attribute name="censorCodeID" type="xsi:int" />
</xsi:complexType>
```

Attribute Detail

(defined in [this](#) component only; 1/1)

 [censorCodeID](#)

Type: xsi:int, predefined

Use: optional

Content Element Detail

(defined in [this](#) component only; 2/2)

 [censorCode](#) [22]

Type: [CensorCodeCodeList](#) [143], simple content

Simple Content

```
("lt" | "gt" | "nc" | "nd" | "pnq") | xsi:string
```

 [censorCodeDescription](#) [23]

Type: xsi:string, predefined, simple content

complexType "*ContactInformationType*"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 5 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [97]

Includes: definitions of 5 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...>
  Content: contactName, typeOfContact?, email*, phone*, address*
</...>
```

Content Model Elements (5):

[address](#) (in [contactInformation](#)) [18], [phone](#) (in [contactInformation](#)) [55],
[contactName](#) (in [contactInformation](#)) [24], [typeOfContact](#) (in [contactInformation](#)) [81]
[email](#) (in [contactInformation](#)) [33],

All Direct / Indirect Based Elements (1):

[contactInformation](#) (type [ContactInformationType](#)) [23]

Known Usage Locations

- As direct type of elements (1):

[contactInformation](#) (type [ContactInformationType](#)) [23]

complexType "ContactInformationType"

XML Source

```
<xsi:complexType name="ContactInformationType">
  <xsi:sequence>
    <xsi:element maxOccurs="1" minOccurs="1" name="contactName" type="xsi:string"/>
    <xsi:element maxOccurs="1" minOccurs="0" name="typeOfContact" type="xsi:normalizedString"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="email" type="xsi:normalizedString"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="phone" type="xsi:string"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="address" type="xsi:anyType"/>
  </xsi:sequence>
</xsi:complexType>
```

Content Element Detail (defined in [this](#) component only; 5/5)

[address](#) [18]

Type: xsi:anyType, any content

[contactName](#) [24]

Type: xsi:string, predefined, simple content

[email](#) [33]

Type: xsi:normalizedString, predefined, simple content

[phone](#) [55]

Type: xsi:string, predefined, simple content

[typeOfContact](#) [81]

Type: xsi:normalizedString, predefined, simple content

complexType "CoordType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 3 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [98]

Includes: definitions of 3 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...>
  Content: latitude, longitude, Z?
</...>
```

Content Model Elements (3):

[latitude](#) (in [coordLatLong](#)) [41], [Z](#) (in [coordLatLong](#)) [95]
[longitude](#) (in [coordLatLong](#)) [43],

All Direct / Indirect Based Elements (1):

[coordLatLong](#) (type [CoordType](#)) [24]

Known Usage Locations

- As direct type of elements (1):

complexType "CoordType"

[coordLatLong](#) (type [CoordType](#)) [24]

Annotation

Represents a coordinate tuple in one, two, or three dimensions.

=====
There are two ways to represent coordinates: (1) as a sequence of <coord> elements that encapsulate tuples, or (2) using a single <coordinates> string.
=====

XML Source (w/o annotations (1))

```
<xsi:complexType name="CoordType">
  <xsi:sequence>
    <xsi:element name="latitude" type="Latitude" />
    <xsi:element minOccurs="1" name="longitude" type="Longitude" />
    <xsi:element minOccurs="0" name="Z" type="xsi:decimal" />
  </xsi:sequence>
</xsi:complexType>
```

Content Element Detail (defined in [this](#) component only; 3/3)

 [latitude](#) [41]

Type: [Latitude](#) [149], simple content

Simple Content

xsi:double

maxInclusive: 90.00

minInclusive: -90.00

 [longitude](#) [43]

Type: [Longitude](#) [150], simple content

Simple Content

xsi:double

maxInclusive: 180.00

minInclusive: -180.00

 [Z](#) [95]

Type: xsi:decimal, predefined, simple content

complexType "DataSetInfoType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 7 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [99]

Includes: definitions of 7 [elements](#)

Used: never

XML Representation Summary

```
<...>
  Content: dataSetIdentifier, timeZoneInfo?, dataSetDescription, note\*, dataSetLocation?, extension?,
            dataSetProperty*
</...>
```

Content Model Elements (7):

[dataSetDescription](#) (type `xsi:string`) [26], [extension](#) [35],
[dataSetIdentifier](#) (type `xsi:string`) [26], [note](#) (type `NoteType`) [47],
[dataSetLocation](#) (type `GeogLocationType`) [27], [timeZoneInfo](#) (type anonymous) [80]
[dataSetProperty](#) (type `.PropertyType`) [27],

Type Definition Detail

Type Derivation Tree

[SourceInfoType](#) [124]
└─[DataSetInfoType](#) (extension)

XML Source (w/o annotations (1))

```
<xsi:complexType name="DataSetInfoType">
  <xsi:complexContent mixed="false">
    <xsi:extension base="SourceInfoType">
      <xsi:sequence>
        <xsi:element name="dataSetIdentifier" type="xsi:string"/>
        <xsi:element maxOccurs="1" minOccurs="0" name="timeZoneInfo">
          <xsi:complexType>
            <xsi:sequence>
              <xsi:element maxOccurs="1" minOccurs="0" name="defaultTimeZone">
                <xsi:complexType>
                  <xsi:complexContent mixed="false">
                    <xsi:extension base="TimeZoneType" />
                  </xsi:complexContent>
                </xsi:complexType>
              </xsi:element>
            </xsi:sequence>
            <xsi:element maxOccurs="1" minOccurs="0" name="daylightSavingsTimeZone">
              <xsi:complexType>
                <xsi:complexContent mixed="false">
                  <xsi:extension base="TimeZoneType" />
                </xsi:complexContent>
              </xsi:complexType>
            </xsi:element>
          </xsi:sequence>
          <xsi:attribute name="siteUsesDaylightSavingsTime" type="xsi:boolean"/>
        </xsi:complexType>
      </xsi:element>
      <xsi:element name="dataSetDescription" type="xsi:string"/>
      <xsi:element maxOccurs="unbounded" minOccurs="0" name="note" type="NoteType"/>
      <xsi:element maxOccurs="1" minOccurs="0" name="dataSetLocation" type="GeogLocationType"/>
      <xsi:element minOccurs="0" ref="extension"/>
      <xsi:element maxOccurs="unbounded" minOccurs="0" name="dataSetProperty" type="PropertyType"/>
    </xsi:sequence>
  </xsi:extension>
</xsi:complexContent>
</xsi:complexType>
```

Content Element Detail (defined in [this](#) component only; 7/7)

[dataSetDescription](#) [26]

Type: `xsi:string`, predefined, simple content

[dataSetIdentifier](#) [26]

Type: `xsi:string`, predefined, simple content

[dataSetLocation](#) [27]

Type: `GeogLocationType` [101], empty content

complexType "DataSetInfoType"

[dataSetProperty](#) [27]

Type: [.PropertyType](#) [112], simple content

Simple Content

xsi:string

[extension](#) [35]

Type: xsi:anyType, any content

[note](#) [47]

Type: [NoteType](#) [109], simple content

Simple Content

xsi:string

[timeZoneInfo](#) [80]

Type: anonymous, complex content

the default time zone for this site (+00:00) and if this site shifts to daylight savings time (attribute: usesDaylightSavingsTime)

complexType "DocumentationType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: mixed, 4 [attributes](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [100]

Includes: definitions of 4 [attributes](#)

Used: never

XML Representation Summary

```
<...  
  href  = xsi:string  
  show  = xsi:string  
  title = xsi:string  
  type  = (xsi:token | ("funding" | "history" | "processing_level" | "rights" | "summary"))  
>  
Content: {text}  
</...>
```

XML Source

```
<xsi:complexType mixed="true" name="DocumentationType">  
  <xsi:attribute name="type" type="DocumentationEnumTypes"/>  
  <xsi:attribute name="href" type="xsi:string"/>  
  <xsi:attribute name="title" type="xsi:string"/>  
  <xsi:attribute name="show" type="xsi:string"/>  
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 4/4)

href

Type: xsi:string, predefined

complexType "DocumentationType"

Use: optional

■ show

Type: xsi:string, predefined
Use: optional

■ title

Type: xsi:string, predefined
Use: optional

■ type

Type: [DocumentationEnumTypes](#) [147]
Use: optional

Attribute Value

```
xsi:token | ("funding" | "history" | "processing_level" | "rights" | "summary")
```

complexType "GeogLocationType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: empty, 1 [attribute](#)

Abstract: (cannot be assigned directly to elements used in instance XML documents)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [101]

Includes: definition of 1 [attribute](#)

Used: at 5 [locations](#)

XML Representation Summary

```
<...  
    srs = xsi:string : "EPSG:4326"  
/>
```

Known Direct Subtypes (3):

[LatLonBoxType](#) [103], [latLonLineString](#) [105], [LatLonPointType](#) [106]

All Direct / Indirect Based Elements (2):

[dataSetLocation](#) (type [GeogLocationType](#)) [27], [geogLocation](#) (in [geoLocation](#)) [36]

Known Usage Locations

- In derivations of other global types (3):

[LatLonBoxType](#) [103] (as extension base), [LatLonPointType](#) [106] (as extension base)
[latLonLineString](#) [105] (as extension base),

- As direct type of elements (2):

[dataSetLocation](#) (type [GeogLocationType](#)) [27], [geogLocation](#) (in [geoLocation](#)) [36]

XML Source

```
<xsi:complexType abstract="true" name="GeogLocationType">  
  <xsi:sequence/>  
  <xsi:attribute default="EPSG:4326" name="srs" type="xsi:string" use="optional"/>
```

complexType "GeogLocationType"

```
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 1/1)

srs

Type: xsi:string, predefined
Use: optional

Attribute Value

Default: "EPSG:4326"

complexType "LabMethodType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 1 [attribute](#), 7 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [102]

Includes: definitions of 1 [attribute](#) and 7 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...  
  labMethodID = xsi:int  
  >  
  Content: labCode, labName?, labOrganization?, LabMethodName?, labMethodDescription?, labMethodLink?,  
           labSourceDetails?  
</...>
```

Content Model Elements (7):

[labCode](#) (in [labMethod](#)) [37], [labName](#) (in [labMethod](#)) [39],
[labMethodDescription](#) (in [labMethod](#)) [38], [labOrganization](#) (in [labMethod](#)) [40],
[labMethodLink](#) (in [labMethod](#)) [39], [labSourceDetails](#) (in [labMethod](#)) [41]
[LabMethodName](#) (in [labMethod](#)) [39],

All Direct / Indirect Based Elements (1):

[labMethod](#) (in [sample](#)) [38]

Known Usage Locations

- As direct type of elements (1):

[labMethod](#) (in [sample](#)) [38]

XML Source (w/o annotations (2))

```
<xsi:complexType name="LabMethodType">  
  <xsi:sequence>  
    <xsi:element name="labCode" type="xsi:token"/>  
    <xsi:element minOccurs="0" name="labName" type="xsi:string"/>  
    <xsi:element minOccurs="0" name="labOrganization" type="xsi:string"/>  
    <xsi:element minOccurs="0" name="LabMethodName" type="xsi:string"/>  
    <xsi:element minOccurs="0" name="labMethodDescription" type="xsi:string"/>  
    <xsi:element minOccurs="0" name="labMethodLink" type="xsi:string"/>  
    <xsi:element maxOccurs="1" minOccurs="0" name="labSourceDetails" type="SourceType  </xsi:sequence>  
  <xsi:attribute name="labMethodID" type="xsi:int"/>  
</xsi:complexType>
```

complexType "LabMethodType"

Attribute Detail (defined in [this](#) component only; 1/1)

■ labMethodID

Type: xsi:int, predefined
Use: optional

Content Element Detail (defined in [this](#) component only; 7/7)

● [labCode](#) [37]

Type: xsi:token, predefined, simple content

The Abbreviation for the lab. e.g. BETA for Beta Analytical

● [labMethodDescription](#) [38]

Type: xsi:string, predefined, simple content

● [labMethodLink](#) [39]

Type: xsi:string, predefined, simple content

● [LabMethodName](#) [39]

Type: xsi:string, predefined, simple content

● [labName](#) [39]

Type: xsi:string, predefined, simple content

● [labOrganization](#) [40]

Type: xsi:string, predefined, simple content

● [labSourceDetails](#) [41]

Type: [SourceType](#) [125], complex content

This is the contact information for a laboratory

complexType "LatLonBoxType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 1 attribute, 4 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [104]

Includes: definitions of 4 [elements](#)

Used: never

XML Representation Summary

```
<...  
  srs = xsi:string : "EPSG:4326"  
  >  
  Content: south, west, north, east  
</...>
```

Content Model Elements (4):

[east](#) (type [Longitude](#)) [32], [south](#) (type [Latitude](#)) [74],
[north](#) (type [Latitude](#)) [47], [west](#) (type [Longitude](#)) [93]

Type Definition Detail

Type Derivation Tree

[GeogLocationType](#) [101]
└ [LatLonBoxType](#) (extension)

XML Source

```
<xsi:complexType name="LatLonBoxType">
  <xsi:complexContent mixed="false">
    <xsi:extension base="GeogLocationType">
      <xsi:sequence>
        <xsi:element name="south" type="Latitude"/>
        <xsi:element name="west" type="Longitude"/>
        <xsi:element name="north" type="Latitude"/>
        <xsi:element name="east" type="Longitude"/>
      </xsi:sequence>
    </xsi:extension>
  </xsi:complexContent>
</xsi:complexType>
```

Content Element Detail

 (defined in [this](#) component only; 4/4)

[east](#) [32]

Type: [Longitude](#) [150], simple content

Simple Content

xsi:double

maxInclusive: 180.00

minInclusive: -180.00

[north](#) [47]

Type: [Latitude](#) [149], simple content

Simple Content

xsi:double

maxInclusive: 90.00

minInclusive: -90.00

[south](#) [74]

Type: [Latitude](#) [149], simple content

Simple Content

xsi:double

maxInclusive: 90.00

minInclusive: -90.00

[west](#) [93]

Type: [Longitude](#) [150], simple content

Simple Content

xsi:double

complexType "LatLonBoxType"

maxInclusive: 180.00
minInclusive: -180.00

complexType "latLonLineString"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Content: complex, 2 [attributes](#), 1 [element](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [105]
Includes: definitions of 1 [attribute](#) and 1 [element](#)
Used: never

XML Representation Summary

```
<...>
  srs          = xsi:string : "EPSG:4326"
  zDirection   = (xsi:string | ("PositiveUp" | "PositiveDown" | "Depth" | "Altitude"))
  >
  Content: coordLatLong[2..*]
</...>
```

Content Model Elements (1):

