

NWS Watches, Warnings and Advisories using ATOM and CAP XML based Formats

Service Description Document (SDD)

Part I – Mission Connection

1. Product/Service Description: Provide NWS watches, warnings and advisories in industry standard formats commonly used to convey headline and alerting information in the Extensible Markup Language (XML) based ATOM and Common Alerting Protocol version 1.1 (CAP) formats. This SDD is a follow on replacement for a similar SDD issued November 18, 2003 for the experimentation of NWS products using RSS and CAP version 1.0.

These pages can be accessed at <http://www.weather.gov/alerts-beta/>

The CAP 1.0 version (available at <http://www.weather.gov/alerts/>) will be replaced by the ATOM/CAP 1.1 offerings. Phase out of the CAP 1.0 version is expected to take place from January 2009 to December 2009. The CAP 1.0 version is considered obsolete with the production of the CAP 1.1 products; phase out of these products will allow NWS to free up computer resources. While availability of standard NWS watch, warning, and advisory products reaches 99.9%, current availability of the experimental CAP1.0/XML products is 99.5%, slightly less than the current standard for operational products of this type.

2. Purpose/Intended Use: Provide a low cost entry for NWS Partners, emergency managers, customers and the public to have access to detailed watch/warning/advisory information. The CAP messages are parsed to a higher degree than ever offered by NWS. The use of industry standard formats broadens the depth of Partners and customers who can aid in the dissemination of this mission critical information. Additionally, the use of XML style sheet technology allows these offerings to be readable to human eyes.
3. Audience: The intended audience includes emergency managers, law enforcement, the media, general public and private meteorological firms.
4. Presentation Format: Indexes of active watch/warnings/advisories are made available by US state, county/zones and the entire nation. Each index file, in ATOM format, lists the URI of available CAP messages. XML style sheet technology is used to make these messages more human readable, but when retrieved by another computer over the network, only the XML code is sent.
5. Feedback Method: To provide additional comments/suggestions, or to request more information about this product/service, please contact:

National Weather Service
Robert Bunge
1325 East West Highway #9436
Silver Spring, MD 20910
Robert.bunge@noaa.gov

Or via feedback link located on <http://www.weather.gov/alerts-beta/>

Official comments will be taken through December 1, 2009

6. Example URL: <http://www.weather.gov/alerts-beta/>

Part II – Technical Description

1. Formats & science basis: Two sets of files are offered, with each representing active watch/warnings/advisories for US states, territories and NWS forecast zones.
 - a. Atom Index: This file uses the ATOM XML based standard ([http://en.wikipedia.org/wiki/Atom_\(standard\)](http://en.wikipedia.org/wiki/Atom_(standard))) to provide an index of active alerts in an area. The index provides a link to the complete CAP message. The ATOM format has been extended to include several core CAP elements in order to provide:
 - i. Enough information to provide basic information regarding the alert; enough to be used for limited displays such as web page headlines, electronic signs, text messages, etc;
 - ii. Enough information for a consumer of the CAP messages to know what alerts are active, when they expire, without having to download the complete CAP message each time they poll the website.
 - iii. Sample Alert entry:

```
<entry>
<id>http://www.weather.gov/alerts-
beta/wwacapget.php?x=IL20081231104800DVNFLSDVN20090102070100IL</id>
<updated>2008-12-31T11:14:31-05:00</updated>
<author>
<name>
w-nws.webmaster@noaa.gov
</name>
</author>
<title>
Flood Warning
Issued At: 2008-12-31T10:48:00-06:00
Expires At: 2009-01-02T07:01:00-06:00
Issued by Weather Forecast Office QuadCities http://www.crh.noaa.gov/dvn/
</title>
<link href="http://www.weather.gov/alerts-
beta/wwacapget.php?x=IL20081231104800DVNFLSDVN20090102070100IL"/>
<cap:effective>
2008-12-31T10:48:00-06:00
</cap:effective>
<cap:expires>
2009-01-02T07:01:00-06:00
</cap:expires>
<cap:status>
Actual
</cap:status>
<cap:msgType>
Alert
</cap:msgType>
<cap:category>
```

```

Met
</cap:category>
<cap:urgency>
Expected
</cap:urgency>
<cap:severity>
Moderate
</cap:severity>
<cap:certainty>
Likely
</cap:certainty>
<cap:areaDesc>
Whiteside
</cap:areaDesc>
</entry>

```

- iv. Note: The atom feed use a XML style sheet to make the information human readable when viewed in a web browser. Implementers should view source to see the actual atom document.

