Tsunami Event XML (TEX) Specification for the Tsunami Portal Server

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Document Change History

Revision	Date	Description	Revised By
1	09/14/10	Initial Version	Carrick
1.1	10/15/10	Modifications	Whitmore
1.2	10/20/10	Added consistent examples and full xml document from product generation software	Whitmore
1.3	11/02/10	Various updates and refinements to XML tag names and attributes	Carrick
1.3a	11/03/10	Added Tsunami Travel Time Map field	Whitmore
1.3b	1/5/11	Site ISO code made optional	Whitmore
1.3c	6/19/11	Added second line to VTEC if necessary	Whitmore
1.4	9/1/11	Added public products	Whitmore
1.5	9/8/11	Added siteCode and renamed site location field to kptlocation	Whitmore
1.6	8/10/12	Added new fields for State, State Code, Duration, Test, and Tsunami Recorded	Whitmore
1.7	8/15/12	Removed impacts and recommendedActions tags and replaced with segmentText. Also updated some of the unit fields	Whitmore
1.8	5/18/14	Added Spanish message; updated NTWC name; and NTWC example	Whitmore

Table of Contents

1 Design Objectives

1.1 Goals/Objectives/Requirements/Problem Description

The Tsunami Event Extensible Markup Language (TEX) definition provides an open understandable information format that permits the Tsunami Warning Centers (TWC's) to exchange information programmatically with the tsunami portal.

1.2 Caveats and Assumptions

For the National Tsunami Warning Center (NTWC) copies of all generated TEX documents will be placed in the NTWC standard event directory structure:

/yyyy/mm/dd/eventID/bulletinNo/

The following file naming convention will be employed:

MessageTEX-e*ventID-bulletinNo-WMOID*.xml

Example:

WMO ID: WEPA41

Event ID: 803652

bulletin number: 8

File name would be:

messageTEX-803652-08-WEPA41.xml

1.3 Acronyms and Abbreviations

PTWC	Pacific Tsunami Warning Center
NTWC	National Tsunami Warning Center
TWC	Tsunami Warning Center
TEX	Tsunami Event XML
XML	Extensible Markup Language

2 TEX Data Dictionary

2.1 tsunamiEvent

Element	tsunamiEvent
Type	XML Structure
Usage	REQUIRED, MUST be used once and once only, top level container.
Definition	The container of all of the elements related to the distribution/exchange of tsunami event data.
Comments	Contains two sub-elements: TWCBulletin – TWC message structure tsunamiInformation – site-by-site listing of tsunami forecasts and observations
Sub-Elements	• TWCBulletin • tsunamiInformation
Used In	Top level element

2.1.1 TWCBulletin

Element	TWCBulletin
Type	XML Structure
Usage	REQUIRED, MUST be used once and once only.
Definition	The container of all of the elements related to tsunami messages.
Comments	
Sub-Elements	• TWCEventID • WMOID • WMOCenterID • WMOTime • AWIPSID • bulletinNumber • bulletinName • IssuingCenter • bulletinIssueTime • bulletinIssueTimeString • messageUpdates • preHeadline • bulletinSegments • productData • preliminarySeismicInformation • actions • validTime • tsunamiBulletinBody • tsunamiBulletinShort

Element	TWCBulletin
	• testMessage • tsunamiRecorded
Used In	tsunamiEvent

2.1.1.1 TWCEventID

Element	TWCEventID
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Provides a Unique Identifier that describes the event. This TWCEventID can be employed by all TWC's to identify a particular event.

Comments	Different TWCs may provide different IDs for the same event, but ID should be same throughout the event for each TWC.
	
	`For Example,`
	`<TWCEventID>802236</TWCEventID>`

Restrictions	Restrictions by USGS Earthquake Information Distribution System are: 8 character limit and uniqueness.
Sub-Elements	
Used In	TWCBulletin

2.1.1.2 WMOID

Element	WMOID
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	World Meteorological Organization (WMO) bulletin identifier. Format is as identified in WMO Manual 386.

Comments	Attribute: *source* identifies the actual issuing source of the bulletin.
	
	`For example,`
	`<WMOID source="PAAQ">WEPA41</WMOID>`

Restrictions	Must be one of the following: WEPA41, WEPA43, WEAK51, WEAK53, SEAK71, SEUS71, WEXX20, WEXX22, WEXX30, WEXX32, SEXX60 WEHW40, WEHW42, WEHW50, SEHW70, WEIO21, WEIO23, WEIO31, WEPA40, WEPA42, WECA41, WECA43 NTXX98, NTXX99, NOAK78 Source must be PAAQ or PHEB

Element	WMOID
	The National Tsunami Warning Center (NTWC) is identified by PAAQ. The Pacific Tsunami Warning Center (PTWC) is identified by PHEB.
Sub-Elements	
Used In	TWCBulletin

2.1.1.3 WMOCenterID

Element	WMOCenterID
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the processing center.

Comments	Even though WMO documentation indicates that this is the 'identification of the processing center that generated the bulletin' – this would NOT be strictly true in backup mode.
	
	Example: If PTWC were to issue a 'WEPA41' (or any NTWC product) – it will be 'WEPA41 PAAQ'.
	
	The true source of the bulletin is identified by the 'source' attribute in the WMOID element.
	
	`For Example,`
	`<WMOCenterID>PAAQ</WMOCenterID>`

Restrictions	Must be one of the following: PAAQ, PHEB
Sub-Elements	
Used In	TWCBulletin

2.1.1.4 WMODateTimeGroup

Element	WMODateTimeGroup
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the day, hour, and minute the bulletin was prepared in ddhhmm format. Preparation time should e very close to dissemination time.
Comments	`For example,` `<WMODateTimeGroup>251604</WMODateTimeGroup>`

Element	WMODateTimeGroup
Restrictions	day must be in the range of 01-31 hour must be in the range of 00-23 minute must be in the range of 00-59
Sub-Elements	
Used In	TsunamiEvent

2.1.1.5 AWIPSID

Element	AWIPSID
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Advanced Weather Interactive Processing System (AWIPS) Identifier (AWIPSID). The AWIPSID is in the form: NNNXXX where: NNN = specific product category (must be three characters); XXX = three-letter NWS Location Identifier (NWSLI) (originating office or area designator). (This XXX field must contain 3 characters. If only one or two characters are printable, the field must be left justified with the trailing spaces added.) For explanations, examples, product lists, and details on the structure of the CI, see the Office of the Chief Information Officer (OCIO) document: "Communications Identifier Policy For: Operational NWS Communication Networks and Systems." It can be found at the OCIO's Telecommunications Operations Center Internet site at: http://www.nws.noaa.gov/tg/awips.html. Each AWIPSID maps to a WMOID.
Comments	`For example,` `<AWIPSID>TSUWCA</AWIPSID>`
Restrictions	Must be one of the following: EQIHWX, TSUCAX, TIBCAX, TSUHWX, TIBHWX, TSUHW1, TIBHW1, TSUIOX, TIBIOX, TSUPAC, TIBPAC, TSUWCA, TIBWCA, TSUAK1, TIBAK1, EQIAKX, EQIWOC, TSUAT1, TIBAT1, TSUATE, TIBATE, EQIAT1 TSTMSG, ADAWCA
Sub-Elements	
Used In	TWCBulletin

2.1.1.6 bulletinNumber

Element	bulletinNumber

Element	bulletinNumber
Type	xs:nonNegativeInteger
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the bulletin sequence number.
Comments	`For example,` `<bulletinNumber>1</bulletinNumber>`
Restrictions	Number must be in range from 1-99
Sub-Elements	
Used In	TWCBulletin

2.1.1.7 bulletinName

Element	bulletinName
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the name of the bulletin as used in the NWS Mass News Disseminator Header.
Comments	`For example,` `<bulletinName>Tsunami Message Number 1</bulletinName>`
Restrictions	Must be one of the following: Tsunami Bulletin Tsunami Message Tsunami Information Statement Tsunami Seismic Information Statement Public Tsunami Message Public Tsunami Information Statement Note: Test messages will be preceded by Test… and followed by …Test
Sub-Elements	
Used In	TWCBulletin

2.1.1.8 issuingCenter

Element	issuingCenter
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Provides the full name of the issuing center as given in the NWS Mass News Disseminator Header.
Comments	`For example,` `<issuingCenter>NWS National Tsunami Warning Center Palmer AK</issuingCenter>`

Element	issuingCenter
Restrictions	128 characters maximum Must be one of the following: NWS Pacific Tsunami Warning Center Ewa Beach HI Pacific Tsunami Warning Center/NOAA/NWS NWS National Tsunami Warning Center Palmer AK
Sub-Elements	
Used In	TWCBulletin

2.1.1.9 bulletinIssueTime

Element	bulletinIssueTime
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the date, time, and locality that the bulletin was issued.

