Department of Commerce • National Oceanic & Atmospheric Administration • National Weather Service

NATIONAL WEATHER SERVICE INSTRUCTION 60-104

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Information Technology

Use of Third Party Provided Maps and Mapping Services

THIRD PARTY PROVIDED MAPPING APPLICATIONS AND SERVICES ON NWS WEB PAGES

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

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_Signed_by Adrian R. Gardner_____May 11, 2009_____
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Chief Information Officer

Use of Third Party Provided Maps and Mapping Services

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1.   <u>Introduction</u>. Web mapping service applications and technologies provided by third party providers power many map-based services. Web maps are often a presentation media in Web **Geographic Information Systems** (GIS) and web maps are increasingly gaining capabilities to display National Weather Service (NWS) data on both traditional desktop computers and on mobile devices. Web mapping using these third party providers on NWS pages involves legal considerations, interoperability concerns, and other considerations. This Instruction covers use of third-party provided mapping applications and services, it does not include mapping applications or services operated by National Oceanic and Atmospheric Administration (NOAA) on government resources and infrastructure.

2.   <u>Use of Third Party Mapping Service Applications</u>. Only properly licensed third party mapping service applications will be used on NWS Web pages or in NWS publications. For example, NOAA has established an enterprise licensing agreement with Google™ allowing use of Google™ Earth Pro and the Google™ Maps application programming interface (API). NWS offices are permitted to use screen captures from Google Earth Pro and to present data layers using the Google Maps API subject to the following restrictions.

2.1   Use of Enterprise licensing mapping service API keys. Third party Web mapping service applications on NWS Web pages will use only API keys provided under the enterprise licensing agreement, using software classes and license keys provided by the NWS National Web Team. Individual account API keys will not be used on any testing, development, or production servers.

2.2   Data from third party mapping services will be made available in industry standard formats. In addition to display using third party Web mapping service applications, NWS data will be made available in appropriate industry standard formats such as Keyhole Markup Language (KML), Geographically Encoded Objects for Real Simple Syndication (RSS) feeds (GeoRSS), or shape files. A link to the data will be provided in the lower right corner of the Web mapping service application.

2.2.1   Keyhole Markup Language. Keyhole Markup Language (KML) is an Extensible Markup Language (XML) grammar and file format for modeling and storing geographic features such as points, lines, images, and polygons for display in GIS applications. KML language is used by a variety of GIS and mapping applications and the specifications are freely available to the public and available to the user community without charge or restriction. To reduce file size, KML files may be compressed using standard compression tools. These compressed (or "zipped") files are stored with the file extension KMZ (zipped KML files). The KML/KMZ files will contain a NOAA/NWS watermark image (http://www.weather.gov/images/xml_logo.gif). The image   to be used is

2.2.2   GeoRSS. GeoRSS is a formal Geography Markup Language (GML) that provides a way to encode location in Real Simple Syndication (RSS) and Atom (an XML language used for web feeds) feeds. There are currently two encodings of GeoRSS: GeoRSS-Simple and GeoRSS-GML. GeoRSS-Simple is meant as a very lightweight format that developers and users can quickly and easily add to their existing feeds with little effort. It supports basic geometries (point, line, box, polygon) and covers the typical use cases when encoding locations. Specifications for GeoRSS-Simple are posted on the GeoRSS site at http://www.georss.org/simple.   For a more feature-rich option, GeoRSS GML is a formal GML Application Profile, and supports a greater range of features, notably coordinate reference systems other than WGS-84 latitude/longitude. Specifications for GeoRSS GML are posted on the GeoRSS site at http://www.georss.org/gml. Both formats are designed for use with Atom 1.0, RSS 2.0 and RSS 1.0. More information on GeoRSS is available from the GeoRSS site at http://www.georss.org/. Information on Geography Markup Language is available from the Open Geospatial Consortium, Inc (OGC) site at http://www.opengeospatial.org/projects/groups/gmlwg

The standard icon for RSS and GeoRSS is

2.2.3. Shape Files. Shapefiles are a geospatial vector data format for geographic information systems software. Shapefiles spatially describe points, polygons, polylines. A "shapefile" commonly refers to a collection of files with ".shp", ".shx", ".dbf", and other extensions on a common prefix name (i.e., "lakes.*").

2.3   Data layers legends. Each layer of NWS data displayed on a third party mapping application will contain a legend explaining meanings of symbols, areas, and colors used to convey information.

2.4   Metadata. A link entitled "About this Data" will be provided. This link should direct the user towards metadata. A metadata record is a file of information, usually presented as an XML document, which captures the basic characteristics of a data or information resource (the who, what, when, where, why and how of the resource). Geospatial metadata are used to document geographic digital resources such as Geographic Information System (GIS) files, geospatial databases, and earth imagery. The Content Standard for Digital Geospatial Metadata (CSDGM), Vers. 2 (FGDC-STD-001-1998) is the US Federal Metadata standard. More information on geospatial metadata is available from the Federal Geographic Data Committee Website.

2.5   Disclaimer. Immediately to the lower right of any third party Web map will be a link to the NWS standard disclaimer http://www.weather.gov/credits.php#mapping.
For a Web map provided under the Google enterprise licensing agreement, the link http://www.weather.gov/credits.php#googlemapping can be used.

