

**NATIONAL WEATHER SERVICE INSTRUCTION 10-1715  
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**Operations and Services  
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**NOAA WEATHER WIRE SERVICE (NWWS) DISSEMINATION**

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

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**NOAA Weather Wire Service (NWS) Dissemination**

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1. Introduction. This National Weather Service (NWS) Instruction provides operational instructions for NOAA Weather Wire Service (NWS) dissemination and identifies the managerial relationships and operational duties. It includes a description of system operations, from information origination to user receipt, identifies products and content appropriate for transmission, and provides guidelines on product retransmissions and product monitoring and archiving. Following are related documents that provide additional information on NWS operations.

- a. The Office of Operational Systems (OOS) instructions in NWS Instruction (NWSI) 10-1716, NOAA Weather Wire Service System Management.
- b. OOS brochure and poster: "NOAA Weather Wire Service (NWS) - Providing Weather Information to the United States," dated April 2001. The brochure and

poster give specific details of the system, augmented with color graphics of system architecture, and provides name and telephone numbers for key NWS contacts. The brochure and poster are on the NWS NWWS Internet Web site at:

<http://www.nws.noaa.gov/nwws/>.

- c. The Office of Climate, Water, and Weather Services (OCWWS) NWSI 10-1701, Text Product Formats and Codes. This instruction provides specific details on product identifiers, formats and codes, including the World Meteorological Organization (WMO) abbreviated heading and the Advanced Weather Information Processing System (AWIPS) identifier, for products transmitted on all hard copy NWS dissemination systems, including the NWWS. In addition, NWSI 10-1702, Universal Geographic Code (UGC), provides instructions on UGC use and complete examples of text products illustrating the rules in NWSI 10-1701 and NWSI 10-1702. All NWSIs and Product Specifications are on the NWS Web site at: <http://www.nws.noaa.gov/directives>.

1.1 Mission Connection. The NWS mission to protect life and property, and to enhance the national economy, is carried out by timely delivery through the NWWS of text and some graphical products, including warnings, watches, forecasts and other relevant weather, hydrologic, climate, and critical non-weather-related information, under the “all hazards” concept (see definition in NWS Policy Directive 10-17). NWWS subscribers include Federal agencies, state governments (with sanctioned re-transmissions within state to emergency management, law enforcement, and other officials), private weather companies, and the media and academia.

NWWS is designed to deliver high priority watch and warning products to users within 10 seconds and all other products within 30 seconds. It is the fastest NWS information delivery system.

2. System Operations. The NWWS is a satellite-based data collection and dissemination system operated by the NWS. DynCorp Information Systems LLC, under NWS contract, provides NWWS network administration, including product collection, processing, and delivery to users; maintenance; and field support. DynCorp also provides a free Internet service, with no recurring costs. The DynCorp Web site is: <http://dynis.is.dyncorp.com/contracts/nwws>.

2.1 Product Origination. Following are NWS and non-NWS sites that **produce** information for NWWS dissemination, some of which are NWWS uplink/downlink sites. Included are the National Centers (NC), both uplink/downlink sites and non-uplink/downlink sites. All listings below include location identifiers and names. NWS products and external agency products are processed by AWIPS and sent to the uplink sites using the AWIPS Wide Area Network (WAN).

- a. NWS offices that produce information for NWWS dissemination, including:
  - (1) 13 Weather Forecast Offices (WFO) / (co-located with) 13 River Forecast Centers (RFC) (called WFO/RFC uplinks, because they collect data from

surrounding WFOs and uplink it to the NWS satellite). Following are the WFO/RFC paired uplink sites:

- KCTP/KRHA – Central PA/Middle Atlantic (State College)
- KBOX/KTAR – Boston/Northeast (Taunton, MA)
  
- KFWD/KFWR – Dallas-Ft. Worth/West Gulf (Dallas, TX)
- KSLC/KSTR – Salt Lake City/Colorado Basin (Salt Lake City, UT)
  
