

**NATIONAL WEATHER SERVICE INSTRUCTION 10-1716**

**October 31, 2017**

**Administration and Management**

**Dissemination Service NWSPD 10-17**

**ENTERPRISE - NOAA WEATHER WIRE SERVICE (NWWS) SYSTEMS MANAGEMENT**

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

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**Type of Issuance:** Routine

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**SUMMARY OF REVISIONS:** This directive supersedes NWSI 10-1716, “*NOAA Weather Wire Service (NWWS) Systems Management*,” dated August 27, 2008. Changes were made to reflect the NWS Headquarters reorganization effective April 1, 2015.

Content changes were made to:

1. Replace system description and correct information to reflect current NWS Enterprise configuration for Enterprise-NWWS, as implemented on July 1, 2015
2. Update format and graphics
3. Add the National Water Center (NWC)
4. Add Acronym List and Definitions
5. Remove information covered in other directives

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Signed  
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October 17, 2017  
Date

**Enterprise - NOAA Weather Wire Service (E-NWWS) Systems Management**

<b>Table of Contents</b>	<b>Page</b>
1 Document Purpose .....	3
2 Description .....	3
2.1 E-NWWS Components .....	3
3 Organizational Responsibilities .....	4
3.1 Weather Service Headquarters (WSH) .....	4
3.1.1 Office of Dissemination (DIS) .....	4
3.1.2 National Centers for Environmental Prediction Central Operations (NCO) .....	5
3.1.3 Analysis, Forecast, and Support Office (AFS) .....	5
3.1.4 Office of Central Processing (OCP) .....	6
3.1.5 Office of the Chief Information Officer (OCIO) .....	6
3.2 Regional Headquarter Offices (RH) .....	6
3.3 Weather Forecast Offices (WFOs) and River Forecast Centers (RFCs) .....	6
3.4 National Centers (NCs) .....	6
3.5 National Water Center (NWC) .....	7
4 NWWS Products .....	7
5 NWWS Accessibility .....	7
5.1 NWWS Operations .....	7
5.1.1 NWWS Enterprise Systems .....	7
5.1.2 NWWS Tier Support .....	7
5.1.3 Software Support .....	8
5.2 State and Other Agencies .....	8
6 NWWS Problems and Issues .....	8
6.1 NWWS Outage Reporting .....	8
6.1.1 NWS Enterprise Architecture System Notifications .....	8
6.1.2 NWWS User Notifications .....	9
6.2 Corrupted or Missing Products .....	9
7 Acronyms .....	9
8 Definitions .....	10
Appendix A NWWS User Configuration .....	12

## 1 Document Purpose

This Instruction describes how the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) manages, operates, administers, and maintains the NWS Enterprise NOAA Weather Wire Service (E-NWWS).

**Note:** NWWS is still the most common reference used by and for the public, and will be used interchangeably with E-NWWS throughout this document.

## 2 Description

The NWS developed E-NWWS within the Enterprise Architecture (EA) to maintain the fastest method NWS has to disseminate alerts and warnings to federal, state, and local emergency management agencies, radio and television commercial broadcasters, weather re-distributors, and other approved users. E-NWWS is designed to take advantage of both the Internet (via NWWS Open Interface [OI]) and the SBN/NOAAPORT satellite Channel 201 (PID 201) to provide the highest degree of product availability in the dissemination of weather information, alerts and warnings.

The E-NWWS consists of several NWS EA components that originate, filter, distribute, process and disseminate designated E-NWWS text products as issued by the Weather Forecast Offices (WFOs), National Centers, and the National Water Center.