[coordLatLong](#) (type [CoordType](#)) [24]

Type Definition Detail

Type Derivation Tree

```
GeogLocationType [101]
└─latLonLineString (extension)
```

XML Source

```
<xsi:complexType name="latLonLineString">
  <xsi:complexContent mixed="false">
    <xsi:extension base="GeogLocationType">
      <xsi:sequence>
        <xsi:element maxOccurs="unbounded" minOccurs="2" name="coordLatLong" type="CoordType" />
      </xsi:sequence>
      <xsi:attribute name="zDirection">
        <xsi:simpleType>
          <xsi:union memberTypes="xsi:string zDirectionEnum" />
        </xsi:simpleType>
      </xsi:attribute>
    </xsi:extension>
  </xsi:complexContent>
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 1/2)

 [zDirection](#)
Type: [anonymous](#) (union of (xsi:string | [zDirectionEnum](#)))
Use: optional

Attribute Value

```
xsi:string | ("PositiveUp" | "PositiveDown" | "Depth" | "Altitude")
```

complexType "latLonLineString"

Anonymous simpleType

Type Derivation Tree

```
union of (xsi:string | zDirectionEnum)
└ simpleType
```

Content Element Detail (defined in [this](#) component only; 1/1)

● [coordLatLong](#) [24]

Type: [CoordType](#) [97], complex content

complexType "LatLonPointType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 1 attribute, 2 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [106]

Includes: definitions of 2 [elements](#)

Used: never

XML Representation Summary

```
<...
  srs = xsi:string : "EPSG:4326"
  ...
  Content: latitude, longitude
</...>
```

Content Model Elements (2):

[latitude](#) (in [coordLatLong](#)) [41], [longitude](#) (in [coordLatLong](#)) [43]

Type Definition Detail

Type Derivation Tree

```
GeogLocationType [101]
└ LatLonPointType (extension)
```

XML Source (w/o annotations (2))

```
<xsi:complexType name="LatLonPointType">
  <xsi:complexContent mixed="false">
    <xsi:extension base="GeogLocationType">
      <xsi:sequence>
        <xsi:element name="latitude" type="Latitude" />
        <xsi:element name="longitude" type="Longitude" />
      </xsi:sequence>
    </xsi:extension>
  </xsi:complexContent>
</xsi:complexType>
```

Content Element Detail (defined in [this](#) component only; 2/2)

● [latitude](#) [41]

Type: [Latitude](#) [149], simple content

The latitude of the site in a decimal degrees as calculated in terms of the given datum.

complexType "LatLonPointType"

Simple Content

xsi:double

maxInclusive: 90.00
minInclusive: -90.00

longitude [43]

Type: [Longitude](#) [150], simple content

The longitude of the site in a decimal degrees as calculated in terms of the given datum.

Simple Content

xsi:double

maxInclusive: 180.00
minInclusive: -180.00

complexType "MetaDataType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 5 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [107]

Includes: definitions of 5 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...>
  Content: TopicCategory?, Title?, Abstract?, ProfileVersion?, MetadataLink?
</...>
```

Content Model Elements (5):

[Abstract](#) (in [metadata](#)) [18], [Title](#) (in [metadata](#)) [81],
[MetadataLink](#) (in [metadata](#)) [44], [TopicCategory](#) (in [metadata](#)) [81]
[ProfileVersion](#) (in [metadata](#)) [55],

All Direct / Indirect Based Elements (1):

[metadata](#) (type [MetaDataType](#)) [44]

Known Usage Locations

- As direct type of elements (1):

[metadata](#) (type [MetaDataType](#)) [44]

XML Source

```
<xsi:complexType name="MetaDataType">
  <xsi:sequence>
    <xsi:element minOccurs="0" name="TopicCategory" type="xsi:string"/>
    <xsi:element minOccurs="0" name="Title" type="xsi:string"/>
    <xsi:element minOccurs="0" name="Abstract" type="xsi:string"/>
    <xsi:element minOccurs="0" name="ProfileVersion" type="xsi:string"/>
    <xsi:element minOccurs="0" name="MetadataLink" type="xsi:anyURI"/>
  </xsi:sequence>
</xsi:complexType>
```

complexType "MetaDataType"

Content Element Detail (defined in [this](#) component only; 5/5)

● [Abstract](#) [18]

Type: xsi:string, predefined, simple content

● [MetadataLink](#) [44]

Type: xsi:anyURI, predefined, simple content

● [ProfileVersion](#) [55]

Type: xsi:string, predefined, simple content

● [Title](#) [81]

Type: xsi:string, predefined, simple content

● [TopicCategory](#) [81]

Type: xsi:string, predefined, simple content

complexType "MethodType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 1 [attribute](#), 3 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [108]

Includes: definitions of 1 [attribute](#) and 3 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...  
    methodID = xsi:int  
    >  
    Content: methodCode?, methodDescription?, methodLink?  
</...>
```

Content Model Elements (3):

[methodCode](#) (in [method](#)) [46],

[methodLink](#) (in [method](#)) [46]

[methodDescription](#) (in [method](#)) [46],

All Direct / Indirect Based Elements (1):

[method](#) (type [MethodType](#)) [45]

Known Usage Locations

- As direct type of elements (1):

[method](#) (type [MethodType](#)) [45]

XML Source

```
<xsi:complexType name="MethodType">  
  <xsi:sequence>  
    <xsi:element maxOccurs="1" minOccurs="0" name="methodCode" type="xsi:token"/>  
    <xsi:element maxOccurs="1" minOccurs="0" name="methodDescription" type="xsi:string"/>  
    <xsi:element maxOccurs="1" minOccurs="0" name="methodLink" type="xsi:string"/>
```

complexType "MethodType"

```
</xsi:sequence>
<xsi:attribute name="methodID" type="positiveInt" />
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 1/1)

■ [methodID](#)

Type: [positiveInt](#) [151]

Use: optional

Attribute Value

xsi:int

MinInclusive: 0

Content Element Detail (defined in [this](#) component only; 3/3)

■ [methodCode](#) [46]

Type: xsi:token, predefined, simple content

■ [methodDescription](#) [46]

Type: xsi:string, predefined, simple content

■ [methodLink](#) [46]

Type: xsi:string, predefined, simple content

complexType "NoteType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: simple, 4 [attributes](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [110]

Includes: definitions of 4 [attributes](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...
  href  = xsi:string
  show   = xsi:string
  title = xsi:string
  type   = xsi:token
  ...
  Content: { xsi:string }
</...>
```

All Direct / Indirect Based Elements (1):

[note](#) (type [NoteType](#)) [47]

Known Usage Locations

- As direct type of elements (1):

[note](#) (type [NoteType](#)) [47]

Type Definition Detail

Type Derivation Tree

xsi:string
└ NoteType (extension)

Derivation: extension of xsi:string

XML Source

```
<xsi:complexType name="NoteType">
  <xsi:simpleContent>
    <xsi:extension base="xsi:string">
      <xsi:attribute name="type" type="xsi:token"/>
      <xsi:attribute name="href" type="xsi:string"/>
      <xsi:attribute name="title" type="xsi:string"/>
      <xsi:attribute name="show" type="xsi:string"/>
    </xsi:extension>
  </xsi:simpleContent>
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 4/4)

▀ href

Type: xsi:string, predefined
Use: optional

▀ show

Type: xsi:string, predefined
Use: optional

▀ title

Type: xsi:string, predefined
Use: optional

▀ type

Type: xsi:token, predefined
Use: optional

complexType "OffsetType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Content: complex, 1 [attribute](#), 6 [elements](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [111]
Includes: definitions of 1 [attribute](#) and 6 [elements](#)
Used: at 1 [location](#)

XML Representation Summary

```
<...
  offsetTypeID = xsi:int
  ...
  Content: offsetTypeCode?, offsetValue, offsetDescription?, unit, offsetIsVertical, offsetAzimuthDegrees?
</...>
```

Content Model Elements (6):

[offsetAzimuthDegrees](#) (in [offset](#)) [49], [offsetTypeCode](#) (in [offset](#)) [50],
[offsetDescription](#) (in [offset](#)) [49], [offsetValue](#) (in [offset](#)) [50],
[offsetIsVertical](#) (in [offset](#)) [49], [unit](#) (type [UnitsType](#)) [82]

All Direct / Indirect Based Elements (1):

[offset](#) (in [values](#)) [48]

Known Usage Locations

- As direct type of elements (1):

[offset](#) (in [values](#)) [48]

XML Source

```
<xsi:complexType name="OffsetType">
  <xsi:sequence>
    <xsi:element maxOccurs="1" minOccurs="0" name="offsetTypeCode" type="xsi:token"/>
    <xsi:element name="offsetValue" type="xsi:float"/>
    <xsi:element maxOccurs="1" minOccurs="0" name="offsetDescription" type="xsi:string"/>
    <xsi:element name="unit" type="UnitsType"/>
    <xsi:element default="true" name="offsetIsVertical" type="xsi:boolean"/>
    <xsi:element maxOccurs="1" minOccurs="0" name="offsetAzimuthDegrees" type="xsi:int"/>
  </xsi:sequence>
  <xsi:attribute name="offsetTypeID" type="positiveInt"/>
</xsi:complexType>
```

Attribute Detail

 (defined in [this](#) component only; 1/1)

■ [offsetTypeID](#)

Type: [positiveInt](#) [151]

Use: optional

Attribute Value

xsi:int

MinInclusive: 0

Content Element Detail

 (defined in [this](#) component only; 6/6)

● [offsetAzimuthDegrees](#) [49]

Type: xsi:int, predefined, simple content

● [offsetDescription](#) [49]

Type: xsi:string, predefined, simple content

● [offsetIsVertical](#) [49]

Type: xsi:boolean, predefined, simple content

Simple Content

Default: "true"

complexType "OffsetType"

● [offsetTypeCode](#) [50]

Type: xsi:token, predefined, simple content

● [offsetValue](#) [50]

Type: xsi:float, predefined, simple content

● [unit](#) [82]

Type: [UnitsType](#) [134], complex content

complexType ".PropertyType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: simple, 3 [attributes](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [112]

Includes: definitions of 3 [attributes](#)

Used: at 5 [locations](#)

XML Representation Summary

```
<...  
  name = xsi:normalizedString  
  type = xsi:token  
  uri  = xsi:anyURI  
  >  
  Content: { xsi:string }  
</...>
```

All Direct / Indirect Based Elements (5):

[dataSetProperty](#) (type [.PropertyType](#)) [27], [siteProperty](#) (in [siteInfo](#)) [70],
[seriesCatalogProperty](#) (in [seriesCatalog](#)) [66], [variableProperty](#) (in [variable](#)) [91]
[seriesProperty](#) (in [series](#)) [66],

Known Usage Locations

- As direct type of elements (5):

[dataSetProperty](#) (type [PropertyParams](#)) [27], [siteProperty](#) (in [siteInfo](#)) [70],
[seriesCatalogProperty](#) (in [seriesCatalog](#)) [66], [variableProperty](#) (in [variable](#)) [91]
[seriesProperty](#) (in [series](#)) [66],

Type Definition Detail

Type Derivation Tree

```
xsi:string  
└ PropertyParams (extension)
```

Derivation: extension of xsi:string

XML Source

```
<xsi:complexType name="PropertyParams">  
  <xsi:simpleContent>  
    <xsi:extension base="xsi:string">  
      <xsi:attribute name="type" type="xsi:token" use="optional"/>  
      <xsi:attribute name="name" type="xsi:normalizedString" use="required"/>
```

complexType ".PropertyType"

```
<xsi:attribute name="uri" type="xsi:anyURI" use="optional"/>
</xsi:extension>
</xsi:simpleContent>
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 3/3)

■ name

Type: xsi:normalizedString, predefined
Use: required

■ type

Type: xsi:token, predefined
Use: optional

■ uri

Type: xsi:anyURI, predefined
Use: optional

complexType "QualifierType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Content: complex, 4 [attributes](#), 2 [elements](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [113]
Includes: definitions of 4 [attributes](#) and 2 [elements](#)
Used: at 1 [location](#)

XML Representation Summary

```
<...
  default      = xsi:boolean
  network      = xsi:NMTOKEN
  qualifierID = xsi:int
  vocabulary   = xsi:NMTOKEN
  >
  Content: qualifierCode, qualifierDescription?
</...>
```

Content Model Elements (2):

[qualifierCode](#) (in [qualifier](#)) [56], [qualifierDescription](#) (in [qualifier](#)) [57]

All Direct / Indirect Based Elements (1):

[qualifier](#) (in [values](#)) [56]

Known Usage Locations

- As direct type of elements (1):

[qualifier](#) (in [values](#)) [56]

XML Source

```
<xsi:complexType name="QualifierType">
  <xsi:sequence>
    <xsi:element name="qualifierCode" type="xsi:token"/>
    <xsi:element maxOccurs="1" minOccurs="0" name="qualifierDescription" type="xsi:string"/>
```

complexType "QualifierType"

```
</xsi:sequence>
<xsi:attribute name="qualifierID" type="positiveInt" />
<xsi:attribute ref="network" />
<xsi:attribute ref="vocabulary" />
<xsi:attribute ref="default" />
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 4/4)

■ [default](#) [166]

Type: xsi:boolean, predefined
Use: optional

■ [network](#) [167]

Type: xsi:NMTOKEN, predefined
Use: optional

■ [qualifierID](#)

Type: [positiveInt](#) [151]
Use: optional

Attribute Value

xsi:int

MinInclusive: 0

■ [vocabulary](#) [168]

Type: xsi:NMTOKEN, predefined
Use: optional

Content Element Detail (defined in [this](#) component only; 2/2)

● [qualifierCode](#) [56]

Type: xsi:token, predefined, simple content

● [qualifierDescription](#) [57]

Type: xsi:string, predefined, simple content

complexType "QualityControlLevelType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Content: complex, 1 [attribute](#), 3 [elements](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [115]
Includes: definitions of 1 [attribute](#) and 3 [elements](#)
Used: at 1 [location](#)

XML Representation Summary

```
<...
  qualityControlLevelID = xsi:int
  ...
  Content: qualityControlLevelCode?, definition?, explanation?
</...>
```

Content Model Elements (3):

complexType "QualityControlLevelType"

[definition](#) (in [qualityControlLevel](#)) [31], [qualityControlLevelCode](#) (in [qualityControlLevel](#)) [58]
[explanation](#) (in [qualityControlLevel](#)) [34],

All Direct / Indirect Based Elements (1):

[qualityControlLevel](#) (type [QualityControlLevelType](#)) [57]

Known Usage Locations

- As direct type of elements (1):

[qualityControlLevel](#) (type [QualityControlLevelType](#)) [57]

