NATIONAL WEATHER SERVICE INSTRUCTION 60-103
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Information Technology Technical and
Content Requirements for Internet Servers, NWSPD 60-1

RSS REQUIREMENTS AND SPECIFICATIONS

NOTICE: This publication is available at: http://www.nws.noaa.gov/directives/.

SUMMARY OF REVISIONS: This directive supersedes NWSI 60-103, *"RSS Requirements and Specifications"*, dated May 25, 2006. Changes were made to reflect the NWS Headquarters reorganization effective April 1, 2015.

Additional changes:

1. Removed paragraph 8.5 on archiving blogs
2. Removed paragraph 9.0 on registering RRS feeds
3. Added the number of headlines allowed for "Top News" in 5.1

_____/signed/_____1/2/2018

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RSS Requirements and Specifications

1.   Introduction. Really Simple Syndication (RSS[1]) is an application of XML that provides an open method of syndicating and aggregating Web content. RSS is commonly used to update news articles and other content that changes quickly. RSS feeds may also include audio files (PodCasts) or even video files (VodCasts). NOAA's National Weather Service (NWS) will conform to the W3C's Extensible Markup Language) XML 1.0 specification, as published on the World Wide Web Consortium (W3C) website and follow RSS 2.0 Standards. This directive provides technical specifications for use of RSS technologies. If the RSS technologies, including podcasts, vodcasts, and WeBlogs (Blogs), are used to provide environmental information services, the policies of NWSD 1-10 apply.

2.   Uses of RSS feeds. Web content provided in RSS protocol may be displayed in a program called an aggregator; many newer Web browsers have aggregators built in. Web content in RSS may also be syndicated, or included in other Web pages. To display RSS content on another site an "include" that calls an external parsing program will be required. Third-party RSS parsing services will not be used for NWS pages or feeds.

3.   Example RSS News feed.

```
<?xml version="1.0" encoding="utf-8" ?>
 <rss version="2.0">
   <channel>
      <title>NOAA's National Weather Service Headlines</title>
      <link>http://weather.gov</link>
      <description>Headlines from NOAA's National Weather Service</description>
      <language>en-us</language>
      <copyright>None</copyright>
      <managingEditor>robert.bunge@noaa.gov</managingEditor>
      <pubDate>Thu, 30 Dec 2004 00:00:00 -0400</pubDate>
```

---

[1] The RSS acronym has changed, over time - Rich Site Summary (RSS 0.91), RDF Site Summary (RSS 0.9 and 1.0), Really Simple Syndication (RSS 2.0.0). Since we are using RSS 2.0, we will use the term RSS to mean "Really Simple Syndication"

```
<lastBuildDate> Mon, 13 Jun 2005 20:20:48 -0400</lastBuildDate>
 <docs>http://validator.w3.org/feed/docs/rss2.html</docs>
 <image>
    <url>http://weather.gov/images/xml_logo.gif</url>
    <title>NOAA's National Weather Service</title>
    <link>http://weather.gov</link>
 </image>
 <item>
    <title>Inland Flooding from Hurricanes Can Be Deadly</title>
    <link>http://www.nhc.noaa.gov/HAW2/english/inland_flood.shtml</link>
            <description>Inland flooding is responsible for more than
     half the deaths associated with tropical cyclones in the United States.
      </description>
    <pubDate>Mon, 13 Jun 2005 20:20:48 -0400</pubDate>
 </item>
   </channel>
  </rss>
```

 3.1. Existing RSS Feeds. RSS feeds are used to update the "Top News of the Day" section of the NWS home page (www.weather.gov), syndicating hourly observations, severe weather watches, warnings, and advisories (http://www.weather.gov/rss/), Mesoscale Discussions, convective outlooks, fire weather outlooks http://www.spc.noaa.gov/aboutrss.html), and update Tropical Prediction Center advisories (http://www.nhc.noaa.gov/aboutrss.shtml). Once a feed is syndicated, users may incorporate the content into their web site.