- KFFC/KALR – Atlanta/Southeast (Peachtree City, GA)
- KLIX/KORN – New Orleans-Baton Rouge/Lower Mississippi (Slidell, LA)
  
- KMPX/KMSR – Minneapolis/North Central (Minneapolis, MN)
- KILN/KTIR – Cincinnati/Ohio (Wilmington, OH)
  
- KEAX/KKRF – Kansas City/Pleasant Hill (Kansas City, MO)
- KTSA/KTUA – Tulsa/Arkansas-Red Basin (Tulsa, OK)
  
- KSTO/KRSA – Sacramento/California-Nevada (Sacramento, CA)
- KPQR/KPTR – Portland/Northwest (Portland, OR)
- PAFC/PACR – Anchorage/Alaska (Anchorage, AK)

- (2) All other WFOs, the following one of which is a non-co-located uplink site:

TJSJ – San Juan, PR #

# KFFC/KALR and KLIX/KORN provide back-up.

- (3) 11 NWS NCs, the following five of which are uplink sites (location identifiers and associated names):

- KWNS -- Storm Prediction Center (SPC)\* (Norman, OK)
- KNHC – Tropical Prediction Center (TPC)\* (Miami, FL)
- PHEB – Richard H. Hagemeyer Pacific Tsunami Warning Center (PTWC) # (Ewa Beach, HI)
- PAAQ – West Coast/Alaska Tsunami Warning Center (WC/ATWC)# (Palmer, AK)
- KNCF – AWIPS Network Control Facility (NCF) (Silver Spring, MD)

The six NWS NC non-uplink sites are:

- KWNM – Marine Prediction Center (MPC)\* (Camp Springs, MD)
- KWNH – Hydrometeorological Prediction Center (HPC)\* (Camp Springs, MD)

- KWNA – Aviation Weather Center (AWC)\* (Kansas City, MO)
- KWNO – National Centers for Environmental Prediction (NCEP)  
Central Operations\* (Camp Springs, MD)
- KWBC – NWS Telecommunications Gateway (NWSTG) (Silver  
Spring, MD)
- KWNP – Space Environment Center (SEC) (Boulder, CO)

b. The following is a non-NWS site producing information for the NWWS:

- KNEC – U.S. Geologic Survey (USGS) National Earthquake  
Information Center (NEIC)# (non-NWS, non-AWIPS  
uplink/downlink site).

\* NCs within NCEP

# Non-AWIPS sites

c. State, local, and other Federal government agencies. These agencies send to NWS information such as spotter reports, road conditions, and other non-weather-related emergency messages, as mentioned in section 1.1.

2.2 Product Collection and Processing. Following is a description of the routing path from originating site to user.

- a. Each of the WFOs without NWWS systems sends its NWWS information by the AWIPS WAN to both its designated WFO/RFC uplink site and the backup uplink site (see section 2.1).
- b. The 13 WFO/RFC uplink sites, along with the five NWS uplink NCs, the USGS NEIC, and one other WFO (total: 20 collection sites), perform satellite uplink in duplicate, as paired AWIPS sites in real-time, to ensure delivery of the information if one of the pair becomes inoperable.
- c. Five of the six NWS non-uplink NCs send their NWWS information through the AWIPS WAN to two NWS NC uplink sites: the SPC in Norman, OK, or the TPC in Miami, FL. The other NWS non-uplink NC, the Space Environment Center, sends NWWS information through the uplinks in Tulsa, OK, and Pleasant Hill, MO.
- d. Highest priority watch and warning products are uplinked in triplicate by the paired uplink site and the NCF at Weather Service Headquarters (WSH) in Silver Spring, MD.
- e. The up-linked information is received at DynCorp's Master Ground Station #1 in Alexandria, VA, delivered to their Master Processing Center (MPC) in Chantilly,

VA, and sent back to the satellite for broadcast to users from their Master Ground Station #2 in Ft. Meade, MD.