XML Source (w/o annotations (3))

```
<xsi:complexType name="QualityControlLevelType">
  <xsi:sequence>
    <xsi:element maxOccurs="1" minOccurs="0" name="qualityControlLevelCode" type="xsi:token"/>
    <xsi:element maxOccurs="1" minOccurs="0" name="definition">
      <xsi:simpleType>
        <xsi:restriction base="xsi:string">
          <xsi:maxLength value="255"/>
          <xsi:minLength value="0"/>
        </xsi:restriction>
      </xsi:simpleType>
    </xsi:element>
    <xsi:element maxOccurs="1" minOccurs="0" name="explanation" type="xsi:string"/>
  </xsi:sequence>
  <xsi:attribute name="qualityControlLevelID" type="xsi:int"/>
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 1/1)

■ [qualityControlLevelID](#)

Type: xsi:int, predefined

Use: optional

Content Element Detail (defined in [this](#) component only; 3/3)

● [definition](#) [31]

Type: [anonymous](#) (restriction of xsi:string), simple content

Definition of Quality Control Level. "Raw Data", "Quality Controlled Data"

Simple Content

xsi:string

maxLength: 255

minLength: 0

● [explanation](#) [34]

Type: xsi:string, predefined, simple content

Explanation of Quality Control Level eg "Raw data is defined as unprocessed data and data products that have not undergone quality control."

● [qualityControlLevelCode](#) [58]

Type: xsi:token, predefined, simple content

complexType "QualityControlLevelType"

Code used to identify the level of quality control to which data values have been subjected. This code is used to link a quality element (qualityControlLevelType) to a dataValue/@ququalityControlLevel "1", "1.1", "Raw", "QCChecked" A quality control level code of -9999 is suggested for data whose quality control level is unknown

complexType "QueryInfoType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Content: complex, 5 [elements](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [116]
Includes: definitions of 5 [elements](#)
Used: at 1 [location](#)

XML Representation Summary

```
<...>
  Content: creationTime?, queryURL?, criteria?, note\*, extension?
</...>
```

Content Model Elements (5):

[creationTime](#) (in [queryInfo](#)) [25], [note](#) (type [NoteType](#)) [47],
[criteria](#) (in [queryInfo](#)) [25], [queryURL](#) (in [queryInfo](#)) [59]
[extension](#) [35],

All Direct / Indirect Based Elements (1):

[queryInfo](#) (type [QueryInfoType](#)) [58]

Known Usage Locations

- As direct type of elements (1):

[queryInfo](#) (type [QueryInfoType](#)) [58]

XML Source (w/o annotations (6))

```
<xsi:complexType name="QueryInfoType">
  <xsi:sequence>
    <xsi:element minOccurs="0" name="creationTime" type="xsi:dateTime"/>
    <xsi:element minOccurs="0" name="queryURL" type="xsi:string"/>
    <xsi:element minOccurs="0" name="criteria">
      <xsi:complexType>
        <xsi:sequence minOccurs="0">
          <xsi:element minOccurs="0" name="locationParam" type="xsi:string"/>
          <xsi:element minOccurs="0" name="variableParam" type="xsi:string"/>
          <xsi:element minOccurs="0" name="timeParam">
            <xsi:complexType>
              <xsi:sequence>
                <xsi:element maxOccurs="1" minOccurs="0" name="beginDateTime" type="xsi:string"/>
                <xsi:element maxOccurs="1" minOccurs="0" name="endDateTime" type="xsi:string"/>
              </xsi:sequence>
            </xsi:complexType>
          </xsi:element>
        </xsi:sequence>
        <xsi:attribute name="name" type="xsi:token"/>
        <xsi:attribute name="value" type="xsi:string"/>
      </xsi:complexType>
    </xsi:element>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="parameter">
      <xsi:complexType>
        <xsi:attribute name="name" type="xsi:token"/>
        <xsi:attribute name="value" type="xsi:string"/>
      </xsi:complexType>
    </xsi:element>
  </xsi:sequence>
  <xsi:attribute name="MethodCalled" type="xsi:normalizedString"/>
</xsi:complexType>
<xsi:element maxOccurs="unbounded" minOccurs="0" name="note" type="xsi:NoteType"/>
<xsi:element minOccurs="0" ref="extension
```

complexType "QueryInfoType"

```
</xsi:sequence>  
</xsi:complexType>
```

Content Element Detail (defined in [this](#) component only; 5/5)

[creationTime](#) [25]

Type: xsi:dateTime, predefined, simple content

[criteria](#) [25]

Type: anonymous, complex content

[extension](#) [35]

Type: xsi:anyType, any content

[note](#) [47]

Type: [NoteType](#) [109], simple content

Simple Content

```
xsi:string
```

[queryURL](#) [59]

Type: xsi:string, predefined, simple content

complexType "SampleType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 1 [attribute](#), 3 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [118]

Includes: definitions of 1 [attribute](#) and 3 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...  
  sampleID = xsi:int  
  >  
  Content: labSampleCode?, sampleType?, labMethod?  
</...>
```

Content Model Elements (3):

[labMethod](#) (in [sample](#)) [38], [sampleType](#) (in [sample](#)) [62]
[labSampleCode](#) (in [sample](#)) [40],

All Direct / Indirect Based Elements (1):

[sample](#) (in [values](#)) [61]

Known Usage Locations

- As direct type of elements (1):

[sample](#) (in [values](#)) [61]

complexType "SampleType"

XML Source

```
<xsi:complexType name="SampleType">
  <xsi:sequence>
    <xsi:element minOccurs="0" name="labSampleCode" type="xsi:normalizedString"/>
    <xsi:element minOccurs="0" name="sampleType" type="SampleTypeCodeList"/>
    <xsi:element minOccurs="0" name="labMethod" type="LabMethodType"/>
  </xsi:sequence>
  <xsi:attribute name="sampleID" type="xsi:int"/>
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 1/1)

■ sampleID

Type: xsi:int, predefined

Use: optional

Content Element Detail (defined in [this](#) component only; 3/3)

● [labMethod](#) [38]

Type: [LabMethodType](#) [102], complex content

● [labSampleCode](#) [40]

Type: xsi:normalizedString, predefined, simple content

● [sampleType](#) [62]

Type: [SampleTypeCodeList](#) [155], simple content

Simple Content

```
("FD" | "FF" | "FL" | "LF" | "GW" | "PB" | "PD" | "PE" | "PI" | "PW" | "RE" | "SE" | "SR" | "SS" |
"SW" | "TE" | "TI" | "TW" | "VE" | "VI" | "VW" | "Grab" | "Unknown" | "No Sample") | xsi:string
```

complexType "seriesCatalogType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 2 [attributes](#), 4 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [119]

Includes: definitions of 2 [attributes](#) and 4 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...
  menuGroupName = xsi:normalizedString
  serviceWsdl   = xsi:anyURI
>
Content: note*, series*, seriesCatalogProperty*, extension?
</...>
```

Content Model Elements (4):

[extension](#) [35], [series](#) (in [seriesCatalog](#)) [63],
[note](#) (type [NoteType](#)) [47], [seriesCatalogProperty](#) (in [seriesCatalog](#)) [66]

All Direct / Indirect Based Elements (1):

[seriesCatalog](#) (in site) [65]

Known Usage Locations

- As direct type of elements (1):

[seriesCatalog](#) (in site) [65]

XML Source

```
<xsi:complexType name="seriesCatalogType">
  <xsi:sequence>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="note" type="NoteType"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="series">
      <xsi:complexType>
        <xsi:sequence>
          <xsi:element maxOccurs="1" minOccurs="0" name="dataType" type="DataTypeCodeList"/>
          <xsi:element name="variable" type="VariableInfoType"/>
          <xsi:element minOccurs="0" name="valueCount">
            <xsi:complexType>
              <xsi:simpleContent>
                <xsi:extension base="positiveInt">
                  <xsi:attribute name="countsEstimated" type="xsi:boolean"/>
                </xsi:extension>
              </xsi:simpleContent>
            </xsi:complexType>
          </xsi:element>
          <xsi:element name="variableTimeInterval" type="TimePeriodType"/>
          <xsi:element maxOccurs="1" minOccurs="0" name="valueType" type="ValueTypeCodeList"/>
          <xsi:element maxOccurs="1" minOccurs="0" name="generalCategory" type="GeneralCategoryCodeList"/>
          <xsi:element maxOccurs="1" minOccurs="0" name="sampleMedium" type="SampleMediumCodeList"/>
          <xsi:element maxOccurs="1" minOccurs="0" name="method" type="MethodType"/>
          <xsi:element maxOccurs="1" minOccurs="0" name="source" type="SourceType"/>
          <xsi:element maxOccurs="1" minOccurs="0" name="qualityControlLevel" type="QualityControlLevelType"/>
          <xsi:element maxOccurs="unbounded" minOccurs="0" name="seriesProperty" type=".PropertyType"/>
        </xsi:sequence>
      </xsi:complexType>
    </xsi:element>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="seriesCatalogProperty" type=".PropertyType"/>
    <xsi:element maxOccurs="1" minOccurs="0" ref="extension"/>
  </xsi:sequence>
  <xsi:attribute name="menuGroupName" type="xsi:normalizedString"/>
  <xsi:attribute name="serviceWsdl" type="xsi:anyURI"/>
</xsi:complexType>
```

Attribute Detail

 (defined in [this](#) component only; 2/2)

■ menuGroupName

Type: xsi:normalizedString, predefined

Use: optional

■ serviceWsdl

Type: xsi:anyURI, predefined

Use: optional

Content Element Detail

 (defined in [this](#) component only; 4/4)

■ [extension](#) [35]

Type: xsi:anyType, any content

complexType "seriesCatalogType"

● [note](#) [47]

Type: [NoteType](#) [109], simple content

Simple Content

xsi:string

● [series](#) [63]

Type: anonymous, complex content

● [seriesCatalogProperty](#) [66]

Type: [.PropertyType](#) [112], simple content

Simple Content

xsi:string

complexType "SiteInfoResponseType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 2 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [120]

Includes: definitions of 2 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...>
  Content: queryInfo?, site\*
</...>
```

Content Model Elements (2):

[queryInfo](#) (type [QueryInfoType](#)) [58], [site](#) (in [sitesResponse](#)) [66]

All Direct / Indirect Based Elements (1):

[sitesResponse](#) [71]

Known Usage Locations

- As direct type of elements (1):

[sitesResponse](#) [71]

XML Source

```
<xsi:complexType name="SiteInfoResponseType">
  <xsi:sequence>
    <xsi:element maxOccurs="1" minOccurs="0" name="queryInfo" type="QueryInfoType" />
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="site">
      <xsi:complexType>
        <xsi:sequence>
          <xsi:element maxOccurs="1" minOccurs="1" name="siteInfo" type="SiteInfoType" />
          <xsi:element maxOccurs="unbounded" minOccurs="0" name="seriesCatalog" type="seriesCatalogType" />
          <xsi:element maxOccurs="unbounded" minOccurs="0" ref="extension" />
        </xsi:sequence>
      </xsi:complexType>
    </xsi:element>
  </xsi:sequence>
```

complexType "SiteInfoResponseType"

```
</xsi:complexType>
```

Content Element Detail (defined in [this](#) component only; 2/2)

queryInfo [58]

Type: [QueryInfoType](#) [116], complex content

site [66]

Type: anonymous, complex content

complexType "SiteInfoType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 2 [attributes](#), 11 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [122]

Includes: definitions of 2 [attributes](#) and 11 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...  
    metadataTime = xsi:dateTime  
    oid          = xsi:normalizedString  
    >  
    Content: siteName, siteCode+, timeZoneInfo?, geoLocation, elevation_m?, verticalDatum?, note*, extension?,  
              altname?, siteType*, siteProperty*  
</...>
```

Content Model Elements (11):

altname (in siteInfo) [19],	siteName (in siteInfo) [70],
elevation_m (in siteInfo) [32],	siteProperty (in siteInfo) [70],
extension [35],	siteType (in siteInfo) [71],
geoLocation (in siteInfo) [36],	timeZoneInfo (in siteInfo) [78],
note (type NoteType) [47],	verticalDatum (in siteInfo) [93]
siteCode (in siteInfo) [67],	

All Direct / Indirect Based Elements (1):

[siteInfo](#) (in [site](#)) [69]

Known Usage Locations

- As direct type of elements (1):

[siteInfo](#) (in [site](#)) [69]

Annotation

A sampling station is any place where data are collected.

Type Definition Detail

Type Derivation Tree

```
SourceInfoType [124]
└ SiteInfoType (extension)
```

XML Source (w/o annotations (6))

```
<xsi:complexType name="SiteInfoType">
  <xsi:complexContent mixed="false">
    <xsi:extension base="SourceInfoType">
      <xsi:sequence>
        <xsi:element name="siteName" type="xsi:string"/>
        <xsi:element maxOccurs="unbounded" name="siteCode">
          <xsi:complexType>
            <xsi:simpleContent>
              <xsi:extension base="xsi:token">
                <xsi:attribute name="default" type="xsi:boolean"/>
                <xsi:attribute name="network" type="xsi:token" use="required"/>
                <xsi:attribute name="siteID">
                  <xsi:simpleType>
                    <xsi:restriction base="positiveInt">
                      <xsi:minInclusive value="0"/>
                    </xsi:restriction>
                  </xsi:simpleType>
                </xsi:attribute>
                <xsi:attribute name="agencyCode" type="xsi:normalizedString"/>
                <xsi:attribute name="agencyName" type="xsi:normalizedString"/>
              </xsi:extension>
            </xsi:simpleContent>
          </xsi:complexType>
        </xsi:element>
        <xsi:element maxOccurs="1" minOccurs="0" name="timeZoneInfo">
          <xsi:complexType>
            <xsi:sequence>
              <xsi:element maxOccurs="1" minOccurs="0" name="defaultTimeZone">
                <xsi:complexType>
                  <xsi:complexContent mixed="false">
                    <xsi:extension base="TimeZoneType"/>
                  </xsi:complexContent>
                </xsi:complexType>
              </xsi:element>
              <xsi:element maxOccurs="1" minOccurs="0" name="daylightSavingsTimeZone">
                <xsi:complexType>
                  <xsi:complexContent mixed="false">
                    <xsi:extension base="TimeZoneType"/>
                  </xsi:complexContent>
                </xsi:complexType>
              </xsi:element>
            </xsi:sequence>
            <xsi:attribute name="siteUsesDaylightSavingsTime" type="xsi:boolean"/>
          </xsi:complexType>
        </xsi:element>
        <xsi:element name="geoLocation">
          <xsi:complexType>
            <xsi:sequence>
              <xsi:element name="geogLocation" type="GeogLocationType"/>
              <xsi:element maxOccurs="unbounded" minOccurs="0" name="localSiteXY">
                <xsi:complexType>
                  <xsi:sequence>
                    <xsi:element name="X" type="xsi:double"/>
                    <xsi:element name="Y" type="xsi:double"/>
                    <xsi:element maxOccurs="1" minOccurs="0" name="Z" type="xsi:double"/>
                    <xsi:element maxOccurs="unbounded" minOccurs="0" name="note" type="NoteType"/>
                  </xsi:sequence>
                  <xsi:attribute name="projectionInformation" type="xsi:string"/>
                </xsi:complexType>
              </xsi:element>
            </xsi:sequence>
          </xsi:complexType>
        </xsi:element>
      </xsi:sequence>
    </xsi:extension>
  </xsi:complexContent>
</xsi:complexType>
```