Comments	`For example,`
	`<bulletinIssueTime>2010-10-25-T16:04:56Z`
	`</bulletinIssueTime>`

Restrictions	Format: YYYY-MM-DDThh:mm:ss-HH:MMZ where: • YYYY indicates the year • MM indicates the month • DD indicates the day • T - Constant - indicates the start of the time section • hh indicates the hour • mm indicates the minute • ss indicates the second • HH number of hours off from UTC • MM number of minutes off from UTC • Z – UTC If UTC is used, the format is: YYYY-MM-DDThh:mm:ssZ
Sub-Elements	
Used In	TWCBulletin

2.1.1.10 bulletinIssueTimeString

Element	bulletinIssueTimeString
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the date, time, and locality that the bulletin was issued as given in the NWS Mass News Disseminator Header.
Comments	Uses NWSI 10-1701 format

Element	bulletinIssueTimeString
	For example, <bulletinIssueTimeString>904 AM PDT MON OCT 25 2010</bulletinIssueTimeString>
Restrictions	See NWSI 10-1701
Sub-Elements	
Used In	TWCBulletin

2.1.1.11 messageUpdates

Element	MessageUpdates
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Identifies changes since last message.
Comments	For example, <messageUpdates>Revised magnitude; update warning regions</messageUpdates>
Restrictions	512 character limit
Sub-Elements	
Used In	TWCBulletin

2.1.1.12 preHeadline

Element	preHeadline
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Used in international messages – designates who this message is for.
Comments	For example, <preHeadline><![CDATA[This bulletin applies to areas within and bordering the Pacific Ocean and adjacent seas, except Alaska, British Columbia, Washington, Oregon, and California.]]></preHeadline>
Restrictions	256 character limit
Sub-Elements	
Used In	TWCBulletin

2.1.1.13 bulletinSegments

Element	bulletinSegments

Element	bulletinSegments
Type	XML Structure
Usage	REQUIRED, MUST be used once and once only.
Definition	Container element for ALL the elements used to identify the areas and alert levels that the bulletin applies to.
Comments	This relates closely to NWS message segmentation.
Restrictions	
Sub-Elements	• segment
Used In	TWCBulletin

2.1.1.13.1 segment

Element	Segment
Type	XML Structure
Usage	REQUIRED. May be used multiple times.
Definition	Container for all details related to a specific segment

Comments	The attribute 'id' is used to 'key' the area to other elements of the bulletin.
	
	`For example,`
	`<segment id="1"> … sub-elements … </segment>`

Restrictions	Maximum number of segments = 16
Sub-Elements	• headline • segmentCategory • breakpoint • zone • NWSPublicZone • VTECCode • regionName • segmentText • productDefinition
Used In	bulletinSegments

2.1.1.13.1.1 headline

Element	headline
Type	xs:string
Usage	REQUIRED, can be used multiple times.
Definition	Short descriptive summary of this segment.

Comments	`For example,`
	`<headline><![CDATA[`
	`...A tsunami Warning is now in effect which includes the`

Element	headline
	`coastal areas of Alaska from Unimak Pass, Alaska (80 miles NE of Dutch Harbor) to Attu, Alaska...* ]]></headline>`
Restrictions	See NWSI 10-1701 for use of headlines in standard NWS products. Each headline has a 1024 character limit.
Sub-Elements	
Used In	Segment

2.1.1.13.1.2 segmentCategory

Element	segmentCategory
Type	xs:string
Usage	REQUIRED. MUST be used once and once only per area.
Definition	Identifies the type of alert level for this segment.
Comments	`For example, <segmentCategory>Warning</segmentCategory>`
Restrictions	Must be one of the following: Information Watch Warning Advisory Cancellation
Sub-Elements	
Used In	segment

2.1.1.13.1.3 breakPoint

Element	breakPoint
Type	XML Structure
Usage	OPTIONAL; May be used with or without ‘zone’ element. Can be used multiple times.
Definition	Container for those elements related to the bulletin break points
Comments	Breakpoint's are employed by the NTWC to identify specific areas of coast line that a particular status (i.e., WATCH, WARNING, etc) applies to. PTWC uses the zone element to designate areas. NTWC uses breakpoints except for Puerto Rico and Virgin Islands which is a zone.
Restrictions	NTWC break points as listed in NWSI 10-701.
Sub-Elements	• breakPointStart • breakPointEnd
Used In	segment

2.1.1.13.1.3.1 breakpointStart

Element	breakPointStart
Type	XML Structure
Usage	REQUIRED. MUST be used once and once only.
Definition	Container for all elements that identify break point area which starts the segment.

Comments	`For example (the full structure),`
	`<breakPointStart>`
	`<bkptlocation>Unimak Pass, Alaska (80 miles NE of Dutch Harbor)</bkptlocation>`
	`<geo:lat>54.333599</geo:lat>`
	`<geo:long>-164.920593</geo:long>`
	`</breakPointStart>`

Restrictions	
Sub-Elements	• location • lat • long
Used In	breakPoint

2.1.1.13.1.3.1.1 bkptlocation

Element	bkptlocation
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Littoral location of segment starting point along coast.
Comments	`For example,` `<bkptlocation>Unimak Pass, Alaska (80 miles NE of Dutch Harbor)</bkptlocation>`
Restrictions	NTWC break points as listed in NWSI 10-701. Limit of 128 characters.
Sub-Elements	
Used In	breakPointStart

2.1.1.13.1.3.1.2 lat

Element	lat
Type	geo:lat
Usage	REQUIRED, MUST be used once and once only.
Definition	Provides the latitude of the breakpoint start location
Comments	`For example,` `<geo:lat>54.333599</geo:lat>`

Element	lat
Restrictions	Wgs84 See: http://www.ngs.noaa.gov/faq.shtml
Sub-Elements	
Used In	breakPointStart

2.1.1.13.1.3.1.3 long

Element	long
Type	geo:long
Usage	REQUIRED, MUST be used once and once only.
Definition	Provides the longitude of the breakpoint start location
Comments	`For example,` `<geo:long>-164.920593</geo:long>`
Restrictions	Wgs84 See: http://www.ngs.noaa.gov/faq.shtml
Sub-Elements	
Used In	breakPointStart

2.1.1.13.1.3.2 breakPointEnd

Element	breakPointEnd
Type	XML Structure
Usage	REQUIRED, MUST be used once and once only.
Definition	Container for all elements that identify break point area which ends the segment.

Comments	`For example (the full structure),`
	`<breakPointEnd>`
	`<bkptlocation>Attu, Alaska</bkptlocation>`
	`<geo:lat>52.849998</geo:lat>`
	`<geo:long>173.216705</geo:long>`
	`</breakPointEnd>`

Restrictions	
Sub-Elements	• Location • lat • long
Used In	breakPoint

2.1.1.13.1.3.2.1 bkptlocation

Element	bkptlocation
Type	xs:string

Element	bkptlocation
Usage	REQUIRED, MUST be used once and once only.
Definition	Littoral location of segment starting point along coast.
Comments	`For example,` `<bkptlocation>Attu, Alaska</bkptlocation>`
Restrictions	NTWC break points as listed in NWSI 10-701. Limit of 128 characters.
Sub-Elements	
Used In	breakPointEnd

2.1.1.13.1.3.2.2 lat

Element	lat
Type	geo:lat
Usage	REQUIRED, MUST be used once and once only.
Definition	Provides the latitude of the breakpoint end location
Comments	`For example,` `<geo:lat>52.849998</geo:lat>`
Restrictions	Wgs84 See: http://www.ngs.noaa.gov/faq.shtml
Sub-Elements	
Used In	breakPointEnd

2.1.1.13.1.3.2.3 long

Element	long
Type	geo:long
Usage	REQUIRED, MUST be used once and once only.
Definition	Provides the longitude of the breakpoint end location
Comments	`For example,` `<geo:long>173.216705</geo:long>`
Restrictions	Wgs84 See: http://www.ngs.noaa.gov/faq.shtml
Sub-Elements	
Used In	breakPointEnd

2.1.1.13.1.4 zone

Element	zone
Type	XML Structure
Usage	OPTIONAL - May be used with or without a breakPoint.

Element	zone
Definition	Container for all elements that identify the zones in this alert segment.

Comments	Zone is used to identify a particular area that the bulletinCategory (i.e., WATCH, WARNING, etc) applies to. Each zone is provided a numeric ID.
	
	`For example,`
	`<zone id="1">`
	`<zoneLocation>RUSSIA</zoneLocation>`
	`<zoneRegion></zoneRegion>`
	`</zone>`

Restrictions	Maximum number of zones per segment is 64.
Sub-Elements	• zoneLocation • zoneRegion
Used In	segment

2.1.1.13.1.4.1 zoneLocation

Element	zoneLocation
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Provides the littoral location of the zone that the bulletin category (i.e., WATCH, WARNING, etc) applies to.
Comments	`For example,` `<zoneLocation>HAWAII</zoneLocation>`
Restrictions	PTWC zones as listed in 10-701. Maximum 64 characters.
Sub-Elements	
Used In	zone

2.1.1.13.1.4.2 zoneRegion

Element	zoneRegion
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Provides the region within the location given above that the bulletin category (i.e., WATCH, WARNING, etc) applies to. This is used when a major region can be subdivided (such as with Hawaii and its individual islands).
Comments	`For example,` `<zoneRegion>MAUI</zoneRegion>`
Restrictions	PTWC zones as listed in 10-701. Maximum 64 characters.
Sub-Elements	

Element	zoneRegion
Used In	zone

2.1.1.13.1.5 NWSPublicZones

Element	NWSPublicZones
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Provides the NWS zones that the bulletin category (i.e., WATCH, WARNING, etc) applies to. Predefined NWS Zones – see http://www.weather.gov/geodata/ or NWSI 10-1702 for more details.