- f. Duplicate/triplicate products from the paired uplink sites/NCF are removed from the data stream at MPC before broadcast to users.

2.3 Product Receipt. Users have three options for receiving NWS information: C-band satellite, Ku-band satellite, and the Internet service, each with its specific advantages, depending on user needs. All NWS users, including the NWS uplink sites, receive the entire NWS data stream, as part of the outgoing satellite broadcast. Commercial software is available (see DynCorp's Web site [section 2]) for users to select, manipulate, alarm, display, and archive information they require on various devices.

2.4 Product Archiving and Monitoring. The NWS uplink sites have receive capability that, with the commercial software mentioned in section 2.3, allows for data management, such as archiving, automated routing of information, and automatic printing, for monitoring the accuracy and completeness of product delivery. This software also allows retention of up to ten versions of any NWS product.

The NWS uplink sites also can archive information by storing it on their hard drive.

WFOs and NCs without NWS downlink capability have an Emergency Management Weather Information Network (EMWIN) satellite receive system (which receives much of the information from the NWS) to help verify that their products achieve the appropriate dissemination. (EMWIN also receives information from the NWSTG, not just from NWS, so it is not a certain verification method for NWS.) As with all NWS users, the NWS non-downlink offices can view the entire NWS data stream on the Internet for product verification by registering with DynCorp, getting a password, and appropriate software. Contact the NWS NWS Program Manager in the OOS for software requests.

The standard AWIPS archiving capability includes 30 days for text products and 7 days for observations.

2.5 Product Retransmissions. WFO and NC NWS sites may service user requests for resending of products according to the following guidelines (note especially d.):

- a. If workload and workforce permit.
- b. Only retransmit currently valid versions of the product using AWIPS.
- c. Do not resend products because of insignificant typos or other non-substantive errors. This will prevent users from receiving virtually identical products.
- d. Include the ellipsis (...) and the word "**RESENT**" (not the word "retransmitted") at the end of the product name line in the Mass News Disseminator (MND) header

block. Do not include a “BBB” field of the WMO abbreviated header. See NWSI 10-1701 for details about these fields.

- e. Sites may refuse requests for resending products if, in the staff’s judgment, the user abuses this privilege by making frivolous or excessive requests, or it appears the user’s equipment may be malfunctioning.
- f. To prevent many requests for resending products during system outages, OOS will send to NWS NWWS sites and users a message informing of planned or unscheduled system outages.

### 3. Procedural Responsibilities.

#### 3.1 Weather Service Headquarters (WSH).

3.1.1 Office of Climate, Water, and Weather Services (OCWWS). OCWWS prepares this NWWS service instruction, in coordination with OOS and Regional Headquarters, with input from WFOs and the NCs. The OCWWS defines service requirements, including the nature and scope of products to be transmitted. OCWWS has designated a Dissemination Services Program Manager to oversee the dissemination of NWS products. The OCWWS is responsible for the Change Management (CM) Process (see NWSI 10-103), including the Data Review Group’s (DRG) administering of Requests for Change (RC) collected by and forwarded from the Regional Headquarters and the NCEP for product additions/deletions/content changes. The OCWWS forwards approved NWS RCs to OOS and the Office of Chief Information Officer (OCIO) for implementation.

3.1.2 Office of Operational Systems (OOS). The OOS manages the NWWS program and oversees all network operations and field support. They manage the national data base and NWWS Internet Web site, address customer concerns, and execute agreements. They are the official liaison with the systems contractor through the Contracting Officer Technical Representative. OOS implements NWS requirements.

3.1.3 Office of Chief Information Officer (OCIO). The OCIO oversees the AWIPS NCF and the Telecommunications Operations Center. This facility provides third-level backup (uplink) of highest priority watch and warning products issued by the NWWS.