complexType "SiteInfoType"

```
</xsi:complexType>
</xsi:element>
<xsi:element maxOccurs="1" minOccurs="0" name="elevation_m" type="xsi:double"/>
<xsi:element maxOccurs="1" minOccurs="0" name="verticalDatum" type="xsi:string"/>
<xsi:element maxOccurs="unbounded" minOccurs="0" name="note" type="NoteType"/>
<xsi:element minOccurs="0" ref="extension"/>
<xsi:element minOccurs="0" name="altname" type="xsi:string"/>
<xsi:element maxOccurs="unbounded" minOccurs="0" name="siteType" type="SiteTypeCodeList"/>
<xsi:element maxOccurs="unbounded" minOccurs="0" name="siteProperty" type=".PropertyType"/>
</xsi:sequence>
<xsi:attribute ref="oid"/>
<xsi:attribute ref="metadataTime"/>
</xsi:extension>
</xsi:complexContent>
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 2/2)

[metadataTime](#) [167]

Type: xsi:dateTime, predefined
Use: optional

[oid](#) [167]

Type: xsi:normalizedString, predefined
Use: optional

Content Element Detail (defined in [this](#) component only; 11/11)

[altname](#) [19]

Type: xsi:string, predefined, simple content

[elevation_m](#) [32]

Type: xsi:double, predefined, simple content

[extension](#) [35]

Type: xsi:anyType, any content

[geoLocation](#) [36]

Type: anonymous, complex content

[note](#) [47]

Type: NoteType [109], simple content

Simple Content

```
xsi:string
```

[siteCode](#) [67]

Type: anonymous (extension of xsi:token), simple content

A siteID is an identifier that this site is referred to as. There may be multiple siteID elements. Only one should be labeled as the defaultID (set attribute defaultID=true) Multiple siteID elements are allowed because site identifiers may change, and different observation networks may refer to the same site with different identifiers.

complexType "SiteInfoType"

Simple Content

xsi:token

● [siteName](#) [70]

Type: xsi:string, predefined, simple content

● [siteProperty](#) [70]

Type: [.PropertyType](#) [112], simple content

Simple Content

xsi:string

● [siteType](#) [71]

Type: [SiteTypeCodeList](#) [157], simple content

Simple Content

xsi:string | xsi:string

● [timeZoneInfo](#) [78]

Type: anonymous, complex content

the default time zone for this site (+00:00) and if this site shifts to daylight savings time (attribute: usesDaylightSavingsTime)

● [verticalDatum](#) [93]

Type: xsi:string, predefined, simple content

complexType "SourceInfoType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: empty

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [125]

Used: at 3 [locations](#)

XML Representation Summary

<.../>

Known Direct Subtypes (2):

[DataSetInfoType](#) [98], [SiteInfoType](#) [121]

All Direct / Indirect Based Elements (2):

[siteInfo](#) (in [site](#)) [69], [sourceInfo](#) (in [timeSeries](#)) [73]

Known Usage Locations

- In derivations of other global types (2):

[DataSetInfoType](#) [98] (as extension base), [SiteInfoType](#) [121] (as extension base)

- As direct type of elements (1):

complexType "SourceInfoType"

[sourceInfo](#) (in [timeSeries](#)) [73]

XML Source

```
<xsi:complexType name="SourceInfoType" />
```

complexType "SourceType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 1 [attribute](#), 7 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [125]

Includes: definitions of 1 [attribute](#) and 7 [elements](#)

Used: at 2 [locations](#)

XML Representation Summary

```
<...  
    sourceID = xsi:int  
    >  
    Content: sourceCode?, organization?, sourceDescription?, metadata?, contactInformation*, sourceLink*,  
             citation?  
    </...>
```

Content Model Elements (7):

[citation](#) (type xsi:string) [23],
[contactInformation](#) (type [ContactInformationType](#)) [23],
[metadata](#) (type [MetaDataType](#)) [44],
[organization](#) (type xsi:string) [53],

[sourceCode](#) (type xsi:token) [72],
[sourceDescription](#) (type xsi:string) [72],
[sourceLink](#) (type xsi:anyURI) [73]

All Direct / Indirect Based Elements (2):

[labSourceDetails](#) (in [labMethod](#)) [41], [source](#) (type [SourceType](#)) [71]

Known Usage Locations

- As direct type of elements (2):

[labSourceDetails](#) (in [labMethod](#)) [41], [source](#) (type [SourceType](#)) [71]

XML Source (w/o annotations (1))

```
<xsi:complexType name="SourceType">  
  <xsi:sequence>  
    <xsi:element maxOccurs="1" minOccurs="0" name="sourceCode" type="xsi:token"/>  
    <xsi:element maxOccurs="1" minOccurs="0" name="organization" type="xsi:string"/>  
    <xsi:element maxOccurs="1" minOccurs="0" name="sourceDescription" type="xsi:string"/>  
    <xsi:element minOccurs="0" name="metadata" type="MetaDataType"/>  
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="contactInformation" type="ContactInformationType"/>  
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="sourceLink" type="xsi:anyURI"/>  
    <xsi:element minOccurs="0" name="citation" type="xsi:string"/>  
  </xsi:sequence>  
  <xsi:attribute name="sourceID" type="positiveInt"/>  
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 1/1)

■ [sourceID](#)

Type: [positiveInt](#) [151]

complexType "SourceType"

Use: optional

Attribute Value

xsi:int

MinInclusive: 0

Content Element Detail (defined in [this component](#) only; 7/7)

[citation](#) [23]

Type: xsi:string, predefined, simple content

[contactInformation](#) [23]

Type: [ContactInformationType](#) [96], complex content

[metadata](#) [44]

Type: [MetaDataType](#) [107], complex content

[organization](#) [53]

Type: xsi:string, predefined, simple content

[sourceCode](#) [72]

Type: xsi:token, predefined, simple content

The abbreviation for the source. e.g. USGS for US Geological Survey.

[sourceDescription](#) [72]

Type: xsi:string, predefined, simple content

[sourceLink](#) [73]

Type: xsi:anyURI, predefined, simple content

complexType "TimeIntervalType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 4 elements

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [127]

Used: never

XML Representation Summary

```
<...>
  Content: beginDateTime, endDateTime, beginDateTimeUTC?, endDateTimeUTC?
</...>
```

Content Model Elements (4):

[beginDateTime](#) (in [variableTimeInterval](#)) [19],
[beginDateTimeUTC](#) (in [variableTimeInterval](#)) [20],

[endDateTime](#) (in [variableTimeInterval](#)) [34],
[endDateTimeUTC](#) (in [variableTimeInterval](#)) [34]

Type Definition Detail

Type Derivation Tree

[TimePeriodType](#) [128]
└ [TimeIntervalType](#) (extension)

XML Source

```
<xsi:complexType name="TimeIntervalType">
  <xsi:complexContent mixed="false">
    <xsi:extension base="TimePeriodType"/>
  </xsi:complexContent>
</xsi:complexType>
```

complexType "TimePeriodRealTimeType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 5 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [127]

Includes: definition of 1 [element](#)

Used: never

XML Representation Summary

```
<...>
  Content: beginDateTime, endDateTime, beginDateTimeUTC?, endDateTimeUTC?, realTimeDataPeriod
</...>
```

Content Model Elements (5):

[beginDateTime](#) (in [variableTimeInterval](#)) [19], [endDateTimeUTC](#) (in [variableTimeInterval](#)) [34],
[beginDateTimeUTC](#) (in [variableTimeInterval](#)) [20], [realTimeDataPeriod](#) (type [xsi:duration](#)) [59]
[endDateTime](#) (in [variableTimeInterval](#)) [34],

Type Definition Detail

Type Derivation Tree

[TimePeriodType](#) [128]
└ [TimePeriodRealTimeType](#) (extension)

XML Source

```
<xsi:complexType name="TimePeriodRealTimeType">
  <xsi:complexContent mixed="false">
    <xsi:extension base="TimePeriodType">
      <xsi:sequence>
        <xsi:element name="realTimeDataPeriod" type="xsi:duration"/>
      </xsi:sequence>
    </xsi:extension>
  </xsi:complexContent>
</xsi:complexType>
```

Content Element Detail

 (defined in [this](#) component only; 1/5)

 [realTimeDataPeriod](#) [59]

Type: [xsi:duration](#), predefined, simple content

complexType "TimePeriodType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 4 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [128]

Includes: definitions of 4 [elements](#)

Used: at 4 [locations](#)

XML Representation Summary

<...>

Content: [beginDateTime](#), [endDateTime](#), [beginDateTimeUTC?](#), [endDateTimeUTC?](#)

</...>

Content Model Elements (4):

[beginDateTime](#) (in [variableTimeInterval](#)) [19], [endDateTime](#) (in [variableTimeInterval](#)) [34],
[beginDateTimeUTC](#) (in [variableTimeInterval](#)) [20], [endDateTimeUTC](#) (in [variableTimeInterval](#)) [34]

Known Direct Subtypes (3):

[TimeIntervalType](#) [126], [TimePeriodRealTimeType](#) [127], [TimeSingleType](#) [131]

All Direct / Indirect Based Elements (1):

[variableTimeInterval](#) (in [series](#)) [92]

Known Usage Locations

- In derivations of other global types (3):

[TimeIntervalType](#) [126] (as extension base), [TimeSingleType](#) [131] (as extension base),
[TimePeriodRealTimeType](#) [127] (as extension base),

- As direct type of elements (1):

[variableTimeInterval](#) (in [series](#)) [92]

XML Source

```
<xsi:complexType name="TimePeriodType">
  <xsi:sequence>
    <xsi:element name="beginDateTime" type="xsi:dateTime"/>
    <xsi:element name="endDateTime" type="xsi:dateTime"/>
    <xsi:element maxOccurs="1" minOccurs="0" name="beginDateTimeUTC" type="xsi:dateTime"/>
    <xsi:element maxOccurs="1" minOccurs="0" name="endDateTimeUTC" type="xsi:dateTime"/>
  </xsi:sequence>
</xsi:complexType>
```

Content Element Detail

 (defined in [this](#) component only; 4/4)

● [beginDateTime](#) [19]

Type: xsi:dateTime, predefined, simple content

● [beginDateTimeUTC](#) [20]

Type: xsi:dateTime, predefined, simple content

complexType "TimePeriodType"

● [endDateTime](#) [34]

Type: xsi:dateTime, predefined, simple content

● [endDateTimeUTC](#) [34]

Type: xsi:dateTime, predefined, simple content

complexType "TimeSeriesResponseType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 2 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [129]

Includes: definitions of 2 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...>
  Content: queryInfo?, timeSeries+
</...>
```

Content Model Elements (2):

[queryInfo](#) (type [QueryInfoType](#)) [58], [timeSeries](#) (in [timeSeriesResponse](#)) [76]

All Direct / Indirect Based Elements (1):

[timeSeriesResponse](#) [77]

Known Usage Locations

- As direct type of elements (1):

[timeSeriesResponse](#) [77]

XML Source

```
<xsi:complexType name="TimeSeriesResponseType">
  <xsi:sequence>
    <xsi:element maxOccurs="1" minOccurs="0" name="queryInfo" type="QueryInfoType" />
    <xsi:element maxOccurs="unbounded" minOccurs="1" name="timeSeries" type="TimeSeriesType" />
  </xsi:sequence>
</xsi:complexType>
```

Content Element Detail (defined in [this](#) component only; 2/2)

● [queryInfo](#) [58]

Type: [QueryInfoType](#) [116], complex content

● [timeSeries](#) [76]

Type: [TimeSeriesType](#) [129], complex content

complexType "TimeSeriesType"

complexType "TimeSeriesType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Content: complex, 1 [attribute](#), 3 [elements](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [130]
Includes: definitions of 1 [attribute](#) and 3 [elements](#)
Used: at 1 [location](#)

XML Representation Summary

```
<...  
  name = xsi:normalizedString  
  >  
  Content: sourceInfo, variable, values+  
</...>
```

Content Model Elements (3):

[sourceInfo](#) (in [timeSeries](#)) [73], [variable](#) (type [VariableInfoType](#)) [87]
[values](#) (in [timeSeries](#)) [86],

All Direct / Indirect Based Elements (1):

[timeSeries](#) (in [timeSeriesResponse](#)) [76]

Known Usage Locations

- As direct type of elements (1):

[timeSeries](#) (in [timeSeriesResponse](#)) [76]

XML Source

```
<xsi:complexType name="TimeSeriesType">  
  <xsi:sequence>  
    <xsi:element name="sourceInfo" type="SourceInfoType" />  
    <xsi:element name="variable" type="VariableInfoType" />  
    <xsi:element maxOccurs="unbounded" name="values" type="TsValuesSingleVariableType" />  
  </xsi:sequence>  
  <xsi:attribute name="name" type="xsi:normalizedString" use="optional"/>  
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 1/1)

[name](#)

Type: xsi:normalizedString, predefined
Use: optional

Content Element Detail (defined in [this](#) component only; 3/3)

[sourceInfo](#) [73]

Type: [SourceInfoType](#) [124], empty content

[values](#) [86]

Type: [TsValuesSingleVariableType](#) [132], complex content

[variable](#) [87]

Type: [VariableInfoType](#) [138], complex content

complexType "TimeSingleType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Content: complex, 5 [elements](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [131]
Includes: definition of 1 [element](#)
Used: never

XML Representation Summary

```
<...>
  Content: beginDateTime, endDateTime, beginDateTimeUTC?, endDateTimeUTC?, timeSingle
</...>
```

Content Model Elements (5):

[beginDateTime](#) (in [variableTimeInterval](#)) [19], [endDateTimeUTC](#) (in [variableTimeInterval](#)) [34],
[beginDateTimeUTC](#) (in [variableTimeInterval](#)) [20], [timeSingle](#) (type [xsi:dateTime](#)) [77]
[endDateTime](#) (in [variableTimeInterval](#)) [34],