 3.2. RSS Syndication.   RSS Syndication allows users to include NWS data and information on their web sites. An example of how RSS Feeds may be included on other Web sites is the Providence RI Emergency Management Office. This Web site included the severe weather RSS feed for Rhode Island into their Web page at www.providenceri.com/PEMA/weather.php. RSS Syndication also allows users to subscribe to a variety of feeds and scan headlines for items of interest. The subscriptions are through RSS Aggregators, either stand-alone software or built in to many newer browsers.

 3.3. NWS Use of External RSS Feeds. NWS sites may include mission related RSS feeds from other Federal agencies. RSS feeds from agencies or organizations outside of the Federal government will not be included on NWS pages.

4.   Elements of NWS RSS Feeds. At the top level, a RSS document is a <rss> element, with a mandatory attribute called version, which specifies the version of RSS to which the document conforms. All NWS RSS documents will be created to conform to RSS 2.0 specifications and the version attribute will be 2.0.

4.1.   RSS <channel> Element. Subordinate to the <rss> element is a single <channel> element, which contains information about the channel (metadata) and its contents. See Appendix A for required and optional elements.

4.2.   RSS <item> Element. A channel may contain any number of <item>s. An <item> may represent a "story" -- much like a story in a newspaper or magazine; if so its description is a synopsis of the story, and the link points to the full story. An <item> may also be complete in itself, if so, the description contains the text, and the link and title may be omitted. All elements of an <item> are optional, however at least one of title or description must be present. See Appendix B for required and optional elements.

5.   Use of RSS Feeds for "Top News" Page Entries. RSS Feeds lend themselves well to display of news items at the top of NWS pages. The advantage offered by use of RSS feeds is ease in updating without the need to touch HTML code. This ease in updating allows headline content to remain fresh.

5.1.   Maximum Number of Items Displayed. Normally, only one <item> will be displayed at the top of web pages. In rare situations, there may be a need to include more than one <item> , up to 5 items may be displayed. An example of this would be when there are two active tropical cyclones and an office needs to include both National Hurricane Center (NHC) feeds as the "Top News."

5.2.   Frequency of Updates. News feeds should be updated at least monthly with new items. More frequent updates may be done as situations require.

5.3.   Additional News Headline Items or Channels. Additional <items> or <channels> may be included on the page below the main content.

6.   Use of Enclosures in RSS2.0. A useful feature of RSS 2.0 is the ability to include other files within the RSS feed. The most common uses of the <enclosure> tag are to include audio files (Podcasting) and video files (Vodcasting). The <enclosure> tag is a sub-element of the <item> tag and may be used for PowerPoint files, Portable Document Format (PDF) files, and other files with W3C registered Multipurpose Internet Mail Extensions (MIME) types. The advantage of using <enclosure> tags is the user subscribes to channels instead of clicking-and-waiting.

6.1.   Attributes of the <enclosure> Tag. The <enclosure> tag has three attributes: A sample enclosure <enclosure url="http://www.weather.gov/mp3s/nwr_cwf.mp3" length="88242" type="audio/mpeg"/>

   6.1.1.   URL Specifications. URL attribute specifies the URL/location of the file

   6.1.2.   Length Specificions. Length attribute specifies the file size in bytes

   6.1.3.   Type Identification. Type attribute identifies the MIME type.

6.2.   Podcast. RSS feeds may include audio files (Podcasts). These audio files will be in an MP3 format only. Apple Computer/iPod have identified a number of iTunes™ specific tags, these tags are not required in NWS Podcasts, but may be used. Text equivalents will be provided for all podcasts.

6.3.   Vodcasts. RSS feeds may include video files (vodcasts). These video files will be in MPEG-4 format and sized for a resolution of 320 x 240 pixels. VodCasts must include captioning to meet standards of Section 508 of the Rehabilitation Act.

7. Identification of RSS Feeds. To ensure users are able to clearly identify RSS feeds on NWS Web sites, servers will be properly configured for XML MIME types, auto-discovery code will be added in the <head> section of the page, and use of standard images is required.