Comments	`For example,`
	`<NWSPublicZones><![CDATA[`
	`AKZ185-187-191-251704-`
	`]]></NWSPublicZones>`

Restrictions	Must have valid NWS zones or foreign pseudo-codes. 1024 character limit.
Sub-Elements	
Used In	segment

2.1.1.13.1.6 VTECCode

Element	VTECCode
Type	xs:string
Usage	OPTIONAL, If used, used up to twice per segment.
Definition	Valid Time Event Code (VTEC) enables weather providers and vendors to automate and tailor the product stream delivered to their clients. This capability, in turn, allows customers to select the specific message types they want to receive. VTEC will help allow automated dissemination of critical weather information through through technologies such as paging systems and television message crawl systems.

Comments	`For example,`
	`<VTECCode>/T.NEW.PAAQ.TS.W.0283.101025T1604Z-`
	`101025T1704Z/`
	`</VTECCode>`

Restrictions	See: http://www.nws.noaa.gov/om/vtec/ or NWSI 10-1703 for more details. 128 character limit. 2 VTEC line limit.
Sub-Elements	
Used In	segment

2.1.1.13.1.7 regionName

Element	regionName

Element	regionName
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Descriptive text of the region for this segment.
Comments	For example, <regionName><![CDATA[Coastal areas between and including Unimak Pass, Alaska (80 miles NE of Dutch Harbor) to Attu, Alaska]]></regionName>
Restrictions	See NWSI 10-1702 and NWSI 10-1701. 512 character limit.
Sub-Elements	
Used In	segment

2.1.1.13.1.8 segmentText

Element	segmentText
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Descriptive text of the alert in this segment.
Comments	For example, <segmentText><![CDATA[Persons in tsunami warning coastal areas should move inland to higher ground.]]> </segmentText>
Restrictions	See NWSI 10-701 for guidance on content. 4096 character limit.
Sub-Elements	
Used In	segment

2.1.1.13.1.9 productDefinition

Element	productDefinition
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Product definition if category is warning, advisory, or watch.
Comments	For example, <productDefinition>Tsunami warnings mean that a tsunami with significant widespread inundation is imminent or expected. Warnings indicate that widespread dangerous coastal flooding accompanied by powerful currents is possible and may continue for several hours after the initial wave arrival. </productDefinition>
Restrictions	See NWSI 10-701 for product definitions. 1024 character limit.

Element	productDefinition
Sub-Elements	
Used In	segment

2.1.1.14 productData

Element	productData
Type	XML Structure
Usage	OPTIONAL, If used, used once only.
Definition	Container for product content elements.
Comments	
Restrictions	
Sub-Elements	• recommendedActions • impactsFull • graphicProducts
Used In	TWCbulletin

2.1.1.14.1 recommendedActionsFull

Element	recommendedActionsFull
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Descriptive text of actions that are recommended for the specified region –also known as Evaluation in some products.

Comments	`For example,`
	`<recommendedActionsFull><![CDATA[`
	`Recommended Actions:`
	`Persons in low-lying coastal areas should be alert to instructions from their local emergency officials.`
	`Evacuations are only ordered by emergency response agencies.  Persons in tsunami warning coastal areas should move inland to higher ground.`
	`Persons in tsunami watch areas should stay alert for supplemental information.`
	`]]></recommendedActionsFull>`

Restrictions	See NWSI 10-701 for guidance on content. 2048 character limit.
Sub-Elements	
Used In	productData

2.1.1.14.2 impactsFull

Element	impactsFull
Type	xs:string

Element	impactsFull
Usage	OPTIONAL, If used, used once only.
Definition	Descriptive text of impacts expected for the specified region.
Comments	For example, <impactsFull><![CDATA[Impacts for Tsunami Warning Areas * A tsunami with significant widespread inundation of land is expected. * Widespread dangerous coastal flooding accompanied by powerful currents is possible and may continue for many hours after tsunami arrival. * The first wave may not be the largest.]]></impactsFull>
Restrictions	See NWSI 10-701 for guidance on content. 2048 character limit.
Sub-Elements	
Used In	productData

2.1.1.14.3 graphicProducts

Element	graphicProducts
Type	XML Structure
Usage	OPTIONAL, If used, used once only.
Definition	Container for tags that identify those products that will be available via the web.
Comments	
Restrictions	One of each sub-element is allowed.
Sub-Elements	• energyMap • travelTimeMap
Used In	productData

2.1.1.14.3.1 energyMap

Element	energyMap
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Empty tag that identifies if an energy map is available
Comments	For example, <energyMap>2010/10/25/802236/01/energy802236-01.jpg</energyMap>
Restrictions	128 character limit. Must link to product available on internet.
Sub-Elements	
Used In	graphicProducts

2.1.1.14.3.2 travelTimeMap

Element	travelTimeMap
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Empty tag that identifies if a travel time map is available
Comments	`For example, <energyMap>2010/10/25/802236/01/energy802236-01.jpg</energyMap>`
Restrictions	128 character limit. Must link to product available on internet.
Sub-Elements	
Used In	graphicProducts

2.1.1.15 preliminarySeismicInformation

Element	preliminarySeismicInformation
Type	XML Structure
Usage	REQUIRED, MUST be used once and once only.
Definition	Container for tags that identify preliminary seismic details for the specified event
Comments	Not all fields will be filled for all events.
Restrictions	
Sub-Elements	• magnitude • originTime • OTimeZone • depth • lat • long • locationName • faultLength • faultWidth • strike • dip • slip • rigidity • seismicMoment • centroidMomentTensor • ruptureVelocity • slipVelocity • epicenterLocation
Used In	TWCBulletin

2.1.1.15.1 magnitude

Element	magnitude
Type	xs:double
Usage	REQUIRED, MUST be used once and once only.
Definition	Preliminary magnitude of the earthquake.
Comments	The *type* attribute identifies the type of magnitude

Restrictions	Magnitude type must be one of the following:
	
	Ml, mb, mB, Ms, Mwp, Mm, Mw
	
	`For example,`
	`<magnitude type="Mw">8.600000</magnitude>`

Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.2 originTime

Element	originTime
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the origin time (i.e., time the earthquake occurred).
Comments	<originTime>2010-09-29T17:48:15-08:00 Z</ originTime > for AKDT

Restrictions	Time is given in UTC.
	
	Format: YYYY-MM-DDThh:mm:ss-HH:MMZ where:
	• YYYY indicates the year
	• MM indicates the month
	• DD indicates the day
	• T - Constant - indicates the start of the time section
	• hh indicates the hour
	• mm indicates the minute
	• ss indicates the second
	• HH number of hours off from UTC
	• MM number of minutes off from UTC
	• Z – UTC
	If UTC is used, the format is: YYYY-MM-DDThh:mm:ssZ
	
	`For example,`
	`<originTime>2010-10-25-T15:59:25Z</originTime>`

Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.3 OriginTimeZone

Element	OriginTimeZone
Type	xs:string
Usage	OPTIONAL, May be used multiple times.
Definition	Provides a time zone(s) in which to list originTime

Comments	`For example,`
	`<OTimeZone>PDT</OTimeZone>`
	`<OTimeZone>AKDT</OTimeZone>`

Restrictions	Limit of 8 originTimes may be listed.
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.4 depth

Element	depth
Type	xs:nonNegativeInteger
Usage	OPTIONAL, If used, used once only.
Definition	Identifies the preliminary depth of the earthquake.
Comments	The *unit* attribute identifies what the depth was measured as;

Restrictions	The *unit* attribute must be one of the following
	• kilometers
	• miles
	
	`For example,`
	`<depth unit="kilometers">24</depth>`

Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.5 lat

Element	lat
Type	geo:lat
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the preliminary latitude of the earthquake.
Comments	`For example,` `<geo:lat>54.000000</geo:lat>`
Restrictions	Wgs84 See: http://www.ngs.noaa.gov/faq.shtml
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.6 long

Element	long
Type	geo:long
Usage	REQUIRED, MUST be used once and once only.
Definition	Identifies the preliminary longitude of the earthquake.
Comments	`For example,` `<geo:long>162.000000</geo:long>`
Restrictions	Wgs84 See: http://www.ngs.noaa.gov/faq.shtml
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.7 locationName

Element	locationName
Type	xs:string
Usage	REQUIRED, may be used multiple times.
Definition	Littoral location of the earthquake.