Type Definition Detail

Type Derivation Tree

```
TimePeriodType [128]
└ TimeSingleType (extension)
```

XML Source

```
<xsi:complexType name="TimeSingleType">
  <xsi:complexContent mixed="false">
    <xsi:extension base="TimePeriodType">
      <xsi:sequence>
        <xsi:element name="timeSingle" type="xsi:dateTime"/>
      </xsi:sequence>
    </xsi:extension>
  </xsi:complexContent>
</xsi:complexType>
```

Content Element Detail

 (defined in [this](#) component only; 1/5)

● [timeSingle](#) [77]

Type: xsi:dateTime, predefined, simple content

complexType "TimeZoneType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Content: empty, 2 [attributes](#)
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [132]
Includes: definitions of 2 [attributes](#)
Used: at 4 [locations](#)

XML Representation Summary

```
<...
  zoneAbbreviation = xsi:token
  zoneOffset           = xsi:normalizedString
/>
```

complexType "TimeZoneType"

All Direct / Indirect Based Elements (4):

daylightSavingsTimeZone (in timeZoneInfo : anonymous) [29],	defaultTimeZone (in timeZoneInfo : anonymous) [30],
daylightSavingsTimeZone (in timeZoneInfo in siteInfo) [28],	defaultTimeZone (in timeZoneInfo in siteInfo) [30]

Known Usage Locations

- In derivations of anonymous types of elements (4):

daylightSavingsTimeZone (in timeZoneInfo : anonymous) [29] (as extension base),	defaultTimeZone (in timeZoneInfo : anonymous) [30] (as extension base),
daylightSavingsTimeZone (in timeZoneInfo in siteInfo) [28] (as extension base),	defaultTimeZone (in timeZoneInfo in siteInfo) [30] (as extension base)

XML Source

```
<xsi:complexType name="TimeZoneType">
  <xsi:attribute name="zoneOffset" type="xsi:normalizedString" use="required"/>
  <xsi:attribute name="zoneAbbreviation" type="xsi:token" use="optional"/>
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 2/2)

zoneAbbreviation

Type: xsi:token, predefined
Use: optional

zoneOffset

Type: xsi:normalizedString, predefined
Use: required

complexType "TsValuesSingleVariableType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 8 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [133]

Includes: definitions of 8 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...>
  Content: value* , qualifier* , qualityControlLevel* , method* , source* , offset* , sample* , censorCode*
</...>
```

Content Model Elements (8):

censorCode (in values) [22],	qualityControlLevel (type qualityControlLevelType) [57],
method (type MethodType) [45],	sample (in values) [61],
offset (in values) [48],	source (type SourceType) [71],
qualifier (in values) [56],	value (in values) [84]

All Direct / Indirect Based Elements (1):

[values](#) (in [timeSeries](#)) [86]

Known Usage Locations

- As direct type of elements (1):

[values](#) (in [timeSeries](#)) [86]

XML Source (w/o annotations (2))

```
<xsi:complexType name="TsValuesSingleVariableType">
  <xsi:sequence>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="value" type="ValueSingleVariable"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="qualifier" type="QualifierType"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="qualityControlLevel" type="QualityControlLevelType"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="method" type="MethodType"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="source" type="SourceType"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="offset" type="OffsetType"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="sample" type="SampleType"/>
    <xsi:element maxOccurs="unbounded" minOccurs="0" name="censorCode" type="CensorCodeType"/>
  </xsi:sequence>
</xsi:complexType>
```

Content Element Detail (defined in [this](#) component only; 8/8)

 [censorCode](#) [22]

Type: [CensorCodeType](#) [95], complex content

 [method](#) [45]

Type: [MethodType](#) [108], complex content

Multiple <method>s lists the methods used to collect the data and any additional information about the method. Different instruments should be represented as different methods, according to ODM best practices.

 [offset](#) [48]

Type: [OffsetType](#) [110], complex content

 [qualifier](#) [56]

Type: [QualifierType](#) [113], complex content

 [qualityControlLevel](#) [57]

Type: [QualityControlLevelType](#) [114], complex content

 [sample](#) [61]

Type: [SampleType](#) [117], complex content

 [source](#) [71]

Type: [SourceType](#) [125], complex content

 [value](#) [84]

Type: [ValueSingleVariable](#) [135], simple content

text

Simple Content

xsi:decimal

complexType "UnitsType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 1 [attribute](#), 5 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [134]

Includes: definitions of 1 [attribute](#) and 5 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...  
  unitID = xsi:int  
  >  
  Content: unitName?, unitDescription?, unitType?, unitAbbreviation?, unitCode  
</...>
```

Content Model Elements (5):

[unitAbbreviation](#) (in [unit](#)) [83], [unitName](#) (in [unit](#)) [84],
[unitCode](#) (in [unit](#)) [83], [unitType](#) (in [unit](#)) [84]
[unitDescription](#) (in [unit](#)) [83],

All Direct / Indirect Based Elements (1):

[unit](#) (type [UnitsType](#)) [82]

Known Usage Locations

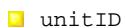
- As direct type of elements (1):

[unit](#) (type [UnitsType](#)) [82]

XML Source

```
<xsi:complexType name="UnitsType">  
  <xsi:sequence>  
    <xsi:element minOccurs="0" name="unitName" type="xsi:string"/>  
    <xsi:element minOccurs="0" name="unitDescription" type="xsi:string"/>  
    <xsi:element minOccurs="0" name="unitType" type="UnitsTypeCodeList" />  
    <xsi:element minOccurs="0" name="unitAbbreviation" type="xsi:string"/>  
    <xsi:element name="unitCode" type="xsi:token"/>  
  </xsi:sequence>  
  <xsi:attribute name="unitID" type="xsi:int"/>  
</xsi:complexType>
```

Attribute Detail

 (defined in [this component](#) only; 1/1)

Type: xsi:int, predefined

Use: optional

Content Element Detail

 (defined in [this component](#) only; 5/5)

Type: xsi:string, predefined, simple content

complexType "UnitsType"

[unitCode](#) [83]

Type: xsi:token, predefined, simple content

[unitDescription](#) [83]

Type: xsi:string, predefined, simple content

[unitName](#) [84]

Type: xsi:string, predefined, simple content

[unitType](#) [84]

Type: [UnitsTypeCodeList](#) [161], simple content

Simple Content

```
xsi:string | ("Angle" | "Area" | "Dimensionless" | "Energy" | "Energy Flux" | "Flow" | "Force" |
"Frequency" | "Length" | "Light" | "Mass" | "Permeability" | "Power" | "Pressure/Stress" |
"Resolution" | "Scale" | "Temperature" | "Time" | "Velocity" | "Volume")
```

complexType "ValueSingleVariable"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: simple, 20 [attributes](#)

Defined: globally in [cuahsiTimeSeries v1_1.xsd](#), see [XML source](#) [136]

Includes: definitions of 20 [attributes](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...
  accuracyStdDev = xsi:double
  censorCode = ("lt" | "gt" | "nc" | "nd" | "png") | xsi:string
  codedVocabulary = xsi:boolean
  codedVocabularyTerm = xsi:normalizedString
  dateTime = xsi:dateTime
  dateTimeUTC = xsi:dateTime
  labSampleCode = xsi:token
  metadataTime = xsi:dateTime
  methodCode = xsi:token
  methodID = xsi:nonNegativeInteger
  offsetTypeCode = xsi:token
  offsetTypeID = xsi:nonNegativeInteger
  offsetValue = xsi:double
  oid = xsi:normalizedString
  qualifiers = xsi:NMTOKENS
  qualityControlLevelCode = xsi:token
  sampleID = xsi:nonNegativeInteger
  sourceCode = xsi:token
  sourceID = xsi:nonNegativeInteger
  timeOffset = xsi:normalizedString
>
Content: { xsi:decimal }
</...>
```

All Direct / Indirect Based Elements (1):

complexType "ValueSingleVariable"

[value](#) (in [values](#)) [84]

Known Usage Locations

- As direct type of elements (1):

[value](#) (in [values](#)) [84]

Type Definition Detail

Type Derivation Tree

xsi:decimal
└ [valueSingleVariable](#) (extension)

Derivation: extension of xsi:decimal

XML Source (w/o annotations (3))

```
<xsi:complexType name="ValueSingleVariable">
  <xsi:simpleContent>
    <xsi:extension base="xsi:decimal">
      <xsi:attribute name="qualifiers" type="xsi:NMTOKENS"/>
      <xsi:attribute name="censorCode" type="CensorCodeCodeList"/>
      <xsi:attribute name="dateTime" type="xsi:dateTime" use="required"/>
      <xsi:attribute name="timeOffset" type="TimeOffsetType"/>
      <xsi:attribute name="dateTimeUTC" type="xsi:dateTime"/>
      <xsi:attribute name="methodID" type="xsi:nonNegativeInteger"/>
      <xsi:attribute name="sourceID" type="xsi:nonNegativeInteger"/>
      <xsi:attribute name="accuracyStdDev" type="xsi:double"/>
      <xsi:attribute name="sampleID" type="xsi:nonNegativeInteger" use="optional"/>
      <xsi:attribute name="methodCode" type="xsi:token"/>
      <xsi:attribute name="sourceCode" type="xsi:token"/>
      <xsi:attribute name="labSampleCode" type="xsi:token"/>
      <xsi:attribute name="offsetValue" type="xsi:double" use="optional"/>
      <xsi:attribute name="offsetTypeID" type="xsi:nonNegativeInteger" use="optional"/>
      <xsi:attribute name="offsetTypeCode" type="xsi:token"/>
      <xsi:attribute name="codedVocabulary" type="xsi:boolean" use="optional"/>
      <xsi:attribute name="codedVocabularyTerm" type="xsi:normalizedString" use="optional"/>
      <xsi:attribute name="qualityControlLevelCode" type="xsi:token"/>
      <xsi:attribute ref="metadataTime"/>
      <xsi:attribute ref="oid"/>
    </xsi:extension>
  </xsi:simpleContent>
</xsi:complexType>
```

Attribute Detail (defined in [this](#) component only; 20/20)

■ accuracyStdDev

Type: xsi:double, predefined
Use: optional

■ censorCode

Type: [CensorCodeCodeList](#) [143]
Use: optional

Attribute Value

```
("lt" | "gt" | "nc" | "nd" | "pnq") | xsi:string
```

complexType "ValueSingleVariable"

■ codedVocabulary

Type: xsi:boolean, predefined
Use: optional

■ codedVocabularyTerm

Type: xsi:normalizedString, predefined
Use: optional

■ dateTime

Type: xsi:dateTime, predefined
Use: required

■ dateTimeUTC

Type: xsi:dateTime, predefined
Use: optional

■ labSampleCode

Type: xsi:token, predefined
Use: optional

■ [metadataTime](#) [167]

Type: xsi:dateTime, predefined
Use: optional

■ methodCode

Type: xsi:token, predefined
Use: optional

■ methodID

Type: xsi:nonNegativeInteger, predefined
Use: optional

■ offsetTypeCode

Type: xsi:token, predefined
Use: optional

■ offsetTypeID

Type: xsi:nonNegativeInteger, predefined
Use: optional

■ offsetValue

Type: xsi:double, predefined
Use: optional

■ [oid](#) [167]

Type: xsi:normalizedString, predefined
Use: optional

complexType "ValueSingleVariable"

■ qualifiers

Type: xsi:NMTOKENS, predefined
Use: optional

■ qualityControlLevelCode

Type: xsi:token, predefined
Use: optional

■ sampleID

Type: xsi:nonNegativeInteger, predefined
Use: optional

■ sourceCode

Type: xsi:token, predefined
Use: optional

■ sourceID

Type: xsi:nonNegativeInteger, predefined
Use: optional

■ timeOffset

Type: [TimeOffsetType](#) [159]
Use: optional

This represents an offset for the time zone. [+/-]hh:mm

Attribute Value

xsi:normalizedString

Pattern: ^[+-][01]\d:[0-5]\d
WhiteSpace: collapse

complexType "VariableInfoType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 2 [attributes](#), 17 [elements](#)

Defined: globally in [cuahsiTimeSeries v1_1.xsd](#), see [XML source](#) [139]

Includes: definitions of 2 [attributes](#) and 17 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...  
    metadataTime = xsi:dateTime  
    oid          = xsi:normalizedString  
    >  
    Content: variableCode+, variableName?, variableDescription?, valueType?, dataType?, generalCategory?,  
             sampleMedium?, unit?, options?, note*, related?, extension?, noDataValue?, timeScale?, speciation?,  
             categories?, variableProperty*  
</...>
```

Content Model Elements (17):

[categories](#) (in [variable](#)) [20],
[dataType](#) (type [DataTypeCodeList](#)) [27],
[extension](#) [35],

[speciation](#) (in [variable](#)) [74],
[timeScale](#) (in [variable](#)) [75],
[unit](#) (type [UnitsType](#)) [82],

[generalCategory](#) (type [GeneralCategoryCodeList](#)) [35],
[noDataValue](#) (in [variable](#)) [47],
[note](#) (type [NoteType](#)) [47],
[options](#) [52],
[related](#) (in [variable](#)) [59],
[sampleMedium](#) (type [SampleMediumCodeList](#)) [62],

[valueType](#) (type [ValueTypeCodeList](#)) [87],
[variableCode](#) (in [variable](#)) [88],
[variableDescription](#) (in [variable](#)) [89],
[variableName](#) (in [variable](#)) [90],
[variableProperty](#) (in [variable](#)) [91]

All Direct / Indirect Based Elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

Known Usage Locations

- As direct type of elements (1):

[variable](#) (type [VariableInfoType](#)) [87]

XML Source (w/o annotations (10))