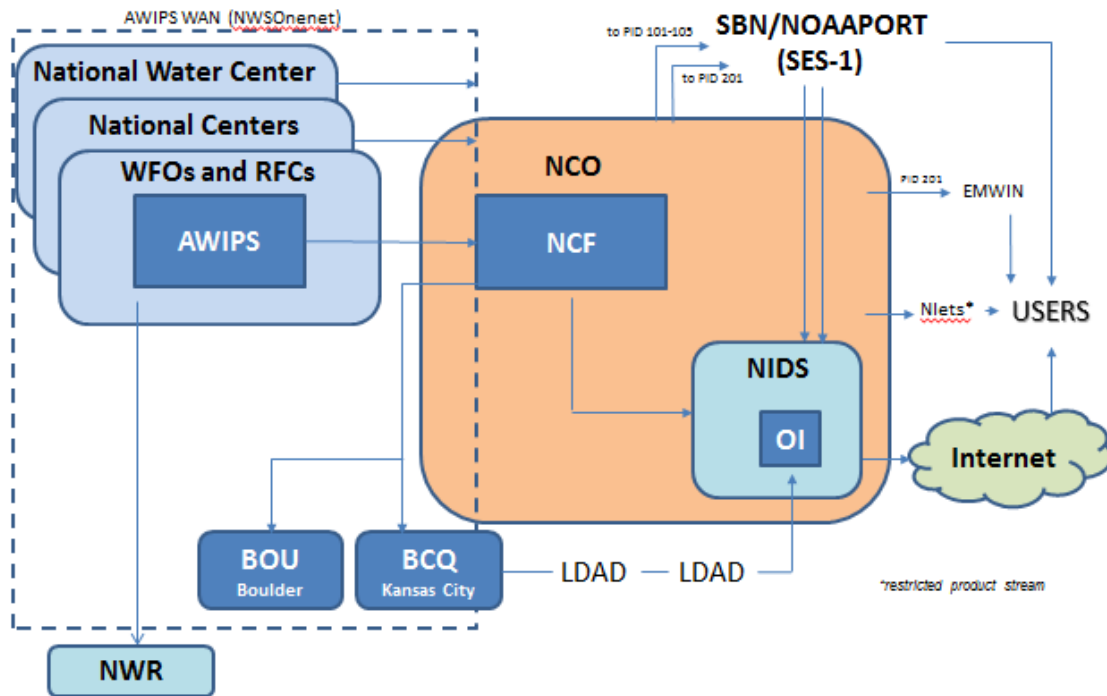
Since 1999, NWWS and NOAA Weather Radio All Hazards (NWR) have provided alerts and warnings to affected United States populations and include the ability for radio and television broadcasters to activate the local Emergency Alert System (EAS) in their coverage area(s).

**Note:** NWWS text products remain available over SBN/NOAAPORT Channels 101-105 which carry all NWS products and can also be used for EAS activation. Dissemination over Channels 101-105 is not a part of the E-NWWS architecture and will not be addressed in this document.

### 2.1 E-NWWS Components

The E-NWWS consists of the following NWS EA components (see figure 2.1):

- A. Advanced Weather Interactive Processing System (AWIPS) for NWWS product origination and filtering via the NWWS exclude file;
- B. AWIPS Wide Area Network (AWIPS-WAN) for internal NWS to NWS system telecommunications;
- C. AWIPS Network Control Facility (NCF) for NWS product collection and re-distribution;
- D. NWS Central Operations (NCO) for routing products to satellite, systems monitoring, and internet processing;
- E. NWS Satellite Broadcast Network (SBN/NOAAPORT) – specifically PID 201 (an NWWS products only data stream); and
- F. NOAA Internet Dissemination System (NIDS) for Internet dissemination to NWWS-OI users.



**Figure 2.1 E-NWWS Enterprise Architecture Diagram; product flow**

Component description and product dissemination formats for the E-NWWS are addressed in NWS Instruction (NWSI) 10-1715, *Enterprise – NOAA Weather Wire Service (E-NWWS) Dissemination*. Appendix A addresses potential user configurations.

### 3 Organizational Responsibilities

This section describes the responsibilities of the NWS Headquarters (WSH), Regional Headquarters (RH), field offices, National Centers and the National Water Center with respect to the E-NWWS.

#### 3.1 Weather Service Headquarters (WSH)

The NOAA Assistant Administrator (AA) for Weather Services has overall responsibility for the NWS Enterprise Architecture.

##### 3.1.1 Office of Dissemination (DIS)

DIS provides staff assistance to the NOAA AA for Weather Services for NWWS program management and configuration control. DIS provides program and financial management as well as operational, engineering and communications support for NWWS. DIS has responsibility for the coordination of NWS system telecommunications.

The Dissemination Systems Team (DST) is a designated branch within DIS.

Responsibilities include::

- a. Program management of E-NWWS;
- b. Approving and processing coordination of change requests for NWWS product; configuration control (in accordance with NWSI 10-101, *Change Management Process*);
- c. Maintaining the official NWWS excluded product list, and communicate any changes in accordance with NWSI 10-101;
- d. Responding to NWWS user inquiries, requests, and issues;
- e. Maintaining the NWWS Internet website (<http://www.nws.noaa.gov/nwws>);
- f. Maintaining state-requested NWWS satellite receiver sites;
- g. Performing public outreach and coordination to NWS partners, local, state and federal government agencies; emergency managers; commercial alert entities; radio and television broadcasters; and public and private organizations; and
- h. Submitting timely notifications and updates to users regarding planned preventative, corrective, and unplanned system servicing of the E-NWWS.