Comments	`For example,`
	`<locationName>175 miles/282 Km SW of Bering I., Komandorski</locationName>`
	`<locationName>155 miles/249 Km NE of Petropavlovsk, Kamchatka</locationName>`

Restrictions	Up to 16 littoral locations may provided, each may be up to 128 characters long.
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.8 faultLength

Element	faultLength
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Fault length

Comments	The *unit* attribute must be one of the following
	• kilometers
	• miles
	
	`For example,`
	`<faultLength unit="kilometers">347</faultLength>`

Restrictions	Positive value.

Element	faultLength
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.9 faultWidth

Element	faultWidth
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Fault width

Comments	The *unit* attribute must be one of the following
	• kilometers
	• miles
	
	`For example,`
	`<faultWidth unit="kilometers">109</faultWidth>`

Restrictions	Positive value.
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.10 strike

Element	strike
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Fault strike as defined in Aki and Richards
Comments	`For example,` `<strike>178</strike>`
Restrictions	-360 to 360
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.11 dip

Element	Dip
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Fault dip as defined in Aki and Richards
Comments	`For example,` `<dip>22</dip>`
Restrictions	-90 to 90

Element	Dip
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.12 slip

Element	slip
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Fault slip as defined in Aki and Richards
Comments	`For example,` `<slip>88</slip>`
Restrictions	-180 to 180
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.13 rigidity

Element	rigidity
Type	xs:double
Usage	OPTIONAL, If used, used once only.
Definition	Rock rigidity; here Mu=Lambda. Units may be provided.
Comments	`For example,` `<rigidity unit="dyne/cm**2">420000000000.000000</rigidity>`
Restrictions	Positive value
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.14 seismicMoment

Element	seismicMoment
Type	xs:double
Usage	OPTIONAL, If used, used once only.
Definition	Seismic moment of earthquake. Units may be provided.
Comments	`For example,` `<seismicMoment unit="dyne-cm">8912509381337367700000000000.000000</seismicMoment>`
Restrictions	Positive value

Element	seismicMoment
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.15 centroidMomentTensor

Element	centroidMomentTensor
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Lists the centroid moment tensor information

Comments	`Must specify the row, col, and unit attributes`
	`For example:`
	`<centroidMomentTensor unit="dyne-cm">`
	`<element row=”1” col=”1”>741250938133736770000000000000.000000</element>`
	`<element row=”1” col=”2”>631250938133736770000000000000.000000</element>`
	`<element row=”1” col=”3”>98250938133736770000000000000.000000</element>`
	`<element row=”2” col=”2”>454250938133736770000000000000.000000</element>`
	`<element row=”2” col=”3”>845250938133736770000000000000.000000</element>`
	`<element row=”3” col=”3”>344250938133736770000000000000.000000</element>`
	`</centroidMomentTensor>`

Restrictions	Positive value
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.16 ruptureVelocity

Element	ruptureVelocity
Type	xs:double
Usage	OPTIONAL, If used, used once only.
Definition	Lists the fault rupture velocity. Units may be provided.

Comments	The *unit* attribute must be one of the following
	• kilometers per second
	• miles per hour
	
	`For example,`
	`<ruptureVelocity unit="kilometers per second">2.500000</ruptureVelocity>`

Restrictions	Positive value.
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.17 slipVelocity

Element	slipVelocity

Element	slipVelocity
Type	xs:double
Usage	OPTIONAL, If used, used once only.
Definition	Lists the fault slip velocity in meters per second. Units may be provided.

Comments	The *unit* attribute must be one of the following
	• meters per second
	• feet per second
	
	`For example,`
	`<slipVelocity unit="meters per second">1.000000</slipVelocity>`

Restrictions	Positive value.
Sub-Elements	
Used In	preliminarySeismicInformation

2.1.1.15.18 epicenterLocation

Element	epicenterLocation
Type	XML Structure
Usage	OPTIONAL, If used, used once only.
Definition	Lists the epicenter location along the fault zone
Comments	Strike is the percentage out along the strike vector and Dip is the percentage down-dip from the fault upward extent of the hypocenter's location on the fault plane.
Restrictions	
Sub-Elements	• strike • dip
Used In	preliminarySeismicInformation

2.1.1.15.18.1 strikePercent

Element	strikePercent
Type	xs:double
Usage	REQUIRED, MUST be used once and once only.
Definition	Epicenter location along strike of fault. 0 indicates epicenter location at start of strike vector and 1 indicates location at end of strike vector.
Comments	`For example,` `<strikePercent>0.500000</strikePercent>`
Restrictions	0 - 1
Sub-Elements	
Used In	epicenterLocation

2.1.1.15.18.2 dipPercent

Element	dipPercent
Type	xs:double
Usage	REQUIRED, MUST be used once and once only.
Definition	Epicenter location along dip of fault. 0 indicates epicenter location at updip end of fault and 1 indicates location at downdip end of fault.
Comments	`For example,` `<dipPercent>0.500000</dipPercent>`
Restrictions	0 - 1
Sub-Elements	
Used In	epicenterLocation

2.1.1.16 actions

Element	actions
Type	XML Structure
Usage	OPTIONAL, If used, used once only.
Definition	Container for response action descriptions.
Comments	
Restrictions	
Sub-Elements	• otherCenterActions • nextActions
Used In	TWCBulletin

2.1.1.16.1 otherCenterActions

Element	otherCenterActions
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Short plain text description of actions that will be performed by other TWC.

Comments	`For example,`
	`<otherCenterActions><![CDATA[`
	`Pacific coastal regions outside California, Oregon, Washington, British Columbia, and Alaska should refer to the Pacific Tsunami Warning Center messages for information on this event at www.weather.gov/ptwc.`
	`]]></otherCenterActions>`

Restrictions	See NWSI 10-701 for guidance on content. 1024 character limit.
Sub-Elements	

Element	otherCenterActions
Used In	actions

2.1.1.16.2 nextActions

Element	nextActions
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Short description of next actions that will be performed by the TWC issuing the bulletin.

Comments	`For example,`
	`<nextActions><![CDATA[`
	`This message will be updated in 30 minutes or sooner if the situation warrants. The tsunami message will remain in effect until further notice. Refer to the internet site ntwc.arh.noaa.gov for more information.`
	`]]></nextActions>`

Restrictions	See NWSI 10-701 for guidance on content. 1024 character limit.
Sub-Elements	
Used In	actions

2.1.1.17 validTime

Element	validTime
Type	xs:nonNegativeInteger
Usage	REQUIRED, MUST be used once and once only.
Definition	Length of time product remains in effect.

Comments	Normally 30-120 minutes; Tsunami alerts do not expire as they are cancelled. The following bulletin must be issued prior to validTime minutes after the last bulletin. Minutes are the only valid units.
	
	`For example,`
	`<validTime unit=”minutes”>60</validTime>`

Restrictions	See NWSI 10-1703 for further information.
Sub-Elements	
Used In	TWCBulletin

2.1.1.18 tsunamiBulletinBody

Element	tsunamiBulletinBody
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	A complete copy of the bulletin text that was disseminated via the NWS

Element	tsunamiBulletinBody
	gateway
Comments	See Appendix A and B for examples.
Restrictions	See NWSI 10-701 for guidance on content. No limit to size.
Sub-Elements	
Used In	TWCBulletin

2.1.1.19 tsunamiBulletinBodyPublic

Element	tsunamiBulletinBodyPublic
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	A complete copy of the Public Product text that was disseminated via the NWS gateway
Comments	See Appendix A for examples.
Restrictions	See NWSI 10-701 for guidance on content. No limit to size.
Sub-Elements	
Used In	TWCBulletin

2.1.1.20 tsunamiBulletinBodySpanish

Element	tsunamiBulletinBodySpanish
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	A complete copy of the Spanish Product text that was disseminated via the NWS gateway
Comments	See Appendix A for examples.
Restrictions	See NWSI 10-701 for guidance on content. No limit to size.
Sub-Elements	
Used In	TWCBulletin

2.1.1.20 tsunamiBulletinShort

Element	tsunamiBulletinShort
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	A short version of the bulletin used for SMS.

Comments	`For example,`
	`<tsunamiBulletinShort><![CDATA[`
	`Subject: Tsunami Warning`

Element	tsunamiBulletinShort
	TSUNAMI WARNING: UNIMAK PASS-AK TO ATTU-AK: M 8.6 155 NE PETROPAVLOVSK, KAMCHATKA. 1559Z OCT 25:]]> </tsunamiBulletinShort>
Restrictions	256 character limit.
Sub-Elements	
Used In	TWCBulletin

2.1.1.21 testMessage

Element	testMessage
Type	xs:boolean
Usage	OPTIONAL, If used, used once only.
Definition	Flag indicating that this xml file is not to be displayed operationally. If this flag is “true”, this message is for test only. If “false” or the field is not included, the message is live.
Comments	For example, <testMessage>true </testMessage>
Restrictions	true or false
Sub-Elements	
Used In	TWCBulletin

2.1.1.22 tsunamiRecorded

Element	tsunamiRecorded
Type	xs:boolean
Usage	OPTIONAL, If used, used once only.
Definition	Flag indicating that this event generated a tsunami. If this flag is “true”, there was a tsunami recorded with this event. If “false” or the field is not included, there was no tsunami recorded.
Comments	For example, <tsunamiRecordedFlag>true </tsunamiRecordedFlag>
Restrictions	true or false
Sub-Elements	
Used In	TWCBulletin

2.1.2 tsunamiInformation

Element	tsunamiInformation

Element	tsunamiInformation
Type	XML Structure
Usage	OPTIONAL, If used, used once only.
Definition	Container for sites where observations and predictions related to the event are identified.
Comments	
Restrictions	
Sub-Elements	• site
Used In	tsunamiEvent

2.1.2.1 site

Element	site
Type	XML Structure
Usage	OPTIONAL. Can be used multiple times.
Definition	Container for observations and predictions related to the event for a particular site.