```
<xsi:complexType name="VariableInfoType">
  <xsi:sequence>
    <xsi:sequence>
      <xsi:element maxOccurs="unbounded" minOccurs="1" name="variableCode">
        <xsi:complexType>
          <xsi:simpleContent>
            <xsi:extension base="xsi:token">
              <xsi:attribute name="network" type="xsi:token"/>
              <xsi:attribute name="vocabulary" type="xsi:token"/>
              <xsi:attribute name="default" type="xsi:boolean"/>
              <xsi:attribute name="variableID">
                <xsi:simpleType>
                  <xsi:restriction base="positiveInt">
                    <xsi:minInclusive value="0"/>
                  </xsi:restriction>
                </xsi:simpleType>
              </xsi:attribute>
            </xsi:extension>
          </xsi:simpleContent>
        </xsi:complexType>
      </xsi:element>
      <xsi:element maxOccurs="1" minOccurs="0" name="variableName" type="xsi:string"/>
      <xsi:element minOccurs="0" name="variableDescription" type="xsi:string"/>
      <xsi:element maxOccurs="1" minOccurs="0" name="valueType" type="ValueListCodeList"/>
      <xsi:element minOccurs="0" name="dataType" type="DataListCodeList"/>
      <xsi:element minOccurs="0" name="generalCategory" type="GeneralCategoryCodeList"/>
      <xsi:element maxOccurs="1" minOccurs="0" name="sampleMedium" type="SampleMediumCodeList"/>
      <xsi:element minOccurs="0" name="unit" type="UnitsType"/>
      <xsi:element maxOccurs="1" minOccurs="0" ref="options"/>
      <xsi:element maxOccurs="unbounded" minOccurs="0" name="note" type="NoteType"/>
      <xsi:element minOccurs="0" name="related">
        <xsi:complexType>
          <xsi:sequence maxOccurs="unbounded">
            <xsi:element name="parentCode">
              <xsi:complexType>
                <xsi:simpleContent>
                  <xsi:extension base="xsi:string">
                    <xsi:attribute name="network" type="xsi:token"/>
                    <xsi:attribute name="vocabulary" type="xsi:token"/>
                    <xsi:attribute name="default" type="xsi:boolean"/>
                  </xsi:extension>
                </xsi:simpleContent>
              </xsi:complexType>
            </xsi:element>
            <xsi:element name="relatedCode">
              <xsi:complexType>
                <xsi:simpleContent>
                  <xsi:extension base="xsi:string">
                    <xsi:attribute name="network" type="xsi:token"/>
                    <xsi:attribute name="vocabulary" type="xsi:token"/>
                  </xsi:extension>
                </xsi:simpleContent>
              </xsi:complexType>
            </xsi:element>
          </xsi:sequence>
        </xsi:complexType>
      </xsi:element>
    </xsi:sequence>
  </xsi:sequence>
</xsi:complexType>
```

complexType "VariableInfoType"

```
        <xsi:attribute name="default" type="xsi:boolean"/>
    </xsi:extension>
</xsi:simpleContent>
</xsi:complexType>
</xsi:element>
</xsi:sequence>
</xsi:complexType>
</xsi:element>
<xsi:element minOccurs="0" ref="extensionnoDataValue" type="xsi:double"/>
<xsi:element minOccurs="0" name="timeScale" nillable="true">
    <xsi:complexType>
        <xsi:sequence>
            <xsi:element maxOccurs="1" minOccurs="0" name="unit" type="UnitsType"/>
            <xsi:element maxOccurs="1" minOccurs="0" name="timeSpacing" type="xsi:float"/>
            <xsi:element maxOccurs="1" minOccurs="0" name="timeSupport" type="xsi:float"/>
        </xsi:sequence>
        <xsi:attribute default="false" name="isRegular" type="xsi:boolean"/>
    </xsi:complexType>
</xsi:element>
<xsi:element minOccurs="0" name="speciation" type="SpeciationCodeList"/>
<xsi:element maxOccurs="1" minOccurs="0" name="categoriescategorydataValue" type="xsi:decimal"/>
                        <xsi:element maxOccurs="1" minOccurs="0" name="description" type="xsi:string"/>
                    </xsi:sequence>
                    <xsi:attribute name="categoryID" type="xsi:int"/>
                </xsi:complexType>
            </xsi:element>
        </xsi:sequence>
    </xsi:complexType>
</xsi:element>
<xsi:element maxOccurs="unbounded" minOccurs="0" name="variableProperty" type=".PropertyType"/>
</xsi:sequence>
</xsi:sequence>
<xsi:attribute ref="oidmetadataTime
```

Attribute Detail (defined in [this](#) component only; 2/2)

[metadataTime](#) [167]

Type: xsi:dateTime, predefined
Use: optional

[oid](#) [167]

Type: xsi:normalizedString, predefined
Use: optional

Content Element Detail (defined in [this](#) component only; 17/17)

[categories](#) [20]

Type: anonymous, complex content

[dataType](#) [27]

Type: [DataTypeCodeList](#) [145], simple content

complexType "VariableInfoType"

Simple Content

```
( "Continuous" | "Instantaneous" | "Cumulative" | "Incremental" | "Average" | "Maximum" | "Minimum"
| "Constant Over Interval" | "Categorical" | "Best Easy Systematic Estimator" | "Unknown"
| "Variance" | "Median" | "Mode" | "Best Easy Systematic Estimator" | "Standard Deviation"
| "Skewness" | "Equivalent Mean" | "Sporadic" | "Unknown") | xsi:string
```

● [extension](#) [35]

Type: xsi:anyType, any content

● [generalCategory](#) [35]

Type: [GeneralCategoryCodeList](#) [148], simple content

Simple Content

```
("Water Quality" | "Climate" | "Hydrology" | "Geology" | "Biota" | "Unknown" | "Instrumentation")
| xsi:string
```

● [noDataValue](#) [47]

Type: xsi:double, predefined, simple content

● [note](#) [47]

Type: [NoteType](#) [109], simple content

Simple Content

```
xsi:string
```

● [options](#) [52]

Type: anonymous, complex content

See option element for details. This is a list of options. Options are key-value pair elements that control how a variable might be utilized in a service.

● [related](#) [59]

Type: anonymous, complex content

● [sampleMedium](#) [62]

Type: [SampleMediumCodeList](#) [153], simple content

Simple Content

```
("Surface Water" | "Ground Water" | "Sediment" | "Soil" | "Air" | "Tissue" | "Precipitation"
| "Unknown" | "Other" | "Snow" | "Not Relevant") | xsi:string
```

● [speciation](#) [74]

Type: [SpeciationCodeList](#) [158], simple content

Simple Content

```
xsi:string | xsi:string
```

complexType "VariableInfoType"

[timeScale](#) [75]

Type: anonymous, complex content

Nullable: (*can be declared as nil using xsi:nil attribute in instance XML documents*)

Element containing the time support (or temporal footprint) of the data values. @isRegular indicates if the spacing is regular. the timeInterval is the spacing between the observations, with the units being the units of the spacing. This basically communicates the precision of the observation. If timeSupport isReqular, and has units of 1 day, then clients should reformat output to spreadsheets and applications to day values. In waterML 1.0, there is a divergence of mean between ODM, and WaterML. WaterML only communicates the regularity, and the spacing of the observations (timeInterval). Whereas timesupport in the ODM is associated with the dataType, and time support. This will be addressed in 1.1

[unit](#) [82]

Type: [UnitsType](#) [134], complex content

The units of the measurement.

[valueType](#) [87]

Type: [ValueTypeCodeList](#) [163], simple content

Simple Content

```
xsi:string | ("Field Observation" | "Sample" | "Model Simulation Result" | "Derived Value" | "Unknown")
```

[variableCode](#) [88]

Type: [anonymous](#) (*extension of xsi:token*), simple content

Simple Content

```
xsi:token
```

[variableDescription](#) [89]

Type: xsi:string, predefined, simple content

A detailed descriptn of the variable. May include processing information and other details.

[variableName](#) [90]

Type: xsi:string, predefined, simple content

A brief name of the variable that could be shown in a menu

[variableProperty](#) [91]

Type: [.PropertyType](#) [112], simple content

Simple Content

```
xsi:string
```

complexType "VariablesResponseType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Content: complex, 2 [elements](#)

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [143]

Includes: definitions of 2 [elements](#)

Used: at 1 [location](#)

XML Representation Summary

```
<...>
  Content: queryInfo?, variables
</...>
```

Content Model Elements (2):

[queryInfo](#) (type [QueryInfoType](#)) [58], [variables](#) (in [variablesResponse](#)) [91]

All Direct / Indirect Based Elements (1):

[variablesResponse](#) [92]

Known Usage Locations

- As direct type of elements (1):

[variablesResponse](#) [92]

XML Source

```
<xsi:complexType name="VariablesResponseType">
  <xsi:sequence>
    <xsi:element maxOccurs="1" minOccurs="0" name="queryInfo" type="QueryInfoType"/>
    <xsi:element maxOccurs="1" minOccurs="1" name="variables">
      <xsi:complexType>
        <xsi:sequence>
          <xsi:element maxOccurs="unbounded" minOccurs="0" name="variable" type="VariableInfoType"/>
        </xsi:sequence>
      </xsi:complexType>
    </xsi:element>
  </xsi:sequence>
</xsi:complexType>
```

Content Element Detail

 (defined in [this component](#) only; 2/2)

● [queryInfo](#) [58]

Type: [QueryInfoType](#) [116], complex content

● [variables](#) [91]

Type: anonymous, complex content

simpleType "CensorCodeCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [144]

Used: at 2 [locations](#)

Simple Content Model

```
("lt" | "gt" | "nc" | "nd" | "pnq") | xsi:string
```

All Direct / Indirect Based Elements (1):

[censorCode](#) (in [censorCode](#) in [values](#)) [22]

All Direct / Indirect Based Attributes (1):

simpleType "CensorCodeCodeList"

[ValueSingleVariable/@censorCode](#) [
d PAGEREF r708]

Known Usage Locations

- As direct type of elements (1):

[censorCode](#) (in [censorCode](#) in [values](#)) [22]

- As direct type of attributes within complexTypes (1):

[ValueSingleVariable/@censorCode](#) [136]

Type Definition Detail

Type Derivation Tree

```
union of (CensorCodeEnum | xsi:string)
└─CensorCodeCodeList
```

XML Source

```
<xsi:simpleType name="CensorCodeCodeList">
  <xsi:union memberTypes="CensorCodeEnum xsi:string"/>
</xsi:simpleType>
```

simpleType "CensorCodeEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [145]
Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "lt", "gt", "nc", "nd", "pnq"

Known Direct Subtypes (1):

[CensorCodeCodeList](#) [143]

All Direct / Indirect Based Elements (1):

[censorCode](#) (in [censorCode](#) in [values](#)) [22]

All Direct / Indirect Based Attributes (1):

[ValueSingleVariable/@censorCode](#) [
d PAGEREF r708]

Known Usage Locations

- In derivations of other global types (1):

[CensorCodeCodeList](#) [143] (as union member)

simpleType "CensorCodeEnum"

Type Definition Detail

Type Derivation Tree

```
xsi:string
└ CensorCodeEnum (restriction)
```

Derivation: restriction of xsi:string

Facets: enumeration: "lt", "gt", "nc", "nd", "pnq"

XML Source

```
<xsi:simpleType name="CensorCodeEnum">
  <xsi:restriction base="xsi:string">
    <xsi:enumeration value="lt"/>
    <xsi:enumeration value="gt"/>
    <xsi:enumeration value="nc"/>
    <xsi:enumeration value="nd"/>
    <xsi:enumeration value="pnq"/>
  </xsi:restriction>
</xsi:simpleType>
```

simpleType "DataTypeCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [145]

Used: at 1 [location](#)

Simple Content Model

("Continuous" | "Instantaneous" | "Cumulative" | "Incremental" | "Average" | "Maximum" | "Minimum" | "Constant Over Interval" | "Categorical" | "Best Easy Systematic Estimator" | "Unknown" | "Variance" | "Median" | "Mode" | "Best Easy Systematic Estimator" | "Standard Deviation" | "Skewness" | "Equivalent Mean" | "Sporadic" | "Unknown") | xsi:string

All Direct / Indirect Based Elements (1):

[dataType](#) (type [DataTypeCodeList](#)) [27]

Known Usage Locations

- As direct type of elements (1):

[dataType](#) (type [DataTypeCodeList](#)) [27]

Type Definition Detail

Type Derivation Tree

```
union of (dataTypeEnum | xsi:string)
└ DataTypeCodeList
```

XML Source

```
<xsi:simpleType name="DataTypeCodeList">
  <xsi:union memberTypes="dataTypeEnum xsi:string"/>
</xsi:simpleType>
```

simpleType "dataTypeEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [146]

Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "Continuous", "Instantaneous", "Cumulative", "Incremental", "Average", "Maximum", "Minimum", "Constant Over Interval", "Categorical", "Best Easy Systematic Estimator", "Unknown", "Variance", "Median", "Mode", "Best Easy Systematic Estimator", "Standard Deviation", "Skewness", "Equivalent Mean", "Sporadic", "Unknown"

Known Direct Subtypes (1):

[DataTypeCodeList](#) [145]

All Direct / Indirect Based Elements (1):

[dataType](#) (type [DataTypeCodeList](#)) [27]

Known Usage Locations

- In derivations of other global types (1):

[DataTypeCodeList](#) [145] (as union member)

Type Definition Detail

Type Derivation Tree

xsi:string
└ [dataTypeEnum](#) (restriction)

Derivation: restriction of xsi:string

Facets: enumeration: "Continuous", "Instantaneous", "Cumulative", "Incremental", "Average", "Maximum", "Minimum", "Constant Over Interval", "Categorical", "Best Easy Systematic Estimator", "Unknown", "Variance", "Median", "Mode", "Best Easy Systematic Estimator", "Standard Deviation", "Skewness", "Equivalent Mean", "Sporadic", "Unknown"

XML Source

```
<xsi:simpleType name="dataTypeEnum">
  <xsi:restriction base="xsi:string">
    <xsi:enumeration value="Continuous"/>
    <xsi:enumeration value="Instantaneous"/>
    <xsi:enumeration value="Cumulative"/>
    <xsi:enumeration value="Incremental"/>
    <xsi:enumeration value="Average"/>
    <xsi:enumeration value="Maximum"/>
    <xsi:enumeration value="Minimum"/>
    <xsi:enumeration value="Constant Over Interval"/>
    <xsi:enumeration value="Categorical"/>
    <xsi:enumeration value="Best Easy Systematic Estimator"/>
    <xsi:enumeration value="Unknown"/>
    <xsi:enumeration value="Variance"/>
    <xsi:enumeration value="Median"/>
    <xsi:enumeration value="Mode"/>
    <xsi:enumeration value="Best Easy Systematic Estimator"/>
```

simpleType "dataTypeEnum"

```
<xsi:enumeration value="Standard Deviation"/>
<xsi:enumeration value="Skewness"/>
<xsi:enumeration value="Equivalent Mean"/>
<xsi:enumeration value="Sporadic"/>
<xsi:enumeration value="Unknown"/>
</xsi:restriction>
</xsi:simpleType>
```

simpleType "*DocumentationEnumTypes*"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [147]
Used: at 1 [location](#)

Simple Content Model

```
xsi:token | ("funding" | "history" | "processing_level" | "rights" | "summary")
```

All Direct / Indirect Based Attributes (1):

[DocumentationType/@type](#) [101]

Known Usage Locations

- As direct type of attributes within complexTypes (1):

[DocumentationType/@type](#) [101]

Type Definition Detail

Type Derivation Tree

```
union of (xsi:token | restriction of xsi:token)
└ DocumentationEnumTypes
```

XML Source