3.2 Regional Headquarters. The Regional Headquarters ensure their field offices are organized, trained, and equipped to fulfill the NWWS obligations. Each Regional Headquarters has designated a regional dissemination focal point to oversee the dissemination of NWS products. The Regional Headquarters develop supplements to NWS instructions and ensure they are compatible across regional boundaries; monitor NWWS for product consistency and provide technical assistance to their field offices; coordinate and address customer requests and concerns that arise within their region; and prepare and send RCs regarding additions/deletions/changes to products in the NWWS datastream to the DRG that are recommended by WFOs, RFCs, and NCs, with input from customers.

3.3 National Centers for Environmental Prediction (NCEP). The NCEP ensures the NCs within its management structure are organized, trained, and equipped to fulfill the NWWS obligations. The NCEP has designated the NCEP Operations Officer to oversee the dissemination of NCEP products. The NCEP monitors NWWS for product consistency and provides technical assistance to the NCs, coordinates and addresses customer/partner requests and concerns that relate to NCEP products.

3.4 National Centers (NC). The NCs, both within NCEP and the specialized Tsunami Centers are responsible for maintaining their AWIPS data bases, with five of the NCs uplinking their products onto the NWWS with the proper format and proper communications identifiers. The uplink NCs ensure their staff is organized, trained, and equipped to fulfill the NWWS responsibilities. NCs, in coordination with NCEP and the Regional Headquarters, send RCs to the DRG in OCWWS for product change recommendations, with input from customers. The NCs provide retransmission of certain products at user request (see section 2.5).

3.5 Weather Forecast Offices (WFO)/River Forecast Center (RFC) Uplink Sites. Along with performing the primary duties mentioned in section 2.2, these 13 co-located offices manage their own AWIPS databases for proper uplink. Each WFO/RFC informs the Regional Headquarters of its activities, including coordination with user groups, and forwards recommendations for product changes. The WFO/RFC also provides retransmission of certain products, at user request, originated by the respective office (see section 2.5).

3.6 Weather Forecast Offices. Along with their primary duties mentioned in section 2.2, WFOs coordinate with their Regional Headquarters about user requests and forward to them recommendations for product changes. WFOs can monitor the products they send through the process described in section 2.4. The WFO also will retransmit certain products, at user request, originated by the respective office (see section 2.5).

4. Product Guidelines. Because the NWWS is primarily a mass dissemination system for the public, offices initiating NWWS products should write products in plain language in a clear and concise style. Offices should avoid using contractions, non-standard abbreviations, most coded data (see section 4.2 for exceptions) or including internal NWS guidance material. See respective NWS Product Specifications for details on particular products.

4.1 NWWS Products. The national master data base list managed by the OOS and maintained by the contractor includes all products transmitted on the NWWS. Representative products, each in text format and some in graphical format, include weather warnings, watches, advisories, and forecasts; critical non-weather-related warnings; national public weather summaries and tables; and such routine locally prepared products as state, zone, and short-term forecasts; weather summaries, climate data and local observations; marine forecasts and other information, and fire pre-suppression forecasts. The master data base is available on the DynCorp NWWS Web site (see section 2) and NWS NWWS Web site (see section 1).

4.2 Coded Data. Products containing coded data are not normally carried on the NWWS. The Regional Headquarters may approve requests for transmission of specific coded data on a



case-by-case basis and then forwarded to WSH for final approval through the RC process. Among broad guidelines for inclusion, coded data may be disseminated if the NWS is the most practical means of delivery and the data conform to either the objective of “government-helping-government” or the NWS mission. Users can select for local processing, at their option, these or any products from the NWS data stream as mentioned in section 2.3. An example of coded data allowed on the NWS is the Standard Hydrologic Exchange Format, prepared from preformats.

5. Transmission and Product Formats and Codes. For formats and codes specific to transmission on NWS, refer to “Interface Control Document - NWS 2000 - External Message Formats.” This is on the NWS Web site at:  
<http://www.nws.noaa.gov/nws/wprev4externalmessageformats.wpd>.

NWSI 10-1701 provides this formatting and coding information (see section 1c) for any systems that disseminate text products. For information on specific product content and codes, refer to NWS Instructions on Product Specifications.