Comments	The attribute ‘id’ is used to key the site to other products.
	
	`For example,`
	`<site id="1"> … sub-elements … </site>`

Restrictions	Up to 128 sites can be listed.
Sub-Elements	• location • observedArrivalTime • observedMaxTime • predictedArrivalTime • predictedMaxTime • predictedDuration • observedPosAmplitude • predictedPosAmplitude • predictedPosAmpUnc • observedNegAmplitude • predictedNegAmplitude • predictedNegAmpUnc • observedMaxCurrent • predictedMaxCurrent • predictedMaxCurrentUnc • inundationMap • currentMap • observedTimeSeries • forecastTimeSeries • tideStation

Element	site
Used In	tsunamiInformation

2.1.2.1.1 location

Element	location
Type	XML Structure
Usage	OPTIONAL, If used, used once only.
Definition	Container for the location information for the specified site.

Comments	`For example (for full structure),`
	`<location>`
	` <siteName>Shemya, Alaska</siteName>`
	` <siteCountry>U.S./Canada</siteCountry>`
	` <siteISOCountryCode></siteISOCountryCode>`
	` <siteSegmentID>0</siteSegmentID>`
	` <geo:lat>52.730000</geo:lat>`
	` <geo:long>174.070007</geo:long>`
	` <siteLocalTimeZone>AKDT</siteLocalTimeZone>`
	`</location>`

Restrictions	
Sub-Elements	• siteName • siteStateName • siteStateCode • siteCountry • siteISOCountryCode • siteSegmentID • lat • long • siteLocalTimeZone
Used In	site

2.1.2.1.1.1 siteName

Element	siteName
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Name of location where observation/prediction was made
Comments	`For example,` `<siteName>Shemya, Alaska</siteName>`
Restrictions	128 character limit.
Sub-Elements	
Used In	location

2.1.2.1.1.2 siteStateName

Element	siteStateName
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Name of state or province where observation/prediction was made.
Comments	`For example,` `<siteStateName>Hawaii</siteStateName>`
Restrictions	64 character limit.
Sub-Elements	
Used In	location

2.1.2.1.1.3 siteStateCode

Element	siteStateCode
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Two letter postal code of siteState.
Comments	`For example,` `<siteStateCode>AK</siteStateCode>`
Restrictions	8 character limit. Must be valid state or province code.
Sub-Elements	
Used In	location

2.1.2.1.1.4 siteCountry

Element	siteCountry
Type	xs:string
Usage	REQUIRED, MUST be used once and once only.
Definition	Name of country where observation/prediction was made
Comments	`For example,` `<siteCountry>Canada</siteCountry>`
Restrictions	64 character limit.
Sub-Elements	
Used In	location

2.1.2.1.1.5 siteISOCountryCode

Element	siteISOCountryCode
Type	xs:string

Element	siteISOCountryCode
Usage	OPTIONAL, If used, used once only.
Definition	ISO Code of country where observation/prediction was made
Comments	`For example, <siteISOCountryCode>US</siteISOCountryCode>`
Restrictions	See: http://www.iso.org/iso/english_country_names_and_code_elements for a list of valid ISO country codes
Sub-Elements	
Used In	location

2.1.2.1.1.6 siteSegmentID

Element	siteSegmentID
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Segment ID in which the location resides.
Comments	`For example, <siteSegmentID>0</siteSegmentID>`
Restrictions	Can be 1 through the number of segments. 0 if not in any segments or segment not known.
Sub-Elements	
Used In	location

2.1.2.1.1.7 siteCode

Element	siteCode
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Segment ID in which the location resides.
Comments	`For example, <siteCode>FGH</siteCode>`
Restrictions	8 character limit.
Sub-Elements	
Used In	location

2.1.2.1.1.8 lat

Element	Lat
Type	geo:lat
Usage	REQUIRED, MUST be used once and once only.
Definition	Latitude for this site
Comments	`For example,` `<geo:lat>52.730000</geo:lat>`
Restrictions	Wgs84 See: http://www.ngs.noaa.gov/faq.shtml
Sub-Elements	
Used In	location

2.1.2.1.1.9 long

Element	long
Type	geo:long
Usage	REQUIRED, MUST be used once and once only.
Definition	Longitude for this site
Comments	`For example,` `<geo:long>174.070007</geo:long>`
Restrictions	Wgs84 See: http://www.ngs.noaa.gov/faq.shtml
Sub-Elements	
Used In	location

2.1.2.1.1.10 siteLocalTimeZone

Element	siteLocalTimeZone
Type	xs:string
Usage	OPTIONAL, If used, used once only.
Definition	Time zone at this location: e.g., PDT, AKST, HST.

Comments	If not used, UTC is assumed.
	
	`For example,`
	`<siteLocalTimeZone>AKDT</siteLocalTimeZone>`

Restrictions	Must be valid local time zone, either standard time or daylight time.
Sub-Elements	
Used In	location

2.1.2.1.2 observedArrivalTime

Element	observedArrivalTime
Type	xs:string
Usage	OPTIONAL. If used, used once only.
Definition	Date/time of observed wave arrival time at tide gauge

Comments	See 2.1.2.1.4 for description of format.
	
	`For example,`
	`<observedArrivalTime>2010-10-25-T17:12:00Z</observedArrivalTime>`

Restrictions	For domestic sites, use local time. For international sites, use UTC.
Sub-Elements	
Used In	site

2.1.2.1.3 observedMaxTime

Element	observedMaxTime
Type	xs:string
Usage	OPTIONAL. If used, used once only.
Definition	Date/time of observed maximum wave amplitude at tide gauge

Comments	See 2.1.2.1.4 for description of format.
	
	`For example,`
	`<observedMaxTime>2010-10-25-T17:54:00Z</observedMaxTime>`

Restrictions	For domestic sites, use local time. For international sites, use UTC.
Sub-Elements	
Used In	site

2.1.2.1.4 predictedArrivalTime

Element	predictedArrivalTime
Type	xs:string
Usage	OPTIONAL. If used, used once only.
Definition	Date/time of predicted wave arrival time at tide gauge
Comments	`For example,` `<predictedArrivalTime>2010-10-25-T17:11:00Z</predictedArrivalTime>`
Restrictions	For domestic sites, use local time. For international sites, use UTC. Format: YYYY-MM-DDThh:mm:ss-HH:MMZ where: • YYYY indicates the year

Element	predictedArrivalTime
	• MM indicates the month • DD indicates the day • T - Constant - indicates the start of the time section • hh indicates the hour • mm indicates the minute • ss indicates the second • HH number of hours off from UTC • MM number of minutes off from UTC • Z – UTC If UTC is used, the format is: YYYY-MM-DDThh:mm:ssZ
Sub-Elements	
Used In	site

2.1.2.1.5 predictedMaxTime

Element	predictedMaxTime
Type	xs:string
Usage	OPTIONAL. If used, used once only.
Definition	Date/time of predicted maximum wave amplitude time at tide gauge

Comments	See 2.1.2.1.4 for description of format.
	