```
<xsi:simpleType name="DocumentationEnumTypes">
  <xsi:union memberTypes="xsi:token">
    <xsi:simpleType>
      <xsi:restriction base="xsi:token">
        <xsi:enumeration value="funding"/>
        <xsi:enumeration value="history"/>
        <xsi:enumeration value="processing_level"/>
        <xsi:enumeration value="rights"/>
        <xsi:enumeration value="summary"/>
      </xsi:restriction>
    </xsi:simpleType>
  </xsi:union>
</xsi:simpleType>
```

simpleType "*doubleList*"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [148]
Used: never

Simple Content Model

```
list of xsi:double
```

simpleType "doubleList"

Annotation

XML List based on XML Schema double type. An element of this type contains a space-separated list of double values
 =====
 ===== == Subset of basicTypes.xsd
 for this profile
 =====
 =====

Type Definition Detail

Type Derivation Tree

```
xsi:double
└doubleList (list)
```

XML Source (w/o annotations (1))

```
<xsi:simpleType name="doubleList">
  <xsi:list itemType="xsi:double"/>
</xsi:simpleType>
```

simpleType "GeneralCategoryCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [148]

Used: at 1 [location](#)

Simple Content Model

```
("Water Quality" | "Climate" | "Hydrology" | "Geology" | "Biota" | "Unknown" | "Instrumentation") |
xsi:string
```

All Direct / Indirect Based Elements (1):

[generalCategory](#) (type [GeneralCategoryCodeList](#)) [35]

Known Usage Locations

- As direct type of elements (1):

[generalCategory](#) (type [GeneralCategoryCodeList](#)) [35]

Type Definition Detail

Type Derivation Tree

```
union of (generalCategoryEnum | xsi:string)
└GeneralCategoryCodeList
```

XML Source

```
<xsi:simpleType name="GeneralCategoryCodeList">
  <xsi:union memberTypes="generalCategoryEnum xsi:string"/>
</xsi:simpleType>
```

simpleType "generalCategoryEnum"

simpleType "generalCategoryEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [149]
Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "Water Quality", "Climate", "Hydrology", "Geology", "Biota", "Unknown", "Instrumentation"

Known Direct Subtypes (1):

[GeneralCategoryCodeList](#) [148]

All Direct / Indirect Based Elements (1):

[generalCategory](#) (type [GeneralCategoryCodeList](#)) [35]

Known Usage Locations

- In derivations of other global types (1):

[GeneralCategoryCodeList](#) [148] (as union member)

Type Definition Detail

Type Derivation Tree

xsi:string
└ generalCategoryEnum (restriction)

Derivation: restriction of xsi:string
Facets: enumeration: "Water Quality", "Climate", "Hydrology", "Geology", "Biota", "Unknown",
"Instrumentation"

XML Source

```
<xsi:simpleType name="generalCategoryEnum">  
  <xsi:restriction base="xsi:string">  
    <xsi:enumeration value="Water Quality"/>  
    <xsi:enumeration value="Climate"/>  
    <xsi:enumeration value="Hydrology"/>  
    <xsi:enumeration value="Geology"/>  
    <xsi:enumeration value="Biota"/>  
    <xsi:enumeration value="Unknown"/>  
    <xsi:enumeration value="Instrumentation"/>  
  </xsi:restriction>  
</xsi:simpleType>
```

simpleType "Latitude"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [150]
Used: at 3 [locations](#)

Simple Content Model

xsi:double

simpleType "Latitude"

Simple Content Restrictions:

MaxInclusive: 90.00
MinInclusive: -90.00

All Direct / Indirect Based Elements (3):

[latitude](#) (in [coordLatLong](#)) [41], [south](#) (type [Latitude](#)) [74]
[north](#) (type [Latitude](#)) [47],

Known Usage Locations

- As direct type of elements (3):

[latitude](#) (in [coordLatLong](#)) [41], [south](#) (type [Latitude](#)) [74]
[north](#) (type [Latitude](#)) [47],

Type Definition Detail

Type Derivation Tree

xsi:double
└ [Latitude](#) (restriction)

Derivation: restriction of xsi:double

Facets: maxInclusive: 90.00
minInclusive: -90.00

XML Source

```
<xsi:simpleType name="Latitude">
  <xsi:restriction base="xsi:double">
    <xsi:minInclusive value="-90.00"/>
    <xsi:maxInclusive value="90.00"/>
  </xsi:restriction>
</xsi:simpleType>
```

simpleType "Longitude"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [151]
Used: at 3 [locations](#)

Simple Content Model

xsi:double

Simple Content Restrictions:

MaxInclusive: 180.00
MinInclusive: -180.00

All Direct / Indirect Based Elements (3):

[east](#) (type [Longitude](#)) [32], [west](#) (type [Longitude](#)) [93]
[longitude](#) (in [coordLatLong](#)) [43],

simpleType "Longitude"

Known Usage Locations

- As direct type of elements (3):

[east](#) (type [Longitude](#)) [32], [west](#) (type [Longitude](#)) [93]
[longitude](#) (in [coordLatLong](#)) [43],

Type Definition Detail

Type Derivation Tree

xsi:double
└ **Longitude** (restriction)

Derivation: restriction of xsi:double

Facets: maxInclusive: 180.00
minInclusive: -180.00

XML Source

```
<xsi:simpleType name="Longitude">
  <xsi:restriction base="xsi:double">
    <xsi:minInclusive value="-180.00"/>
    <xsi:maxInclusive value="180.00"/>
  </xsi:restriction>
</xsi:simpleType>
```

simpleType "positiveInt"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [152]
Used: at 7 [locations](#)

Simple Content Model

xsi:int

Simple Content Restrictions:

MinInclusive: 0

All Direct / Indirect Based Elements (1):

[valueCount](#) (in [series](#)) [85]

All Direct / Indirect Based Attributes (6):

[MethodType/@methodID](#) [109], [siteCode](#) (in [siteInfo](#))/@[siteID](#) [69],
[OffsetType/@offsetTypeID](#) [111], [SourceType/@sourceID](#) [125],
[QualifierType/@qualifierID](#) [114], [variableCode](#) (in [variable](#))/@[variableID](#) [89]

Known Usage Locations

- In derivations of anonymous types of elements (1):

[valueCount](#) (in [series](#)) [85] (as extension base)

- As direct type of attributes within complexTypes (4):

simpleType "positiveInt"

[MethodType/@methodID](#) [109]
[OffsetType/@offsetTypeID](#) [111]
[QualifierType/@qualifierID](#) [114]
[SourceType/@sourceID](#) [125]

- In derivations of anonymous types of attributes within elements (2):

[siteCode](#) (in [siteInfo](#)) /@[siteID](#) [69] (as restriction base)
[variableCode](#) (in [variable](#)) /@[variableID](#) [89] (as restriction base)

Annotation

.Net serializer work around.

Type Definition Detail

Type Derivation Tree

xsi:int
└ **positiveInt** (restriction)

Derivation: restriction of xsi:int

Facets: minInclusive: 0

XML Source (w/o annotations (1))

```
<xsi:simpleType name="positiveInt">
  <xsi:restriction base="xsi:int">
    <xsi:minInclusive value="0"/>
  </xsi:restriction>
</xsi:simpleType>
```

simpleType "QualityControlLevelCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [152]

Used: never

Simple Content Model

("Raw data" | "Quality controlled data" | "Derived products" | "Interpreted products" | "Knowledge products" | "Unknown") | xsi:string

Type Definition Detail

Type Derivation Tree

union of ([QualityControlLevelEnum](#) | xsi:string)
└ **QualityControlLevelCodeList**

XML Source

```
<xsi:simpleType name="QualityControlLevelCodeList">
  <xsi:union memberTypes="QualityControlLevelEnum xsi:string"/>
</xsi:simpleType>
```

simpleType "QualityControlLevelEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [153]

Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "Raw data", "Quality controlled data", "Derived products", "Interpreted products", "Knowledge products", "Unknown"

Known Direct Subtypes (1):

[QualityControlLevelCodeList](#) [152]

Known Usage Locations

- In derivations of other global types (1):

[QualityControlLevelCodeList](#) [152] (as union member)

Type Definition Detail

Type Derivation Tree

xsi:string
└ [QualityControlLevelEnum](#) (restriction)

Derivation: restriction of xsi:string

Facets: **enumeration:** "Raw data", "Quality controlled data", "Derived products", "Interpreted products", "Knowledge products", "Unknown"

XML Source

```
<xsi:simpleType name="QualityControlLevelEnum">
  <xsi:restriction base="xsi:string">
    <xsi:enumeration value="Raw data"/>
    <xsi:enumeration value="Quality controlled data"/>
    <xsi:enumeration value="Derived products"/>
    <xsi:enumeration value="Interpreted products"/>
    <xsi:enumeration value="Knowledge products"/>
    <xsi:enumeration value="Unknown"/>
  </xsi:restriction>
</xsi:simpleType>
```

simpleType "SampleMediumCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [154]

Used: at 1 [location](#)

Simple Content Model

("Surface Water" | "Ground Water" | "Sediment" | "Soil" | "Air" | "Tissue" | "Precipitation" | "Unknown" | "Other" | "Snow" | "Not Relevant") | xsi:string

simpleType "SampleMediumCodeList"

All Direct / Indirect Based Elements (1):

[sampleMedium](#) (type [SampleMediumCodeList](#)) [62]

Known Usage Locations

- As direct type of elements (1):

[sampleMedium](#) (type [SampleMediumCodeList](#)) [62]

Type Definition Detail

Type Derivation Tree

```
union of (SampleMediumEnum | xsi:string)
└ SampleMediumCodeList
```

XML Source

```
<xsi:simpleType name="SampleMediumCodeList">
  <xsi:union memberTypes="SampleMediumEnum xsi:string"/>
</xsi:simpleType>
```

simpleType "SampleMediumEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [155]

Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "Surface Water", "Ground Water", "Sediment", "Soil", "Air", "Tissue", "Precipitation",
"Unknown", "Other", "Snow", "Not Relevant"

Known Direct Subtypes (1):

[SampleMediumCodeList](#) [153]

All Direct / Indirect Based Elements (1):

[sampleMedium](#) (type [SampleMediumCodeList](#)) [62]

Known Usage Locations

- In derivations of other global types (1):

[SampleMediumCodeList](#) [153] (as union member)

simpleType "SampleMediumEnum"

Type Definition Detail

Type Derivation Tree

```
xsi:string
└ SampleMediumEnum (restriction)
```

Derivation: restriction of xsi:string

Facets: enumeration: "Surface Water", "Ground Water", "Sediment", "Soil", "Air", "Tissue", "Precipitation", "Unknown", "Other", "Snow", "Not Relevant"

XML Source

```
<xsi:simpleType name="SampleMediumEnum">
  <xsi:restriction base="xsi:string">
    <xsi:enumeration value="Surface Water"/>
    <xsi:enumeration value="Ground Water"/>
    <xsi:enumeration value="Sediment"/>
    <xsi:enumeration value="Soil"/>
    <xsi:enumeration value="Air"/>
    <xsi:enumeration value="Tissue"/>
    <xsi:enumeration value="Precipitation"/>
    <xsi:enumeration value="Unknown"/>
    <xsi:enumeration value="Other"/>
    <xsi:enumeration value="Snow"/>
    <xsi:enumeration value="Not Relevant"/>
  </xsi:restriction>
</xsi:simpleType>
```

simpleType "SampleTypeCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in cuahsiTimeSeries v1_1.xsd, see [XML source](#) [155]

Used: at 1 [location](#)

Simple Content Model

```
( "FD" | "FF" | "FL" | "LF" | "GW" | "PB" | "PD" | "PE" | "PI" | "PW" | "RE" | "SE" | "SR" | "SS" | "SW"
| "TE" | "TI" | "TW" | "VE" | "VI" | "VW" | "Grab" | "Unknown" | "No Sample") | xsi:string
```

All Direct / Indirect Based Elements (1):

[sampleType](#) (in [sample](#)) [62]

Known Usage Locations

- As direct type of elements (1):

[sampleType](#) (in [sample](#)) [62]

Type Definition Detail

Type Derivation Tree

```
union of ( sampleTypeEnum | xsi:string)
└ SampleTypeCodeList
```

XML Source

```
<xsi:simpleType name="SampleTypeCodeList">
```

simpleType "SampleTypeCodeList"

```
<xsi:union memberTypes="sampleTypeEnum xsi:string"/>  
</xsi:simpleType>
```

simpleType "sampleTypeEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [156]

Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "FD", "FF", "FL", "LF", "GW", "PB", "PD", "PE", "PI", "PW", "RE", "SE", "SR", "SS", "SW", "TE", "TI", "TW", "VE", "VI", "VW", "Grab", "Unknown", "No Sample"

Known Direct Subtypes (1):

[SampleTypeCodeList](#) [155]

All Direct / Indirect Based Elements (1):

[sampleType](#) (in [sample](#)) [62]

Known Usage Locations

- In derivations of other global types (1):

[SampleTypeCodeList](#) [155] (as union member)

Type Definition Detail

Type Derivation Tree

```
xsi:string  
└ sampleTypeEnum (restriction)
```

Derivation: restriction of xsi:string

Facets: **enumeration:** "FD", "FF", "FL", "LF", "GW", "PB", "PD", "PE", "PI", "PW", "RE", "SE", "SR", "SS", "SW", "TE", "TI", "TW", "VE", "VI", "VW", "Grab", "Unknown", "No Sample"

XML Source

```
<xsi:simpleType name="sampleTypeEnum">  
  <xsi:restriction base="xsi:string">  
    <xsi:enumeration value="FD"/>  
    <xsi:enumeration value="FF"/>  
    <xsi:enumeration value="FL"/>  
    <xsi:enumeration value="LF"/>  
    <xsi:enumeration value="GW"/>  
    <xsi:enumeration value="PB"/>  
    <xsi:enumeration value="PD"/>  
    <xsi:enumeration value="PE"/>  
    <xsi:enumeration value="PI"/>  
    <xsi:enumeration value="PW"/>  
    <xsi:enumeration value="RE"/>  
    <xsi:enumeration value="SE"/>  
    <xsi:enumeration value="SR"/>  
    <xsi:enumeration value="SS"/>  
    <xsi:enumeration value="SW"/>
```

simpleType "sampleTypeEnum"