7.1.   Server Configuration. RSS Feed extension. All RSS feeds will use an extension of *xml* or *rss* (e.g.; news.xml or headlines.rss). Servers will be configured to serve these extensions with a MIME type of *text/xml.* Scripts that produce RSS feeds will set a MIME type of text/xml.

7.2.   HTML Header Auto-Discovery. Auto-discovery code on HTML documents: <link rel="alternate" type="application/rss+xml" title=" Title of your RSS Feed " href="http:// URL of the RSS Feed" /> inserted between <head> and </head> tags.

7.3.   Standard XML Image. If RSS feeds, Podcasts, or Vodcasts are offered on NWS sites, a standard XML image will be placed on the page. The 90 X 34 pixel image will be linked to the NWS RSS Library page (www.weather.gov/rss/). The standard XML image to be used is:

8. Use of Web log (Blog) tools to create RSS feeds. Many Web log (Blog) tools create RSS feeds in addition to the Blog page. Use of Blogs, either to generate Web pages or RSS feeds, must comply with the following:

 8.1.   Web Posting and Federal Laws. Anything posted to the Web that is managed, maintained, hosted, or sponsored by the NWS is an official government site and must comply with all applicable Federal laws and policies.

 8.2.   Blog Domains. As an official document, NWS Blogs must be on a "dot gov" domain.

 8.3.   Blog Publications. As an official publication of a U.S. Government organization, Blogs must be accurate, fair, unbiased, and reflect positively on NOAA and the NWS and comply with the NOAA Policy on Partnerships in the Provision of Environmental Information.

 8.4.   Blogs vs. NWS Mission. As official documents, NWS Blogs must fit the mission and Blogging activities must not interfere with the primary mission of the agency.

 8.5.   Reviewing Blogs. NWS Blogs must be reviewed by the appropriate level of management (Meteorologist/Hydrologist in Charge, Regional Headquarters, and National Headquarters) routinely to ensure postings are on topic and fit the mission. When in doubt on appropriateness of a posting in an NWS Blog, check with appropriate level of management before posting.

8.6.   <u>Updating Blogs</u>. NWS Blogs must be predictable, reliable, and dependable. Once a Blog is started, it must be regularly updated. On occasion, Blogs may be established to support a specific project or study. When the project of study is completed, the last Blog entry will clearly indicate the date Blog entries were ended with the "Last Entry".

8.7.   <u>Compliance with Copyright Laws and Policies</u>. Images, text, video, audio files used in NWS Blogs must comply with Copyright Law of the United States of America and Related Laws Contained in Title 17 of the United States Code and other Federal policies and directives. Content, in any format, produced by the employees of NWS in the performance of official duties is in the public domain.

8.8.   <u>Links within NWS Blogs</u>. Links from Blogs must comply with Department of Commerce linking policies, NWS Directive 60-1, and Regional linking policies.

8.9.   <u>Posting Comments</u>. NWS Blog sites will not allow comments or contents to be posted by the public. NWS Blog entries will be posted only by NWS employees, contractors, or others under the direct control of the NWS (Student volunteers, Skywarn Network Operators at the Weather Forecast Office, etc.). Postings must be respectful to the organization, employees, customers, partners, and others. Ensure that Blogging activity does not interfere with primary work commitments.

APPENDIX A

RSS <channel> Element Contents

Element: title   **Required**
Description: The name of the channel
Example: <title>NOAA's National Weather Service Headlines</title>
If you have an HTML website containing the same information as the RSS file, the title
of the channel should be the same as the title of the website.