	`For example,`
	`<predictedMaxTime>2010-10-25-`
	`T17:43:00Z</predictedMaxTime>`

Restrictions	For domestic sites, use local time. For international sites, use UTC.
Sub-Elements	
Used In	site

2.1.2.1.6 predictedDuration

Element	predictedDuration
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Expected duration of tsunami danger for this site.
Comments	`For example,` `<predictedDuration unit=”hours”>6.0</predictedDuration>`
Restrictions	Units must be provided.
Sub-Elements	
Used In	site

2.1.2.1.7 observedPosAmplitude

Element	observedPosAmplitude
Type	xs:double
Usage	OPTIONAL. If used, use once only.
Definition	Maximum observed amplitude above ambient sea level.
Comments	`For example,` `<observedPosAmplitude unit="meters">0.7</observedPosAmplitude>`
Restrictions	Positive value.
Sub-Elements	
Used In	site

2.1.2.1.8 predictedPosAmplitude

Element	predictedPosAmplitude
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Maximum forecast amplitude above ambient sea level. Can be a range.
Comments	`For example,` `<predictedPosAmplitude unit="meters">0.9</predictedPosAmplitude>`
Restrictions	Positive value.
Sub-Elements	
Used In	site

2.1.2.1.9 predictedPosAmpUnc

Element	predictedPosAmpUnc
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Uncertainty level in predictedPosAmplitude
Comments	`For example,` `<predictedPosAmpUnc unit="meters">0.3</predictedPosAmpUnc>`
Restrictions	Positive value.
Sub-Elements	
Used In	site

2.1.2.1.10 observedNegAmplitude

Element	observedNegAmplitude
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Maximum observed amplitude below ambient sea level.
Comments	`For example,` `<observedNegAmplitude unit="meters">0.9</observedNegAmplitude>`
Restrictions	Negative value.
Sub-Elements	
Used In	site

2.1.2.1.11 predictedNegAmplitude

Element	predictedNegAmplitude
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Maximum forecast amplitude below ambient sea level. Can be a range.
Comments	`For example,` `<predictedNegAmplitude unit="meters">1.1</predictedNegAmplitude>`
Restrictions	Negative value.
Sub-Elements	
Used In	site

2.1.2.1.12 predictedNegAmpUnc

Element	predictedNegAmpUnc
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Uncertainty level in predictedNegAmplitude
Comments	`For example,` `<predictedNegAmpUnc unit="meters">0.3</predictedNegAmpUnc>`
Restrictions	Positive value.
Sub-Elements	
Used In	site

2.1.2.1.13 observedMaxCurrent

Element	observedMaxCurrent
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Maximum observed current.
Comments	`For example, <observedMaxCurrent unit="knots">4.1</observedMaxCurrent>`
Restrictions	Positive value.
Sub-Elements	
Used In	site

2.1.2.1.14 predictedMaxCurrent

Element	predictedMaxCurrent
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Maximum forecast current. Can be a range.
Comments	`For example, <predictedMaxCurrent unit="knots">5.2</predictedMaxCurrent>`
Restrictions	Positive value.
Sub-Elements	
Used In	site

2.1.2.1.15 predictedMaxCurrUnc

Element	predictedMaxCurrUnc
Type	xs:double
Usage	OPTIONAL. If used, used once only.
Definition	Uncertainty level in predictedMaxCurrent
Comments	`For example, <predictedMaxCurrUnc unit="knots">1</predictedMaxCurrUnc>`
Restrictions	Positive value.
Sub-Elements	
Used In	site

2.1.2.1.16 inundationMap

Element	inundationMap
Type	xs:string

Element	inundationMap
Usage	OPTIONAL. If used, used once only.
Definition	Empty tag that identifies if an inundation Map is available
Comments	`For example, <inundationMap>2010/10/25/802236/ShemyaFlood-802236-01.jpg </inundationMap>`
Restrictions	If used, must link to product available on internet.
Sub-Elements	
Used In	site

2.1.2.1.17 currentMap

Element	currentMap
Type	xs:string
Usage	OPTIONAL. If used, used once only.
Definition	Empty tag that identifies if a current map is available for site
Comments	`For example, <currentMap>2010/10/25/802236/ShemyaCurrent-802236-01.jpg </currentMap>`
Restrictions	If used, must link to product available on internet.
Sub-Elements	
Used In	site

2.1.2.1.18 observedTimeSeries

Element	observedTimeSeries
Type	xs:string
Usage	OPTIONAL. If used, used once only.
Definition	Empty tag that identifies if an observed time series is available for site
Comments	`For example, <observedTimeSeries>2010/10/25/802236/ShemyaTGView-802236-01.jpg </observedTimeSeries>`
Restrictions	If used, must link to product available on internet.
Sub-Elements	
Used In	site

2.1.2.1.19 forecastTimeSeries

Element	forecastTimeSeries
Type	xs:string
Usage	OPTIONAL. If used, used once only.

Element	forecastTimeSeries
Definition	Empty tag that identifies if an forecast time series is available for site
Comments	`For example, <forecastTimeSeries>2010/10/25/802236/ShemyaForecast-802236-01.jpg </forecastTimeSeries>`
Restrictions	If used, must link to product available on internet.
Sub-Elements	
Used In	site

2.1.2.1.20 tideStation

Element	tideStation
Type	XML Structure
Usage	OPTIONAL. If used, used once only.
Definition	Container for elements containing details of the specified tide gauge if one exists at the site.
Comments	
Restrictions	
Sub-Elements	• tideStationURL • platformID
Used In	site

2.1.2.1.20.1 tideStationURL

Element	tideStationURL
Type	xs:string
Usage	OPTIONAL. If used, used once only.
Definition	URL of web site with details regarding the specified tide gauge
Comments	`For example, <siteURL> http://tidesandcurrents.noaa.gov/cgi-bin/tsunami_graphload.cgi?stnid=9419750&name=Crescent City</siteURL>`
Restrictions	If used, must link to product available on internet.
Sub-Elements	
Used In	tideStation

2.1.2.1.20.2 platformID

Element	platformID
Type	xs:nonNegativeInteger
Usage	OPTIONAL. If used, used once only.

Element	platformID
Definition	Platform ID of tide gauge
Comments	For example, <platformID>9419750</platformID>
Restrictions	
Sub-Elements	
Used In	tideStation

Appendix A – NTWC WEPA41 TEX Sample

(Only a few impact sites listed for brevity)

```
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 <bulletinIssueTimeString>107 PM AST SUN MAY 18 2014</bulletinIssueTimeString>
 <bulletinAreas>

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The tsunami Warning remains in effect for Puerto Rico, the U.S. Virgin
Islands, and the British Virgin Islands.

]]></headline>
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   <zone id="3">
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   </VTECCode>
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Coastal areas of Puerto Rico, the U.S. Virgin Islands, and the British Virgin
Islands.
]]></regionName>
   <segmentText><![CDATA[
The tsunami Warning remains in effect for Puerto Rico, the U.S. Virgin
Islands, and the British Virgin Islands.
If you are located in this coastal area, move inland to higher ground. Tsunami
Warnings mean that a tsunami with significant inundation is possible or is
already occurring.  Tsunamis are a series of waves dangerous many hours after
initial arrival time.  The first wave may not be the largest.
At 1240 PM Atlantic Standard Time on May 18 an earthquake with preliminary
magnitude 8.2 occurred 20 miles northwest of Settlement, Br. Virgin Is..
Estimated tsunami start times for selected sites are...

San Juan TG        Puerto Rico        1253 PM  AST May 18
Christiansted      Virgin Islands      101 PM  AST May 18
Aguadilla          Puerto Rico         102 PM  AST May 18
Roadtown           British Virgin Is.  105 PM  AST May 18
Lameshur Bay       Virgin Islands      106 PM  AST May 18
Mayaguez           Puerto Rico         112 PM  AST May 18
Culebra            Puerto Rico         113 PM  AST May 18
Charlotte Amalie   Virgin Islands      122 PM  AST May 18
The Tsunami Warning will remain in effect until further notice. Refer to the
internet site ntwc.arh.noaa.gov for more information.

]]></segmentText>
   <productDefinition>Tsunami warnings mean that a tsunami with significant
inundation is expected or occurring.  Warnings indicate that
widespread dangerous coastal flooding accompanied by powerful
currents are possible and may continue for several hours after the
initial wave arrival.
   </productDefinition>

  </segment>

 </bulletinAreas>

 <productData>

  <recommendedActionsFull><![CDATA[
 * If you are in a warning area - move inland to higher ground.
 * Be alert to instructions from your local emergency officials.
 * Do not go to the coast to observe the tsunami.
 * Do not return to the coast until local emergency officials indicate it is
safe to do so.

]]></recommendedActionsFull>
  <impactsFull><![CDATA[
Impacts for Tsunami Warning Areas:
 * Widespread dangerous coastal flooding accompanied by powerful currents are
possible and may continue for many hours after tsunami arrival.
 * The first wave may not be the largest.

]]></impactsFull>
```

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  <geo:long>-64.500</geo:long>
  <locationName>20 miles NW of Settlement, Br. Virgin Is.</locationName>
  <locationName>110 miles NE of San Juan, Puerto Rico</locationName>
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  <faultWidth unit="kilometers">82</faultWidth>
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  <slipVelocity unit="meters per second">1.0</slipVelocity>

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 </preliminarySeismicInformation>

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  <otherCenterActions><![CDATA[
Caribbean coastal regions outside Puerto Rico, U.S. Virgin Islands, and British
Virgin Islands should refer to the Pacific Tsunami Warning Center messages for
information on this event at ptwc.weather.gov.

]]></otherCenterActions>
  <nextActions><![CDATA[
Next update and additional information:
 * This message will be updated in 30 minutes or sooner if the situation
warrants.
 * The tsunami message will remain in effect until further notice.
  * Refer to the internet site ntwc.arh.noaa.gov for more information.