```
<xsi:enumeration value="TE"/>
<xsi:enumeration value="TI"/>
<xsi:enumeration value="TW"/>
<xsi:enumeration value="VE"/>
<xsi:enumeration value="VI"/>
<xsi:enumeration value="VW"/>
<xsi:enumeration value="Grab"/>
<xsi:enumeration value="Unknown"/>
<xsi:enumeration value="No Sample"/>
</xsi:restriction>
</xsi:simpleType>
```

simpleType "SiteTypeCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [157]

Used: at 1 [location](#)

Simple Content Model

xsi:string | xsi:string

All Direct / Indirect Based Elements (1):

[siteType](#) (in [siteInfo](#)) [71]

Known Usage Locations

- As direct type of elements (1):

[siteType](#) (in [siteInfo](#)) [71]

Type Definition Detail

Type Derivation Tree

union of ([SiteTypeEnum](#) | xsi:string)
└ [siteTypeCodeList](#)

XML Source

```
<xsi:simpleType name="SiteTypeCodeList">
  <xsi:union memberTypes="SiteTypeEnum xsi:string"/>
</xsi:simpleType>
```

simpleType "SiteTypeEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [158]

Used: at 1 [location](#)

Simple Content Model

xsi:string

Known Direct Subtypes (1):

[SiteTypeCodeList](#) [157]

simpleType "SiteTypeEnum"

All Direct / Indirect Based Elements (1):

[siteType](#) (in [siteInfo](#)) [71]

Known Usage Locations

- In derivations of other global types (1):

[SiteTypeCodeList](#) [157] (as union member)

Type Definition Detail

Type Derivation Tree

xsi:string
└ [SiteTypeEnum](#) (restriction)

Derivation: restriction of xsi:string

XML Source

```
<xsi:simpleType name="SiteTypeEnum">
  <xsi:restriction base="xsi:string"/>
</xsi:simpleType>
```

simpleType "SpeciationCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [158]

Used: at 1 [location](#)

Simple Content Model

xsi:string | xsi:string

All Direct / Indirect Based Elements (1):

[speciation](#) (in [variable](#)) [74]

Known Usage Locations

- As direct type of elements (1):

[speciation](#) (in [variable](#)) [74]

Type Definition Detail

Type Derivation Tree

union of ([SpeciationEnum](#) | xsi:string)
└ [SpeciationCodeList](#)

XML Source

```
<xsi:simpleType name="SpeciationCodeList">
  <xsi:union memberTypes="SpeciationEnum xsi:string"/>
</xsi:simpleType>
```

simpleType "SpeciationEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [159]
Used: at 1 [location](#)

Simple Content Model

xsi:string

Known Direct Subtypes (1):

[SpeciationCodeList](#) [158]

All Direct / Indirect Based Elements (1):

[speciation](#) (in [variable](#)) [74]

Known Usage Locations

- In derivations of other global types (1):

[SpeciationCodeList](#) [158] (as union member)

Type Definition Detail

Type Derivation Tree

xsi:string
└ [SpeciationEnum](#) (restriction)

Derivation: restriction of xsi:string

XML Source

```
<xsi:simpleType name="SpeciationEnum">
  <xsi:restriction base="xsi:string"/>
</xsi:simpleType>
```

simpleType "TimeOffsetType"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [160]
Used: at 1 [location](#)

Simple Content Model

xsi:normalizedString

Simple Content Restrictions:

Pattern: ^[+-][01]\d:[0-5]\d
WhiteSpace: collapse

All Direct / Indirect Based Attributes (1):

simpleType "TimeOffsetType"

[ValueSingleVariable/@timeOffset](#) [
d PAGEREF r726]

Known Usage Locations

- As direct type of attributes within complexTypes (1):

[ValueSingleVariable/@timeOffset](#) [138]

Annotation

This represents an offset for the time zone. [+/-]hh:mm

Type Definition Detail

Type Derivation Tree

xsi:normalizedString
└ TimeOffsetType (restriction)

Derivation: restriction of xsi:normalizedString

Facets: pattern: ^[+-][01]\d:[0-5]\d

whiteSpace: collapse

XML Source (w/o annotations (1))

```
<xsi:simpleType name="TimeOffsetType">  
  <xsi:restriction base="xsi:normalizedString">  
    <xsi:whiteSpace value="collapse"/>  
    <xsi:pattern value="^[-][01]\d:[0-5]\d"/>  
  </xsi:restriction>  
</xsi:simpleType>
```

simpleType "TopicCategoryCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [160]

Used: never

Simple Content Model

xsi:string | xsi:string

Type Definition Detail

Type Derivation Tree

union of (xsi:string | [TopicCategoryEnum](#))
└ TopicCategoryCodeList

XML Source

```
<xsi:simpleType name="TopicCategoryCodeList">  
  <xsi:union memberTypes="xsi:string TopicCategoryEnum" />  
</xsi:simpleType>
```

simpleType "TopicCategoryEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [161]
Used: at 1 [location](#)

Simple Content Model

xsi:string

Known Direct Subtypes (1):

[TopicCategoryCodeList](#) [160]

Known Usage Locations

- In derivations of other global types (1):

[TopicCategoryCodeList](#) [160] (as union member)

Type Definition Detail

Type Derivation Tree

xsi:string
└ TopicCategoryEnum (restriction)

Derivation: restriction of xsi:string

XML Source

```
<xsi:simpleType name="TopicCategoryEnum">
  <xsi:restriction base="xsi:string"/>
</xsi:simpleType>
```

simpleType "UnitsTypeCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [162]
Used: at 1 [location](#)

Simple Content Model

xsi:string | ("Angle" | "Area" | "Dimensionless" | "Energy" | "Energy Flux" | "Flow" | "Force" | "Frequency" | "Length" | "Light" | "Mass" | "Permeability" | "Power" | "Pressure/Stress" | "Resolution" | "Scale" | "Temperature" | "Time" | "Velocity" | "Volume")

All Direct / Indirect Based Elements (1):

[unitType](#) (in [unit](#)) [84]

Known Usage Locations

- As direct type of elements (1):

[unitType](#) (in [unit](#)) [84]

Type Definition Detail

Type Derivation Tree

```
union of (xsi:string | UnitsTypeEnum)
└─UnitsTypeCodeList
```

XML Source

```
<xsi:simpleType name="UnitsTypeCodeList">
  <xsi:union memberTypes="xsi:string UnitsTypeEnum"/>
</xsi:simpleType>
```

simpleType "UnitsTypeEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [162]

Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "Angle", "Area", "Dimensionless", "Energy", "Energy Flux", "Flow", "Force", "Frequency", "Length", "Light", "Mass", "Permeability", "Power", "Pressure/Stress", "Resolution", "Scale", "Temperature", "Time", "Velocity", "Volume"

Known Direct Subtypes (1):

[UnitsTypeCodeList](#) [161]

All Direct / Indirect Based Elements (1):

[unitType](#) (in [unit](#)) [84]

Known Usage Locations

- In derivations of other global types (1):

[UnitsTypeCodeList](#) [161] (as union member)

Type Definition Detail

Type Derivation Tree

```
xsi:string
└─UnitsTypeEnum (restriction)
```

Derivation: restriction of xsi:string

Facets: enumeration: "Angle", "Area", "Dimensionless", "Energy", "Energy Flux", "Flow", "Force", "Frequency", "Length", "Light", "Mass", "Permeability", "Power", "Pressure/Stress", "Resolution", "Scale", "Temperature", "Time", "Velocity", "Volume"

XML Source

```
<xsi:simpleType name="UnitsTypeEnum">
```

simpleType "UnitsTypeEnum"

```
<xsi:restriction base="xsi:string">
  <xsi:enumeration value="Angle"/>
  <xsi:enumeration value="Area"/>
  <xsi:enumeration value="Dimensionless"/>
  <xsi:enumeration value="Energy"/>
  <xsi:enumeration value="Energy Flux"/>
  <xsi:enumeration value="Flow"/>
  <xsi:enumeration value="Force"/>
  <xsi:enumeration value="Frequency"/>
  <xsi:enumeration value="Length"/>
  <xsi:enumeration value="Light"/>
  <xsi:enumeration value="Mass"/>
  <xsi:enumeration value="Permeability"/>
  <xsi:enumeration value="Power"/>
  <xsi:enumeration value="Pressure/Stress"/>
  <xsi:enumeration value="Resolution"/>
  <xsi:enumeration value="Scale"/>
  <xsi:enumeration value="Temperature"/>
  <xsi:enumeration value="Time"/>
  <xsi:enumeration value="Velocity"/>
  <xsi:enumeration value="Volume"/>
</xsi:restriction>
</xsi:simpleType>
```

simpleType "ValueTypeCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [163]

Used: at 1 [location](#)

Simple Content Model

```
xsi:string | ("Field Observation" | "Sample" | "Model Simulation Result" | "Derived Value" | "Unknown")
```

All Direct / Indirect Based Elements (1):

[valueType](#) (type [ValueTypeCodeList](#)) [87]

Known Usage Locations

- As direct type of elements (1):

[valueType](#) (type [ValueTypeCodeList](#)) [87]

Type Definition Detail

Type Derivation Tree

```
union of (xsi:string | valueTypeEnum)
└ ValueTypeCodeList
```

XML Source

```
<xsi:simpleType name="ValueTypeCodeList">
  <xsi:union memberTypes="xsi:string valueTypeEnum" />
</xsi:simpleType>
```

simpleType "valueTypeEnum"

simpleType "valueTypeEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [164]
Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "Field Observation", "Sample", "Model Simulation Result", "Derived Value", "Unknown"

Known Direct Subtypes (1):

[ValueTypeCodeList](#) [163]

All Direct / Indirect Based Elements (1):

[valueType](#) (type [ValueTypeCodeList](#)) [87]

Known Usage Locations

- In derivations of other global types (1):

[ValueTypeCodeList](#) [163] (as union member)

Type Definition Detail

Type Derivation Tree

xsi:string
└ **valueTypeEnum** (restriction)

Derivation: restriction of xsi:string

Facets: enumeration: "Field Observation", "Sample", "Model Simulation Result", "Derived Value", "Unknown"

XML Source

```
<xsi:simpleType name="valueTypeEnum">
  <xsi:restriction base="xsi:string">
    <xsi:enumeration value="Field Observation"/>
    <xsi:enumeration value="Sample"/>
    <xsi:enumeration value="Model Simulation Result"/>
    <xsi:enumeration value="Derived Value"/>
    <xsi:enumeration value="Unknown"/>
  </xsi:restriction>
</xsi:simpleType>
```

simpleType "VerticalDatumCodeList"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [165]
Used: never

Simple Content Model

xsi:token | xsi:string | xsi:token

simpleType "VerticalDatumCodeList"

Type Definition Detail

Type Derivation Tree

```
union of (VerticalDatumEnum | xsi:string | xsi:token)
└ VerticalDatumCodeList
```

XML Source

```
<xsi:simpleType name="VerticalDatumCodeList">
  <xsi:union memberTypes="VerticalDatumEnum xsi:string xsi:token"/>
</xsi:simpleType>
```

simpleType "VerticalDatumEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [165]

Used: at 1 [location](#)

Simple Content Model

xsi:token

Known Direct Subtypes (1):

[VerticalDatumCodeList](#) [164]

Known Usage Locations

- In derivations of other global types (1):

[VerticalDatumCodeList](#) [164] (as union member)

Type Definition Detail

Type Derivation Tree

```
xsi:token
└ VerticalDatumEnum (restriction)
```

Derivation: restriction of xsi:token

XML Source

```
<xsi:simpleType name="VerticalDatumEnum">
  <xsi:restriction base="xsi:token"/>
</xsi:simpleType>
```

simpleType "zDirectionEnum"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [166]

Used: at 1 [location](#)

Simple Content Model

enumeration of xsi:string

Simple Content Restrictions:

Enumeration: "PositiveUp", "PositiveDown", "Depth", "Altitude"

All Direct / Indirect Based Attributes (1):

[latLonLineString/@zDirection](#) [105]

Known Usage Locations

- In derivations of anonymous types of attributes within complexTypes (1):

[latLonLineString/@zDirection](#) [105] (as union member)

Type Definition Detail

Type Derivation Tree

xsi:string
└ **zDirectionEnum** (restriction)

Derivation: restriction of xsi:string

Facets: enumeration: "PositiveUp", "PositiveDown", "Depth", "Altitude"

XML Source

```
<xsi:simpleType name="zDirectionEnum">
  <xsi:restriction base="xsi:string">
    <xsi:enumeration value="PositiveUp"/>
    <xsi:enumeration value="PositiveDown"/>
    <xsi:enumeration value="Depth"/>
    <xsi:enumeration value="Altitude"/>
  </xsi:restriction>
</xsi:simpleType>
```

attribute "default"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:boolean

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [167]

Used: at 1 [location](#)

XML Representation Summary

```
<...
  default = xsi:boolean
...>
```

Known Usage Locations

- In definitions of global complexTypes (1):

[QualifierType](#) [114]

attribute "default"

XML Source

```
<xsi:attribute name="default" type="xsi:boolean"/>
```

attribute "*metadataTime*"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:date

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [167]

Used: at 3 [locations](#)

XML Representation Summary

```
<...  
  metadataTime = xsi:date  
...>
```

Known Usage Locations

- In definitions of global complexTypes (3):

[SiteInfoType](#) [123], [ValueSingleVariable](#) [137], [VariableInfoType](#) [140]

XML Source

```
<xsi:attribute name="metadataTime" type="xsi:date"/>
```

attribute "*network*"

Namespace: <http://www.cuahsi.org/waterML/1.1/>

Type: xsi:NMTOKEN

Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [167]

Used: at 1 [location](#)

XML Representation Summary

```
<...  
  network = xsi:NMTOKEN  
...>
```

Known Usage Locations

- In definitions of global complexTypes (1):

[QualifierType](#) [114]

XML Source

```
<xsi:attribute name="network" type="xsi:NMTOKEN"/>
```

attribute "*oid*"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:normalizedString
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [168]
Used: at 3 [locations](#)

XML Representation Summary

```
<...  
  oid = xsi:normalizedString  
...>
```

Known Usage Locations

- In definitions of global complexTypes (3):

[SiteInfoType](#) [123], [ValueSingleVariable](#) [137], [VariableInfoType](#) [140]

XML Source

```
<xsi:attribute name="oid" type="xsi:normalizedString"/>
```

attribute "vocabulary"

Namespace: <http://www.cuahsi.org/waterML/1.1/>
Type: xsi:NMTOKEN
Defined: globally in [cuahsiTimeSeries_v1_1.xsd](#), see [XML source](#) [168]
Used: at 1 [location](#)

XML Representation Summary

```
<...  
  vocabulary = xsi:NMTOKEN  
...>
```

Known Usage Locations

- In definitions of global complexTypes (1):

[QualifierType](#) [114]

XML Source

```
<xsi:attribute name="vocabulary" type="xsi:NMTOKEN"/>
```

attribute "vocabulary"

XML schema documentation generated with [DocFlex/XML RE](#) 1.7.2 using [DocFlex/XML XSDDoc](#) 2.1.0 template set