b. Common Alerting Protocol (CAP) version 1.1

- i. The complete alert is provided using the CAP 1.1 format (http://www.incident.com/cookbook/index.php/Main_Page). This provide NWS alerts pre-parsed to a fine level of detail. Some notes:
 - 1. Multiple <info> blocks within the same message contain the same message, but in different languages. Reserved for future deployment
 - 2. NWS has extended the CAP standard through the following Parameters:
 - a. SAME (EAS SAME code)
 - b. WMOHEADER
 - c. UGC area codes
 - d. VTEC header strings
 - e. TIME...MOT...LOC (when available)
 - 3. Storm based warning/Polygon information is provided when available
 - 4. Information on NWS zone codes and locations is available here: <http://www.weather.gov/geodata/>
 - 5. Sample CAP message:

```

<?xml version = '1.0' encoding = 'UTF-8' standalone = 'yes'?>
<?xml-stylesheet href='capatomproduct.xsl' type='text/xsl'?>
<alert xmlns:cap = 'urn:oasis:names:tc:emergency:cap:1.1'>
<identifier>
NOAA-NWS-ALERTS HI20081231160400HFOFFSHFO20081231180000HI
</identifier>

```

<sender>
w-nws.webmaster@noaa.gov
</sender>
<sent>
2008-12-31T11:14:31-05:00
</sent>
<status>
Actual
</status>
<msgType>
Alert
</msgType>
<scope>
Public
</scope>
<note>
Alert for Niihau / Kauai Windward / Kauai Leeward / Kauai Mountains (Hawaii)
Issued by the National Weather Service
</note>
<references>
</references>
<info>
<category>
Met
</category>
<event>
Flash Flood Warning
</event>
<urgency>
Immediate
</urgency>
<severity>
Severe
</severity>
<certainty>
Likely
</certainty>
<parameter>
<valueName>
SAME
</valueName>
<value>
FFW
</value>
</parameter>
<parameter>
<valueName>
WMOHEADER
</valueName>
<value>
</value>
</parameter>
<parameter>
<valueName>
UGC
</valueName>
<value>

HIC007
 </value>
 </parameter>
 <parameter>
 <valueName>
 VTEC
 </valueName>
 <value>
 /O.CON.PHFO.FF.W.0035.000000T0000Z-081231T1800Z/
 /00000.0.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/
 </value>
 </parameter>
 <parameter>
 <valueName>
 TIME...MOT...LOC
 </valueName>
 <value>
 </value>
 </parameter>
 <effective>
 2008-12-31T16:04:00-10:00
 </effective>
 <expires>
 2008-12-31T18:00:00-10:00
 </expires>
 <senderName>
 Honolulu (Hawaii)
 </senderName>
 <headline>
 FLASH FLOOD STATEMENT
 </headline>
 <description>
 ...A FLASH FLOOD WARNING REMAINS IN EFFECT FOR THE ISLAND OF KAUAI IN
 KAUAI COUNTY UNTIL 800 AM HST...
 AT 550 PM HST...RADAR HEAVY RAINS CONTINUES TO FALL OVER PARTS OF
 CENTRAL AND NORTHERN KAUAI THIS MORNING. AS A RESULT...THE GAGE ON
 THE HANAIEI RIVER CONTINUES TO SHOW ELEVATED READINGS.
 LOCATIONS IN THE WARNING INCLUDE BUT ARE NOT LIMITED TO HAENA...
 WAINIHA...NA PALI STATE PARK...KALALAU VALLEY...PRINCEVILLE...KOKEE
 STATE PARK...AND HANAIEI.
 A FLASH FLOOD WARNING MEANS FLASH FLOODING IS IMMINENT OR OCCURRING
 IN STREAMS...ROADS AND LOW LYING AREAS. MOVE TO HIGHER GROUND NOW.
 DO NOT CROSS FAST FLOWING OR RISING WATER IN YOUR VEHICLE OR ON FOOT.
 TURN AROUND...DON/T DROWN.
 THIS WARNING MAY NEED TO BE EXTENDED BEYOND 800 AM HST IF FLASH
 FLOODING PERSISTS.
 </description>
 <area>
 <areaDesc>
 Niihau / Kauai Windward / Kauai Leeward / Kauai Mountains
 </areaDesc>
 <polygon>
 +22.22,-159.75 +22.28,-159.43 +21.93,-159.25 +21.82,-159.55 +22.22,-159.75
 </polygon>
 <geocode>
 <valueName>
 FIPS6

```
</valueName>  
<value>  
015007  
</value>  
</geocode>  
<geocode>  
<valueName>  
UGC  
</valueName>  
<value>  
HIC007  
</value>  
</geocode>  
</area>  
</info>  
</alert>
```

6.