]]></nextActions>
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WEXX30 PAAQ 181707
TSUATE

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 2
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
107 PM AST SUN MAY 18 2014

...THE TSUNAMI WARNING REMAINS IN EFFECT...
```

WARNINGS/ADVISORIES/WATCHES

TSUNAMI WARNING IN EFFECT FOR...

 * COASTAL AREAS OF PUERTO RICO - THE U.S. VIRGIN ISLANDS AND
   THE BRITISH VIRGIN ISLANDS.

 * FOR OTHER US AND CANADIAN COASTS IN THE ATLANTIC
   AND GULF OF MEXICO - THIS IS FOR INFORMATION ONLY.

IMPACTS FOR TSUNAMI WARNING AREAS
---
 * WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL
   CURRENTS ARE POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER
   TSUNAMI ARRIVAL.

 * THE FIRST WAVE MAY NOT BE THE LARGEST.

RECOMMENDED ACTIONS
---
 * IF YOU ARE IN A WARNING AREA - MOVE INLAND TO HIGHER GROUND.

 * BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.

 * DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.

 * DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS
   INDICATE IT IS SAFE TO DO SO.

FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

SITE	FORECAST START OF TSUNAMI		FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED MAX TSUNAMI HEIGHT
* PUERTO RICO					
SAN JUAN TG	1253	AST MAY 18		Less than 1FT	
AGUADILLA	1302	AST MAY 18		Less than 1FT	
MAYAGUEZ	1312	AST MAY 18	20 HRS	2.2FT +/- 0.7	
CULEBRA	1313	AST MAY 18	15 HRS	1.9FT +/- 0.6	
* VIRGIN ISLANDS					
CHRISTIANSTED	1301	AST MAY 18	20 HRS	2.3FT +/- 0.7	
LAMESHUR BAY	1306	AST MAY 18	36 HRS	4.2FT +/- 1.3	1.1FT
CHARLOTTE AMALIE	1322	AST MAY 18	40 HRS	4.7FT +/- 1.4	1.0FT
* BRITISH VIRGIN IS.					
ROADTOWN	1305	AST MAY 18	36 HRS	4.5FT +/- 1.4	

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL
ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH
THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

OBSERVED MAX TSUNAMI HEIGHT IS THE HIGHEST RECORDED WATER LEVEL
ABOVE THE TIDE LEVEL UP TO THIS POINT.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
LAMESHUR BAY ST JOHNS	1705 UTC 05-18	01.1FT
CHARLOTTE AMALIE US VI	1704 UTC 05-18	01.0FT
FAJARDO PR	1704 UTC 05-18	03.0FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

PRELIMINARY EARTHQUAKE PARAMETERS

* MAGNITUDE 8.2
* ORIGIN TIME 1240 EDT MAY 18 2014
  1240 AST MAY 18 2014
  1140 CDT MAY 18 2014
  1640 UTC MAY 18 2014
* COORDINATES 19.0 NORTH 64.5 WEST
* DEPTH 21 MILES
* LOCATION 20 MILES NW OF SETTLEMENT BR. VIRGIN IS.
  110 MILES NE OF SAN JUAN PUERTO RICO

NEXT UPDATE AND ADDITIONAL INFORMATION

* THIS MESSAGE WILL BE UPDATED WITHIN 30 MINUTES.

* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.

* CARIBBEAN COASTAL REGIONS OUTSIDE PUERTO RICO... U.S. VIRGIN ISLANDS AND BRITISH VIRGIN ISLANDS SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

$$
]]>
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<tsunamiBulletinBodyPublic><![CDATA[
WEXX20 PAAQ 181707
TSUAT1

BULLETIN
TSUNAMI MESSAGE NUMBER 2
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
107 PM AST SUN MAY 18 2014

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010>013-
VIZ001-002-181807-
/T.CON.PAAQ.TS.W.0021.000000T0000Z-000000T0000Z/
COASTAL AREAS OF PUERTO RICO - THE U.S. VIRGIN ISLANDS AND
THE BRITISH VIRGIN ISLANDS.
107 PM AST SUN MAY 18 2014

...THE TSUNAMI WARNING REMAINS IN EFFECT FOR PUERTO RICO -
   THE U.S. VIRGIN ISLANDS AND THE BRITISH VIRGIN ISLANDS...

IF YOU ARE LOCATED IN THIS COASTAL AREA... MOVE INLAND
TO HIGHER GROUND.

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT
INUNDATION IS POSSIBLE OR IS ALREADY OCCURRING. TSUNAMIS ARE
A SERIES OF WAVES DANGEROUS MANY HOURS AFTER INITIAL ARRIVAL
TIME. THE FIRST WAVE MAY NOT BE THE LARGEST.

AT 1240 PM ATLANTIC STANDARD TIME ON MAY 18 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 8.2 OCCURRED 20 MILES NORTHWEST OF
 SETTLEMENT BR. VIRGIN IS..

ESTIMATED TSUNAMI START TIMES FOR SELECTED SITES ARE...

SAN JUAN TG	PUERTO RICO	1253 PM AST MAY 18
CHRISTIANSTED	VIRGIN ISLANDS	101 PM AST MAY 18
AGUADILLA	PUERTO RICO	102 PM AST MAY 18
ROADTOWN	BRITISH VIRGIN IS.	105 PM AST MAY 18
LAMESHUR BAY	VIRGIN ISLANDS	106 PM AST MAY 18
MAYAGUEZ	PUERTO RICO	112 PM AST MAY 18
CULEBRA	PUERTO RICO	113 PM AST MAY 18
CHARLOTTE AMALIE	VIRGIN ISLANDS	122 PM AST MAY 18

THE TSUNAMI WARNING WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE.
REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.

$$

]]>
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 <tsunamiBulletinBodySpanish><![CDATA[
WEXX40 PAAQ 181707
TSUSPN

BULLETIN
MENSAJE DE TSUNAMI NUMERO 2
NWS CENTRO NACIONAL DE ALERTA DE TSUNAMI PALMER AK
107 PM AST SUN MAY 18 2014

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

AVISOS/ADVERTENCIAS/VIGILANCIAS

AVISO DE TSUNAMI EN EFECTO PARA...

 * AREAS COSTERAS DE PUERTO RICO - ISLAS VIRGENES DE LOS
   ESTADOS UNIDOS Y ISLAS VIRGENES BRITANICAS.

 * PARA OTRAS COSTAS DE ESTADOS UNIDOS Y CANADA EN EL ATLANTICO
   Y GOLFO DE MEXICO-ESTO ES SOLAMENTE PARA INFORMACION.

IMPACTOS PARA AREAS BAJO AVISO DE TSUNAMI
----
 * AMPLIAS INUNDACIONES COSTERAS PELIGROSAS ACOMPANADAS POR FUERTES

CORRIENTES SON POSIBLES Y PUEDEN CONTINUAR POR MUCHAS HORAS
DESPUES DE LA LLEGADA DEL TSUNAMI.

* LA PRIMERA OLA PUEDE NO SER LA MAS GRANDE.

ACCIONES RECOMENDADAS

* SI SE ENCUENTRA EN UN AREA BAJO AVISO - MUEVASE TIERRA ADENTRO
A LUGARES ELEVADOS.

* ESTE ALERTA A INSTRUCCIONES DE SUS AUTORIDADES DE MANEJO DE
EMERGENCIA.

* NO VAYA A LA COSTA PARA OBSERVAR EL TSUNAMI.

* NO REGRESE A LA COSTA HASTA QUE LAS AUTORIDADES LOCALES DE
MANEJO DE EMERGENCIA INDIQUEN QUE ES SEGURO HACERLO.

OBSERVACIONES Y/O PRONOSTICOS DEL TSUNAMI

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI	ALTURA MAX OBSERVADA DEL TSUNAMI
* PUERTO RICO				
SAN JUAN TG	1253 AST MAY 18		Less than 1FT	
AGUADILLA	1302 AST MAY 18		Less than 1FT	
MAYAGUEZ	1312 AST MAY 18	20 HRS	2.2FT +/- 0.7	
CULEBRA	1313 AST MAY 18	15 HRS	1.9FT +/- 0.6	
* VIRGIN ISLANDS				
CHRISTIANSTED	1301 AST MAY 18	20 HRS	2.3FT +/- 0.7	
LAMESHUR BAY	1306 AST MAY 18	36 HRS	4.2FT +/- 1.3	1.1FT
CHARLOTTE AMALIE	1322 AST MAY 18	40 HRS	4.7FT +/- 1.4	1.0FT
* BRITISH VIRGIN IS.				
ROADTOWN	1305 AST MAY 18	36 HRS	4.5FT +/- 1.4	

ALTURA MAX PRONOSTICADA DEL TSUNAMI ES EL NIVEL DE AGUA MAS ALTO
ESPERADO POR ENCIMA DE LA MAREA.

LA DURACION MAXIMA DEL TSUNAMI ES EL TIEMPO APROXIMADO QUE SE
ESPERA QUE EL TSUNAMI PRODUZCA CORRIENTES Y OLEAJE PELIGROSA.

LA ALTURA MAX OBSERVADA ES EL NIVEL DE AGUA MAS ALTA SOBRE
LA MAREA HASTA ESTE PUNTO.

OBSERVACIONES ADICIONALES DEL TSUNAMI - ACTUALIZADAS

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
LAMESHUR BAY ST JOHNS	1705 UTC 05-18	01.1FT
CHARLOTTE AMALIE US VI	1704 UTC 05-18	01.0FT
FAJARDO PR	1704 UTC 05-18	03.0FT

```
 ALTURA - ALTURA MAX OBSERVADA DEL TSUNAMI ES EL NIVEL DEL AGUA
          POR ENCIMA DE LA MAREA A LA HORA DE LA MEDICION.


