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NATIONAL WEATHER SERVICE INSTRUCTION 10-1715

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Operations and Services

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NOAA WEATHER WIRE SERVICE (NWWS) DISSEMINATION

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

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SUMMARY OF REVISIONS: This directive supersedes NWSI 10-1715, *NOAA Weather Wire Service (NWWS) Dissemination*, dated October 1, 2002, and recertified April 30, 2004. Changes include:

(1) Throughout the document, changed DynaCorp to Computer Sciences Corporation (CSC), Space Environment Center to Space Weather Prediction Center, Marine Prediction Center to Ocean Prediction Center, and customers to users.
(2) Updated referenced directive names.
(3) In Section 1.1 (page 3), corrected the delivery time of products.
(4) In Section 2 (page 3), reworded to include only CSC website.
(5) In Section 2.1 (page 4), reworded first paragraph for clarity and added details about WFO Guam not having access to NWWS and removed U.S. Geologic Survey (USGS) National Earthquake Information Center as a non-NWS site that produces information for the NWWS. Also (page 5), corrected the role of the Tsunami Warnings Centers as uplink sites.
(6) In Section 2.2 (pages 5), revised and corrected subsections a, c, and e to include information on uplink and non-uplink sites and correct locations of Master Ground Stations.
(7) In Section 2.4 (page 6), corrected the last sentence regarding the product archives.
(8) In Section 2.5 (page 7), corrected subsection f to clarify details of system outages.
(9) In Section 3 (page 7), updated the procedural responsibilities section to reflect the movement of the Change Management Branch from the Office of Climate Water and Weather Services (OCWWS) to the Office of Operational Systems (OOS).
(10) In section 3.1.2 (page 8), added the responsibility of the Telecommunications Operations Center in the change management process.
(11) Deleted Section 3.1.3 (page 8) because responsibilities have been moved from OCIO to OOS.
(12) In section 3.3 (page 9), corrected roles of offices and added details regarding AWIPS NCF facility as third level backup.

(13) Combined Sections 3.3 and 3.4.
(14) Changed National Centers to National Specialized Centers throughout the document.

_____signed_____June 14, 2012_
David B. Caldwell Date
Director, Office of Climate, Water, and Weather Services

NOAA Weather Wire Service (NWWS) Dissemination

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1 Introduction

This National Weather Service (NWS) Instruction provides operational instructions for NOAA Weather Wire Service (NWWS) 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. The following documents provide additional information on NWWS operations:

a. The Office of Operational Systems (OOS) NWS Instruction (NWSI) 10-1716, *NOAA Weather Wire Service System Management*. This instruction describes how the NWS manages, operates, and maintains the NWWS.

b. OOS brochure and poster: "NOAA Weather Wire Service (NWWS) - Providing Weather Information to the United States," dated April 2010. 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 NWWS contacts. The brochure and poster are on the 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 headings and the Advanced Weather Information Processing System (AWIPS) identifier, for products transmitted via 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 directives 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. Products can include warnings, watches, forecasts and other relevant weather, hydrologic, climate, and critical non-weather-related information, by the NWWS, under the "all hazards". NWWS subscribers include Federal agencies, state governments (with sanctioned re-transmissions within state to emergency management, law enforcement, and other officials), private weather companies, other private sector users, the media, and academia.

NWWS is designed to deliver high priority watch and warning products to users within 10 seconds and most other products within 60 seconds. It is the fastest NWS information delivery system.