2.6   NOAA/NWS Watermarks. A NOAA/NWS logo watermark is required if a print option is added to the any third party mapping service API. The watermark image (http://www.weather.gov/images/xml_logo.gif) to be used is
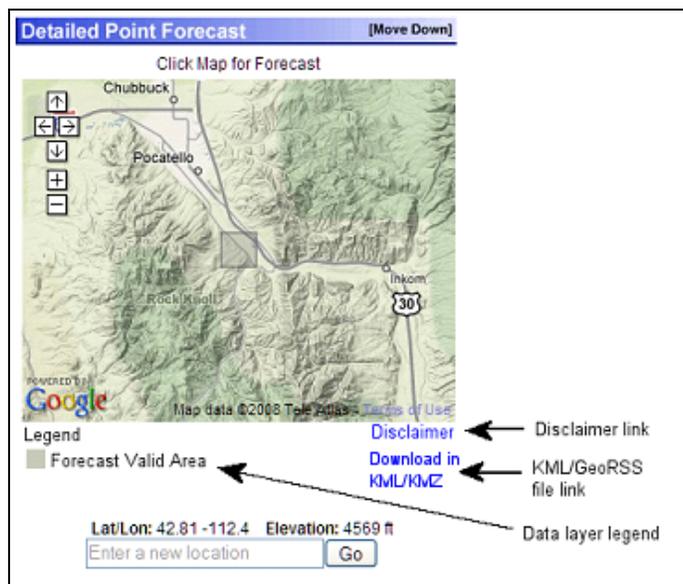
Example of required elements

3**.**   Accessibility. To conform to Section 508 Standards of the Rehabilitation Act, as amended 1998 (§1194.22 Web-based intranet and internet information and applications), all data and information layers produced by NWS offices for display on Web mapping applications must also be made available in an alternative, accessible format. Acceptable alternative formats include text files describing the information presented on the map, text input fields as an alternative to "mouse clicks", use of "hatching" or patterns to avoided use of color alone to convey information. Specific standards required by Section 508 are posted at the Section 508 Website.

4.   Use of Third Party Data layers. Data provided by non-NWS sources may be included in Web mapping applications displays.

4.1.   Data layers provided by other Federal agencies. Data layers provided by other Federal agencies should be attributed to the contributing agency on the display on NWS Web pages.

4.2   Data layers displayed on NWS Web pages provided by non-Federal agencies. Data layers displayed on NWS Web pages provided by non-Federal agencies must follow the same standards as hyperlinks to Web sites not under the control of a Federal Government agency. Data layers provided by commercial organizations, non-Federal agencies including State and Local Governments, Universities, or interest groups present special challenges with respect to maintaining agency objectivity and thus must be used judiciously. Data layers provided by non-Federal agencies should be attributed to the contributing agency on the display on NWS Web pages. External data layers not available from other Federal sources must meet the following criteria:

> - data layers are necessary for and material to the presentation of agency information or the delivery of services in the proper performance of an agency function, and
> - reasonable steps are taken to ensure the presentation is accurate, relevant, timely, and complete, and
> - reasonable steps are taken to assure that data layers remain active or otherwise continue to provide the level of quality (including objectivity, utility, and integrity) as intended by the agency and expected by users.

5.   Use of Mapping application screen captures.   If using screen captures from Google Earth Pro, a disclaimer link will be added in the lower right corner pointing to the NWS standard disclaimer posted at http://www.weather.gov/credits.php#googlemapping.

An example of a Google Earth Screen capture posted to a Web page:

<div align="center">
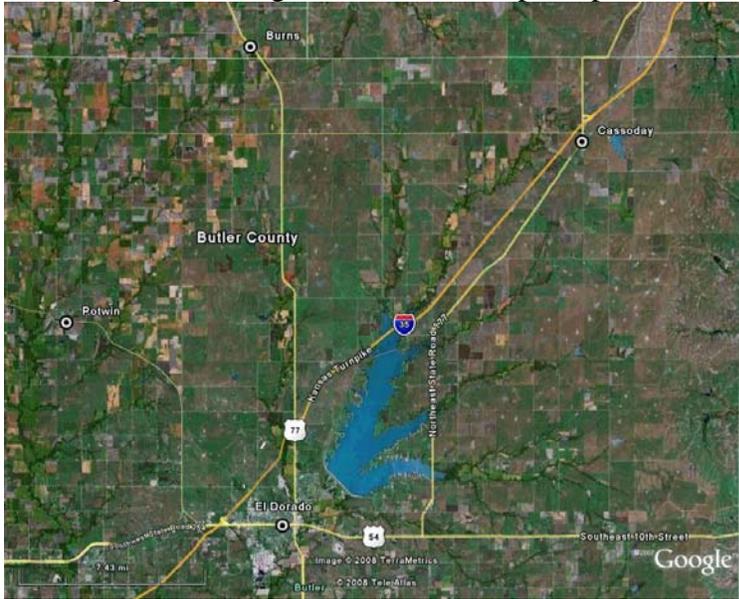
[Disclaimer](#)

</div>

If using the screen capture in print, email, or other media, the disclaimer credit text must be included below the Google Earth screen capture used in a print format: "Google Earth map and photo imagery are used under license"

6.   Changes to NWS information services. For new data (e.g., screen captures, RSS feeds, shapefiles, displayed data layers, etc.) provided via third party mapping applications representing a substantial change to NWS information services, an appropriate public comment and review process will be carried out (see NWSPD 1-10, *Managing the Provision of Environmental Information*).