Element: link   **Required**
Description: The URL to the HTML Web site corresponding to the channel
Example: <title>http://weather.gov/</title>

Element: description   **Required**
Description: A phrase or sentence describing the channel
Example: <description>Headlines from NOAA's National Weather
Service</description>

Element: language   **Required**
Description: The language the channel is written in. Language tags must use values
defined by the W3C.
Example: <language>en-us</language>   or   <language>es</language>

Element: managingEditor   **Required**
Description: Email address for the person responsible for editorial content
Example: <managingEditor>robert.bunge@noaa.gov</managingEditor>

Element: webMaster   **Required**
Description: Email address for the person responsible for technical issues related to the
channel
Example: < webMaster >robert.bunge@noaa.gov</ webMaster >

Element: lastBuildDate   **Required**

Description: The last time the content of the channel changed. All date-times in RSS conform to the Date and Time Specification of [RFC 822](), with the exception that the year may be expressed with two characters or four characters (four preferred).
Example: <lastBuildDate> Mon, 13 Jun 2005 20:20:48 -0400</lastBuildDate>

Element: image   **Required**
Description: Specifies a GIF, JPEG, or PNG image that can be displayed with the channel. The image element has three sub-elements.

     <url> - The complete URL of a GIF, JPEG or PNG image that represents the channel. This image will be displayed by most RSS readers. For NWS RSS feeds this will be http://weather.gov/images/xml_logo.gif

     <title> - should be the same as your feed title

     <link> - should be the same as your feed link

Example: <image>
     <url>http://weather.gov/images/xml_logo.gif</url>
     <title>NOAA's National Weather Service</title>
     <link>http://weather.gov</link>
   </image>

Element: docs   **Optional**
Description: A URL pointing to the documentation for the format used in the RSS file. If used, the <docs> element will point to http://validator.w3.org/feed/docs/rss2.html
Example: <docs>http://validator.w3.org/feed/docs/rss2.html</docs>

Element: copyright   **Optional**
Description: Copyright notice for the content in the channel. All NWS RSS feeds are in the public domain and are not protected under copyright laws, if the <copyright> element is included, the entry will be "None"
Example: <copyright>None</copyright>

Element: generator   **Optional**
Description: A string indicating the program used to generate the channel
Example: <generator>FeedEditor 2.0</generator>
If you have an HTML website containing the same information as the RSS file, the title of the channel should be the same as the title of the website.

Element: ttl   **Optional**
Description: ttl stands for time to live, the number of minutes that indicates how long a channel can be cached before refreshing from the source
Example: <ttl>60</ttl>

Element: rating   **Optional**
Description: The PICS rating for the channel
Example: < rating>general</rating>

Element: skipHours   **Optional**
Description: A string for aggregators telling them which hours to skip polling for updates.
Example: <skipHours>
                     <hour>6</hour>
                     <hour>7</hour>
                    <hour>8</hour>
                    </skipHours>

Element: skipDays   **Optional**
Description: A string for aggregators telling them which days to skip polling for updates.
Example: <skipDays>
                    <day>Sunday</day>
                    <day>Monday</day>
                    </skipDays>.

APPENDIX B

RSS <item> Element Contents

An item may be complete in itself. If so, the description containing the text, and the link and title may be omitted. All elements of an item are optional, however at least one of title or description must be present.

Element: title
Description: The title of the item
Example: <title>Inland Flooding from Hurricanes Can Be Deadly</title>

Element: description
Description: The item synopsis
Example: <description>Inland flooding is responsible for more than half the deaths associated with tropical cyclones in the United States. Inland flooding threatens communities hundreds of miles from the coast as intense rain falls from these huge tropical air masses.</description>

It is recommended that placing HTML coding in description be avoided for two reasons. It requires that client software have the ability to parse it, and combining presentation markup along with the content diminishes the ability of RSS in being able to provide indexable metadata. When HTML coding must be included within the feed for formatting or appearance, use of a CDATA section is required. A CDATA section instructs the XML processor to pass through anything inside, verbatim - no parameter substitution, no whitespace processing. The XML processor doesn't parse what's inside a CDATA section, except to look for the CDATA section's closing delimiter ']]>'. More information on CDATA sections is posted at the W3C site.

To display **"test"**, the HTML fragment would be "test".
Using the entity-encoded HTML method:
&quot;test&quot;
Use of a CDATA section to display the HTML:
<![CDATA["test"]]>

Element: link   optional sub-element of <item>
Description: the URL of the item
Example: <link>http://www.nhc.noaa.gov/HAW2/english/inland_flood.shtml</link>

Element: author   optional sub-element of <item>
Description: The email address of the author of the item
Example: <author>nwspao@noaa.gov   Public Affairs Office</author>
For offices syndicating via RSS, the author is the person who wrote the article that the

<item> describes. For collaborative RSS Feeds, the author of the item might be different from the managing editor or webmaster.