PARAMETROS PRELIMINARES DEL TERREMOTO
-------------------------------------
 * MAGNITUD          8.2
 * TIEMPO DE ORIGEN  1240  EDT MAY 18 2014
                     1240  AST MAY 18 2014
                     1140  CDT MAY 18 2014
                     1640  UTC MAY 18 2014
 * COORDENADAS       19.0 NORTE 64.5 OESTE
 * PROFUNDIDAD       21 MILLAS
 * LOCALIZACION      20 MILLAS NW DE SETTLEMENT BR. VIRGIN IS.
                     110 MILLAS NE DE SAN JUAN PUERTO RICO


PROXIMA ACTUALIZACION E INFORMACION ADICIONAL
---------------------------------------------
 * ESTE MENSAJE SERA ACTUALIZADO EN 30 MINUTOS.

 * PARA ACCEDER A INFORMACION ADICIONAL CONSULTE EL SITIO DE
   INTERNET NTWC.ARH.NOAA.GOV.

 * REGIONES COSTERAS DEL CARIBE FUERA DE PUERTO RICO... ISLAS
   VIRGENES DE LOS ESTADOS UNDIOS Y ISLAS VIRGENES BRITANICAS
   DEBEN CONSULTAR LOS MENSAJES EMITIDOS POR EL CENTRO
   DE ALERTA DE TSUNAMI DEL PACIFICO EN SU SITIO DE INTERNET
   PTWC.WEATHER.GOV.

$$
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Subject: Tsunami Warning

This is a test of the NTWC paging system, please disregard
]]>
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</TWCBulletin>

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   <siteStateCode>PR</siteStateCode>
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   <siteISOCountryCode>US</siteISOCountryCode>
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  <geo:long>-64.438</geo:long>
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</site>

<site id="5">
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</tsunamiEvent>
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Appendix B – PTWC WEPA40 TEX Sample

(Only three sites listed for brevity)

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 <bulletinNumber>1</bulletinNumber>
 <bulletinName>Tsunami Bulletin Number 1</bulletinName>
 <issuingCenter>Pacific Tsunami Warning Center/NOAA/NWS</issuingCenter>
 <bulletinIssueTime>2010-10-25-T19:07:36Z</bulletinIssueTime>
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2010</bulletinIssueTimeString>
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This bulletin applies to areas within and bordering the Pacific
Ocean and adjacent seas, except Alaska, British Columbia,
Washington, Oregon, and California.
]]></preHeadline>

 <bulletinAreas>

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   <headline><![CDATA[
A Tsunami Warning and Watch are in effect.

A Tsunami Warning is in effect for:
RUSSIA, and JAPAN.
This bulletin is issued as advice to government agencies. Only
national and local government agencies have the authority to make
decisions regarding the official state of alert in their area and
any actions to be taken in response.
]]></headline>
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```

```
   </breakPoint>

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    <zoneRegion></zoneRegion>
   </zone>
   <zone id="2">
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]]></regionName>
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   <productDefinition></productDefinition>
  </segment>

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A Tsunami Warning and Watch are in effect.

A Tsunami Watch is in effect for:
MIDWAY IS., MARCUS IS., WAKE IS., HAWAII, N. MARIANAS, JOHNSTON IS.,
MARSHALL IS., and GUAM.
This bulletin is issued as advice to government agencies. Only
national and local government agencies have the authority to make
decisions regarding the official state of alert in their area and
any actions to be taken in response.
]]></headline>
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   </zone>
   <zone id="2">
    <zoneLocation>MARCUS IS.</zoneLocation>
    <zoneRegion></zoneRegion>
```

```
   </zone>
   <zone id="3">
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   </zone>
   <zone id="4">
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Evaluation:
It is not known that a tsunami was generated.  This warning is
based only on the earthquake evaluation.  An earthquake of this
size has the potential to generate a destructive tsunami that can
strike coastlines near the epicenter within minutes and more
distant coastlines within hours.  Authorities should take
appropriate action in response to this possibility.  This center
will monitor sea level data from gages near the earthquake to
determine if a tsunami was generated and estimate the severity of
the threat.
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The National Tsunami Warning Center will issue messages
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Bulletins will be issued hourly or sooner if conditions warrant.
This alert will remain in effect until further notice.
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WEPA40 PHEB 251907
TSUPAC

TSUNAMI BULLETIN NUMBER 1
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1907Z 25 OCT 2010

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS... EXCEPT ALASKA... BRITISH COLUMBIA...
WASHINGTON... OREGON AND CALIFORNIA.

...A TSUNAMI WARNING AND WATCH ARE IN EFFECT...

A TSUNAMI WARNING IS IN EFFECT FOR
RUSSIA AND JAPAN.

A TSUNAMI WATCH IS IN EFFECT FOR
```

MIDWAY IS. - MARCUS IS. - WAKE IS. - HAWAII - N. MARIANAS -
JOHNSTON IS. - MARSHALL IS. AND GUAM.

FOR ALL OTHER PACIFIC AREAS, THIS MESSAGE IS FOR INFORMATION ONLY.

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 8.0
 TIME   - 1900 UTC OCT 25 2010
 LOCATION - 54.0 NORTH 166.0 EAST
             70 MILES/113 KM S OF BERING I. KOMANDORSKI
             310 MILES/499 KM E OF PETROPAVLOVSK KAMCHATKA
 DEPTH   - 15 MILES/24 KM

EVALUATION
 IT IS NOT KNOWN THAT A TSUNAMI WAS GENERATED. THIS WARNING IS
 BASED ONLY ON THE EARTHQUAKE EVALUATION. AN EARTHQUAKE OF THIS
 SIZE HAS THE POTENTIAL TO GENERATE A DESTRUCTIVE TSUNAMI THAT CAN
 STRIKE COASTLINES NEAR THE EPICENTER WITHIN MINUTES AND MORE
 DISTANT COASTLINES WITHIN HOURS. AUTHORITIES SHOULD TAKE
 APPROPRIATE ACTION IN RESPONSE TO THIS POSSIBILITY. THIS CENTER
 WILL MONITOR SEA LEVEL DATA FROM GAGES NEAR THE EARTHQUAKE TO
 DETERMINE IF A TSUNAMI WAS GENERATED AND ESTIMATE THE SEVERITY OF
 THE THREAT.

 ESTIMATED INITIAL TSUNAMI ARRIVAL TIMES. ACTUAL ARRIVAL TIMES
 MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. THE TIME
 BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION		COORDINATES	ARRIVAL TIME
RUSSIA	MEDNNY IS	54.7N 167.4E	1916Z OCT25
RUSSIA	UST KAMCHATSK	56.1N 162.6E	1934Z OCT25
RUSSIA	PETROPAVLOVSK K	53.2N 159.6E	1949Z OCT25
RUSSIA	URUP IS	46.1N 150.5E	2045Z OCT25
RUSSIA	SEVERO KURILSK	50.8N 156.1E	2108Z OCT25
JAPAN	KUSHIRO	42.9N 144.3E	2133Z OCT25
JAPAN	HACHINOHE	40.5N 141.5E	2212Z OCT25
JAPAN	KATSUURA	35.1N 140.3E	2224Z OCT25
MIDWAY IS.	MIDWAY IS.	28.2N 177.4W	2256Z OCT25
MARCUS IS.	MARCUS IS.	24.3N 154.0E	2311Z OCT25
WAKE IS.	WAKE IS.	19.3N 166.6E	2337Z OCT25
JAPAN	SHIMIZU	32.8N 133.0E	2342Z OCT25
HAWAII	NAWILIWILI	22.0N 159.4W	0033Z OCT26
N. MARIANAS	SAIPAN	15.3N 145.8E	0038Z OCT26
HAWAII	HONOLULU	21.3N 157.9W	0049Z OCT26
JOHNSTON IS.	JOHNSTON IS.	16.7N 169.5W	0050Z OCT26
MARSHALL IS.	ENIWETOK	11.4N 162.3E	0053Z OCT26
GUAM	GUAM	13.4N 144.7E	0059Z OCT26
MARSHALL IS.	KWAJALEIN	8.7N 167.7E	0110Z OCT26

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HAWAII           HILO                19.7N 155.1W  0113Z OCT26
JAPAN            OKINAWA             26.2N 127.8E  0114Z OCT26
MARSHALL IS.     MAJURO               7.1N 171.4E  0122Z OCT26


BULLETINS WILL BE ISSUED HOURLY OR SOONER IF CONDITIONS WARRANT.
THIS ALERT WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE.

THE NATIONAL TSUNAMI WARNING CENTER WILL ISSUE MESSAGES
FOR ALASKA/ BRITISH COLUMBIA/ WASHINGTON/ OREGON/ CALIFORNIA.

$$

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