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

NATIONAL WEATHER SERVICE INSTRUCTION 10-203
MAY 21, 2020

Operations and Services

Digital Services Specification, NWSPD 10-2

WEB-BASED PRODUCTS SPECIFICATIONS

NOTICE: This publication is available at: https://weather.gov/directives/.

OPR: W/DIS (A. Hardy) **Certified by:** W/DIS (M. Mainelli-McInerney)
Type of Issuance: Routine

SUMMARY OF REVISIONS: This directive supersedes NWSI 10-203, *Web-Based Products Specifications*, dated October 5, 2017.

Content changes were made to:

1. Update Section 4.1 to add information about availability of NDFD data in XML format.
2. Update Section 4.2.6 to add spatial grid information.
3. Update Section 4.2.7 to add temporal grid information.

MAINELLIMCINERNEY.MICHELL.E.1365819722 Digitally signed by MAINELLIMCINERNEY.MICHELLE.1365819722 Date: 2020.05.07 14:49:38 -04'00'

5/7/2020

Michelle Mainelli-McInerney Date
Director, Office of Dissemination

Web-Based Products Specifications

Table of contents **Page**

1 Introduction

This procedural directive provides specifications for products generated from the digital forecast database prepared by the National Weather Service (NWS). A description of specifications for the National Digital Forecast Database (NDFD) graphic forecast displays includes national and regional forecast mosaics. Specifications include instruction on interactive web-based services, including national, regional, and local applications. Additionally, specifications include instruction on displaying information and making changes on the World Wide Web (WWW).

2 Mission Connection

Web-based services utilizing national, regional, and local databases deliver NWS forecasts in an efficient and accessible form. These services give our users a method to provide accurate weather forecast information in an environment of rapidly changing and evolving needs.

3 Linkage to Official Web-Based Graphical Products

Information on new or enhanced products is available in the *National Catalog of New or Enhanced Products and Services Changes*. The catalog lists products in an experimental phase for comment and review, as well as those approved for operational use. The link to the catalog is https://products.weather.gov.

4 Interactive Web-Based Services

4.1 National Web-Based Services

National web-based services should meet national user requirements for digital services, which are widespread (multi-regional or national) in scope or coverage. Services should be timely, accurate, and consistent (meteorologically, functionally, and aesthetically) with other NWS web-based digital services. Users access the NDFD elements via file transfer. Links to the data,

supporting information and software are available through https://www.weather.gov/mdl/ndfd_home.

Specific point forecasts are available by way of each Weather Forecast Office (WFO) web page or through a zip code/city search engine on numerous NWS web pages.

Operational NDFD data in XML format are also available via web services (e.g., Simple Object Access Protocol [SOAP] and REST).

4.2 Regional Web-Based Services

Regional web-based services should meet user requirements for digital services covering multi-state, or multi-WFO geographic areas of responsibility. Services should be timely, accurate, and consistent (meteorologically, functionally, and aesthetically) with NWS national web-based digital services.

4.2.1 Multi-Format Forecast Information Web Page

This service is an interactive forecast information web page allowing users to access forecast information that is always current with higher resolution than is possible in traditional text forecast products (which may be averaged over time and space). Users can view forecast information retrieved directly from locally prepared forecast grids in a variety of formats, including icons, text, tabular, and graphic.

Data fields include surface temperature, dew point, wind speed and direction, weather, sky cover, and the probability of precipitation.

4.2.2 Purpose

Advances in computer capabilities and web services technologies, as well as scientific advances in NWS software, have prompted the NWS to create user-based web services. Information dissemination via the WWW allows users to obtain high-resolution forecast information in a variety of formats on-demand.

4.2.3 Audience

The audience for the forecast information web page consists of all individuals, agencies, and businesses interested in detailed and accurate weather forecasts, including the general public and partners such as emergency management, other government agencies, universities, media, and private companies.

4.2.4 Availability and Timeliness

All data disseminated by the NWS web services are sent via approved data transmission methods for reception by the NWS Internet Dissemination System (NIDS) and other web servers for processing/presentation. Data should be available on the web site within a reasonable timeframe depending on the criticality of the data.

4.2.5 Presentation Format

The web grid point forecasts are presented for display as HyperText Markup Language (HTML) in text, hourly Meteogram, and digital/tabular format. The forecasts can be viewed using a Web browser, and then selected on a map location or by entering specified latitude and longitude coordinates.

4.2.6 Spatial Resolution

The operational NDFD is available at 2.5 kilometers (km) spatial resolution for all forecast times for the Continental United States (CONUS), Hawaiian and Guam provided forecasts. Forecasts from the NWS offices and centers employing coarser resolutions will be mapped onto the finer resolution NDFD grid. The current operational spatial resolution for Alaska is at 3 km, Puerto Rico is at 1.25 km and the oceanic domain is at 10 km.

4.2.7 Temporal Resolution

Temporal resolutions vary depending on forecast type. Details are in NWSI 10-201 National Digital Forecast Database and Local Database Description and Specifications Appendix B. Text forecasts via the Point Forecast Page are available out to seven days; the Tabular Forecast out to six days for applicable forecast elements; and the Meteograms/Hourly Weather Graph are displayed in 48-hour periods.

The operational NDFD is available at a one-hour temporal resolution for the first 36 hours from NDFD issuance time. Beyond 36 hours, the NDFD data are available either in three- or six-hour periods, depending upon the forecast element, through Day 7.

The Alaska operational NDFD is available at one-hour, three-hour, and six-hour temporal resolution for the first 72 hours from NDFD issuance time. In Alaska beyond 72 hours, the NDFD data are available in three-hour and six-hour periods. After 120 hours, the Alaska Region produces grids at six and twelve-hour intervals. These data are the finest temporal resolutions at which Alaska WFOs provide forecasts

4.3 Local Web-Based Services

Individual WFOs should design local web-based services to include special support operations to meet local user requirements for digital weather information in multiple forms (e.g., text, graphics, and interactive services). Products and services should be timely, accurate, and consistent (meteorologically, functionally, and aesthetically) with the NWS national and regional web-based products/services.