Element: pubDate   optional sub-element of <item>
Description: Indicates when the item was published. All date-times in RSS conform to the Date and Time Specification of [RFC822](#), with the exception that the year may be expressed with two characters or four characters (four preferred).
Example: < pubDate > Mon, 13 Jun 2005 20:20:48 -0400</ pubDate >

Element: source   optional sub-element of <item>
Description: The RSS channel that the item came from
Example: <source url=" http://www.nhc.noaa.gov/nhc_at1.xml">National Hurricane Center</source>

Element: guid   optional sub-element of <item>
Description: A string that uniquely identifies the item
Example: <guid>http://weather.gov/pa/weBlogItem3207</guid>
There are no rules for the syntax of a guid. Aggregators must view them as a string. It's up to the source of the feed to establish the uniqueness of the string.

Element: comments   optional sub-element of <item>
Description: The url of the comments page for the item.
Example: <comments>http://www.crh.noaa.gov/eax/entry/4403/comments</comments>

Element: georss   optional sub-element of <item>

Description: Represents location using geometric shapes **point**, **line, box, and polygon.** More information on use of GeoRSS (Geographically Encoded Objects for RSS feeds) is posted at http://www.georss.org/

A **point** contains a single coordinate pair. The coordinate pair contains a latitude value and a longitude value *in that order*. The *preferred* serialization of this uses a *space* to separate the two values.

Example: <georss:point> 45.256 -71.92 </georss:point>

A **line** contains two or more coordinate pairs. Each pair contains a latitude value and a longitude value *in that order*. The *preferred* serialization of this uses a *space* to separate the two values. Pairs are separated from each other by a *space*.

Example: <georss:line> 45.256 -110.45 46.46 -109.48 43.84 -109.86 </georss:line>

A **box** contains exactly two coordinate pairs. Each pair contains a latitude value and a longitude value *in that order*. The *preferred* serialization of this uses a *space* to separate

the two values. Pairs are separated from each other by a *space*. The first coordinate pair (lower corner) must be a point further west and south of the second coordinate pair (upper corner) and the box is always interpreted as not containing the 180 (or -180) degree longitude line other than on its boundary and not containing the North or South pole other than on its boundary. A box *is generally* used to *roughly* demarcate an area within which other data lie.

Example: <georss:box>42.943 -71.032 43.039 -69.856</georss:box>

A **polygon** contains a space separated list of latitude-longitude pairs, with each pair separated by whitespace. There must be at least four pairs, with the last being identical to the first (so a polygon has a minimum of three actual points). No two pairs may be separated by more than 179 degrees in either latitude or longitude.

Example: <georss:polygon> 45.256 -110.45 46.46 -109.48 43.84 -109.86 45.256 -110.45 </georss:polygon>

Element: enclosure   optional sub-element of <item>
Description: It has three required attributes. URL says where the enclosure is located, length says how big it is in bytes, and type says what its type is, a standard MIME type. Audio enclosures will be in MP3 format.
Example: <enclosure>url="http://www.erh.noaa.gov/ctp/wav/PHLCLIWAR.mp3" length="12216320" type="audio/mpeg" </enclosure>