2 System Operations

The NWWS is a satellite-based data collection and dissemination system managed by the NWS. Computer Sciences Corporation (CSC), under NWS contract, provides NWWS network administration, including product collection, processing, and delivery to users; maintenance; and field support. The CSC website is http:/www.csc.com/public_sector/ds/27517-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. All listings below include location identifiers and names. NWS products are processed by AWIPS and sent to the uplink sites using the AWIPS Wide Area Network (WAN). External agency products are processed by their internal systems and sent to the uplink sites using the AWIPS WAN.

a. NWS offices that produce information for NWWS dissemination include:

(1) 13 Weather Forecast Offices (WFO) which are co-located with 13 River Forecast Centers (RFC). They are called WFO/RFC uplinks because they collect data from surrounding WFOs and uplink it to the NWWS satellite. The following are the WFO/RFC paired uplink sites:

KCTP/KRHA - Central PA/Middle Atlantic (State College, PA)
KBOX/KTAR - Boston/Northeast (Taunton, MA)

KFWD/KFWR - Dallas-Ft. Worth/West Gulf (Fort Worth, 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) The following is a non-co-located uplink site:

TJSJ - San Juan, Puerto Rico (produces information for NWWS dissemination).
KFFC/KALR and KLIX/KORN provide back-up.

Note: WFO Guam (PGUM) and its area of responsibility are outside the satellite footprint of the NWWS, and thus the WFO and its immediate customers do not have access to the service.

(3) NWS National Specialized Centers (including the centers under the National Centers for Environmental Prediction (NCEP)), the following are uplink sites (location identifiers and associated names):

KWNS	NCEP/Storm Prediction Center (SPC in Norman, OK)
KNHC	NCEP/National Hurricane Center (NHC in 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 in Silver Spring, MD)

The six NWS National Specialized Centers non-uplink sites are:

KWNM	NCEP/Ocean Prediction Center (OPC in MD)
KWNH	NCEP/Hydrometeorological Prediction Center (HPC, MD)
KWNA	NCEP/Aviation Weather Center (AWC in Kansas City, MO)
KWNO	NCEP Central Operations in MD
KWBC	NWS Telecommunications Gateway (NWSTG, Silver Spring, MD)
KWNP	NCEP/Space Weather Prediction Center (SWPC in Boulder, CO)

Note: The PTWC and WC/ATWC are currently not uplink sites but will be uplink sites after the installation of AWIPS II. The TWCs currently send their data directly to NWWS using their own dedicated satellite uplink equipment. They are not receiving or sending any data to NWWS via AWIPS.

b. State, local and other Federal government agencies. These agencies send NWS information such as spotter reports, road conditions, and other non-weather-related emergency messages.

2.2 Product Collection and Processing

The following is a description of the routing path from originating site to user:

a. WFOs without NWWS systems send NWWS information via the AWIPS WAN and within the Office of Operational Systems Network (OPSNet) connections between WFOs to both its designated WFO/RFC uplink site and the designated WFO/RFC backup uplink site (see section 2.1, Product Origination). The OPSNet provides scalable communications at all NWS locations nationwide at a very high level of availability.

b. The 13 WFO/RFC uplink sites, along with the four NWS uplink National Specialized Centers, and one other WFO (total: 19 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. The NWS non-uplink National Specialized Centers send their NWWS information through the AWIPS WAN to uplink sites: the SPC in Norman, OK, or the NHC in Miami, FL. The SWPC, a non-uplink site in Boulder, CO, sends NWWS information through the uplinks in WFO Tulsa, OK, and WFO 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 CSC's Master Ground Station #1 in Woodbine, MD, delivered to their Master Processing Center (MPC) in Chantilly, VA, and sent back to the Master Ground Station #2 in Woodbine, MD, for satellite broadcast to users. The backup Master Ground Station is located in Ft. Meade, MD.

f. Duplicate/triplicate products from the paired uplink sites/NCF are removed from the data stream at the Master Processing Center (MPC) before broadcast to users.