APPENDIX C
Example RSS Feeds

1. Example of RSS feed for NOAA Weather Radio status messages:

```
<?xml version="1.0" encoding="utf-8" ?>
 <rss version="2.0">
   <channel>
     <title> National Weather Service Forecast Office Reno NV</title>
     <link>http://www.wrh.noaa.gov/rev/</link>
     <description>Headlines from NOAA's National Weather Service</description>
     <language>en-us</language>
     <copyright>None</copyright>
     <managingEditor>w-rev.webmaster@noaa.gov</managingEditor>
     <pubDate>Tue, 26 Jul 2005 00:00:00 -0400</pubDate>
     <lastBuildDate> Tue, 26 Jul 2005 20:20:48 -0400</lastBuildDate>
     <docs> http://validator.w3.org/feed/docs/rss2.html </docs>
     <image>
        <url>http://weather.gov/images/xml_logo.gif</url>
        <title>NOAA's National Weather Service</title>
        <link>http://weather.gov</link>
     </image>
     <item>
        <title>NOAA Weather Radio WXK58  Temporarily Off the Air </title>
        <description> NOAA Weather Radio WXK58  transmitter in Reno will be off
the air through 6 PM this evening. Technicians are upgrading the
transmitter.</description>
        <pubDate> Tue, 26 Jul 2005 20:20:48 -0400</pubDate>
     </item>
   </channel>
 </rss>
```

2. An example RSS feed for equipment status updates:

```
<?xml version="1.0" encoding="utf-8" ?>
 <rss version="2.0">
    <channel>
      <title> National Weather Service Forecast Office Detroit/Pontiac MI</title>
       <link>http://www.crh.noaa.gov/dtx/</link>
       <description>WFO Detroit/Pontiac MI Equipment Status Messages</description>
       <language>en-us</language>
       <copyright>None</copyright>
       <webMaster> w-dtx.webmaster@noaa.gov</ webMaster>
       <managingEditor> w-dtx.webmaster@noaa.gov </managingEditor>
       <pubDate> Fri, 22 Jul 2005 13:15:48 -0400</pubDate>
       <lastBuildDate> Fri, 22 Jul 2005 13:15:48 -0400</lastBuildDate>
       <docs> http://validator.w3.org/feed/docs/rss2.html </docs>
       <image>
           <url>http://weather.gov/images/xml_logo.gif</url>
           <title>NOAA's National Weather Service</title>
           <link>http://weather.gov</link>
        </image>
       <item>
           <title>Detroit WSR-88D Radar </title>
           <link>http://www.srh.noaa.gov/data/DTX/</link>
     <description> KDTX DOPPLER RADAR WILL BE DOWN FOR ROUTINE
MAINTENANCE TODAY...JULY 22... UNTIL 230 PM EDT/1830Z. ALTERNATE
RADAR SITES: KCLE, KIWX, KGRR, KAPX.
     </description>
            <author>joe.smith@noaa.gov    Joe Smith El Tech</author>
            <pubDate> Fri, 22 Jul 2005 13:15:48 -0400</pubDate>
        </item>
         <item>
            <title>NOAA Weather Radio KEC-63 on low power</title>
            <description> Station KEC-63 operating on a frequency of 162.550 MHz from
a transmitter located in Southfield is operating at reduced power due to a lightning strike.
Repairs will be made as quickly as possible.</description>
```

```
            <author>joan.smith@noaa.gov     Joan Smith   Lead Forecaster</author
            <pubDate> Wed, 6 Jul 2005 13:15:48 -0400</pubDate>
        </item>

      </channel>
    </rss>
```

2. An example RSS feed with audio enclosure (Podcast):

```
<?xml version="1.0"?>
      <rss version="2.0">
      <channel>
            <title>Marine Forecasts Issued by WFO Morehead City, NC</title>
            <link>http://www.erh.noaa.gov/mhx/podcast/</link>
            <description>NOAA Weather Radio marine forecasts</description>
            <language>en-us</language>
            <copyright></copyright>
            <lastBuildDate>Thu, 27 Oct 2005 02:09:17 GMT</lastBuildDate>
            <webMaster>mhx-webmaster@noaa.gov</webMaster>
            <ttl>1</ttl>
            <item>
                  <title>Coastal Waters Forecast</title>
                  <description>Coastal Waters Forecast from South of Currituck Beach
Light to North of Surf City NC and out 20 Nautical miles</description>
                  <pubDate> Mon, 13 Jun 2005 20:20:48 -0400</pubDate>
                  <enclosure url=" http://www.erh.noaa.gov/mhx/podcast/marine.mp3"
length="120867" type="audio/mpeg"/>
                  </item>
            </channel>
      </rss>
```