2.3 Product Receipt

Users have four options for receiving NWWS information: (1) C-band satellite, (2) Ku-band satellite, (3) the Internet service, and (4) the National Law Enforcement Telecommunications System Networks (NLETS), each with its specific advantages, depending on user needs. All NWWS users, including the NWS uplink sites, receive the entire NWWS data stream, as part of the outgoing satellite broadcast. Commercial software is available for users to select, manipulate, alarm, display, and archive information they require on various devices. For more information on commercial software go to the CSC website at http:/www.csc.com/public_sector/ds/27517-nwws

2.4 Product Archiving and Monitoring

The NWWS uplink sites have receipt capability that, with the commercial software, 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 NWWS product. The NWS uplink sites also can archive information by storing it on their hard drive.

WFOs and National Specialized Centers without NWWS downlink capability may have an Emergency Management Weather Information Network (EMWIN) satellite receive system (which receives much of the information from the NWWS) to help verify that their products achieve the appropriate dissemination. EMWIN also receives information from the NWSTG, not

just from NWWS, so it is not a certain verification method for NWWS. As with all NWWS users, the NWS non-downlink offices can view the entire NWWS data stream on the Internet for product verification by registering with CSC, getting a password, and appropriate software. Contact the NWS NWWS Program Leader in the OOS for software requests.

The standard AWIPS archiving capability is configurable, with most NWS offices maintaining a 7-day product archive (for both text and observation products).

2.5 Product Retransmissions. WFO and National Specialized Center NWWS sites may service user requests for resending of products according to the following guidelines:

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, *Text Product Formats and Codes*, 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, NWWS sites will send messages regarding a planned maintenance activity at a specified NWS site (Admin Message) to users informing them of planned system outages. NWWS itself never plans an outage (NWWS outages are never intentional; they are accidental, rare, unplanned events).

3 Procedural Responsibilities

3.1 Weather Service Headquarters (WSH)

3.1.1 Office of Climate, Water, and Weather Services (OCWWS)

OCWWS prepares the 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

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. The OOS is responsible for the Change Management (CM) Process (NWSI 10-101, *Change Management Process*), 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 OOS forwards approved NWS RCs to OOS and the Office of Chief Information Officer (OCIO) for implementation. The approved DRG RCs are forwarded to the Telecommunications Operations Center (TOC) for implementation in the NWS Telecommunications Gateway (NWSTG). The Telecommunication Operations Center Tier I has responsibilities of monitoring system and interfacing with CSC, AWIPS NCF, and uplink sites.

The OOS also 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 NWWS; monitor NWWS for product consistency and provide technical assistance to their field offices; coordinate and address user requests and concerns that arise within their region; and prepare and send RCs regarding additions/deletions/changes to products in the NWWS data stream to the DRG that are recommended by WFOs, RFCs, and NCs, with input from users.

3.3 National Specialized Centers

The National Specialized Centers, including the National Centers for Environmental Prediction (NCEP) and the Tsunami Centers are responsible for maintaining their NWWS data bases. The uplink National Specialized Centers ensure their staff is organized, trained, and equipped to fulfill the NWWS responsibilities. The National Specialized Centers, in coordination with NCEP and the Regional Headquarters, send RCs to the DRG in OOS for product change recommendations, with input from users. The National Specialized Centers provide retransmission of certain products at user request. Also, the AWIPS NCF facility provides third-level backup (uplink) of highest priority watch and warning products issued by the NWWS.

NCEP ensures the centers within its management structure are organized, trained, and equipped to fulfill the NWWS obligations. NCEP has designated the NCEP Operations Officer to oversee the dissemination of NCEP products. NCEP monitors NWWS for product consistency and provides technical assistance to the centers, and coordinates and addresses user/partner requests and concerns that relate to NCEP products.

3.4 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.

3.5 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 will retransmit certain products, at user request, originated by the respective office.

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 CSC NWWS website and NWS NWWS Web site.

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 NWWS 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 NWWS data stream.

5 Transmission and Product Formats and Codes

For formats and codes specific to transmission on NWWS, refer to NWSI 10-1701, *Text Products Formats and Codes.* This instruction provides formatting and coding information (see section 1c) for systems that disseminate text products. For information on specific product content and codes, refer to NWS Instructions on Product Specifications.