### **3.1.2 National Centers for Environmental Prediction Central Operations (NCO)**

NCO provides staff assistance to the AA for NOAA Weather Services concerning E-NWWS telecommunications and all product dissemination from WSH over the SBN/NOAAPORT and the NWS Internet Dissemination System (NIDS).

Responsibilities include:

- a. NWS product routing;
- b. Tier I monitoring, incident response, and support;
- c. Tier II and Tier III issue response, resolution and support;
- d. Internet Technology (IT) security implementation and monitoring;
- e. Enterprise system assessment and accreditation (in accordance with all applicable and relevant National Institute of Standard and Technology special publications and Federal Information Processing Standards);
- f. Designing, developing, maintaining and validating databases and Local Data Managers (LDMs);
- g. Issuing *user IDs* and *passwords* for NWWS-OI users; and
- h. Disseminating NWWS products to SBN/NOAAPORT Channel 201 (NWWS products only) and to NIDS (NWWS-OI).

### **3.1.3 Analysis, Forecast, and Support Office (AFS)**

AFS provides staff assistance to the AA for NOAA Weather Services concerning NWS field sites and all National Centers and the National Water Center coordination for product development and integration into the E-NWWS product stream.

Responsibilities include:

- a. Establishing service requirements, including the nature and scope of products to be originated and distributed throughout the NWS EA;

- b. Defining message content in accordance with formatting and rules as defined in NWSI 10-1701, 10-1702, 10-1703 and 10-1715; and
- c. Administrating change management in accordance with NWSI 10-101 for product addition, deletions or content changes throughout NWS EA.

#### **3.1.4 Office of Central Processing (OCP)**

OCP provides staff assistance to the AA for NOAA Weather Services concerning the AWIPS Enterprise system.

Responsibilities include:

- a. Updating AWIPS configuration file for the latest NWWS alerts and warnings in accordance with NWSI 10-101;
- b. Monitoring appropriate use of product type messages for NWWS dissemination;
- c. Resolving Tier II and Tier III issues;
- d. Configuration management; and
- e. Programming and demonstration testing.

#### **3.1.5 Office of the Chief Information Officer (OCIO)**

OCIO provides staff assistance to the AA for NOAA Weather Services concerning IT security. The OCIO has responsibility for over-all NWWS IT security.

Responsibilities include:

- a. Authorizing Official for the Certification and Accreditation of the NWS EA Systems;
- b. Managing processes that control the routing of data and products throughout the NWS EA; and
- c. Monitoring telecommunication networks and reporting failures and outages.

### **3.2 Regional Headquarter Offices (RH)**

RHs coordinate with the field sites for NWWS issues or product changes and forward to WSH any problem that cannot be resolved at the local or regional level. RHs validate field requirements for new and updated products, forwarding requests to AFS.

### **3.3 Weather Forecast Offices (WFOs) and River Forecast Centers (RFCs)**

WFOs and RFCs prepare and issue NWWS products. Each site monitors their product stream and assures proper product-type, priority, and text format are selected (if optioned). Sites are responsible for updating the AWIPS configuration file to assure the latest product types approved for dissemination. Sites are responsible for assisting DST with missing product inquiries for their respective area of responsibility. The WFO's Warning Coordination Meteorologists (WCMS) communicate and coordinate with state/local emergency managers and local weather users as needed.

### **3.4 National Centers (NCs)**

The NCs add or remove their respective NWWS meteorological and climate products in

accordance with NWSI 10-101. The NCs are also responsible for monitoring the respective products and reporting any issues to NCO Tier I support.

### **3.5 National Water Center (NWC)**

The NWC adds or removes NWS hydrologic products in accordance with NWSI 10-101. The NWC is also responsible for monitoring the respective products and reporting any issues to NCO Tier I support.

## **4 NWS Products**

The generation, dissemination, and management of NWS products are covered under NWS Directives System (NDS) Section 10, *Operations and Services* (<http://www.nws.noaa.gov/directives>). Products to be excluded from the NWS product stream are submitted by the respective office or center to WSH in accordance with NWSI 10-101. DST maintains the official NWS exclude list.

## **5 NWS Accessibility**

The NWS is offered to the public, government (federal, state and local) and commercial users free of charge (this pertains to the NWS product streams and End User Client [EUC] software). NWS is accessed over the NWS SBN/NOAAPORT Channel 201 (satellite) and NWS-OI (internet).

### **5.1 NWS Operations**

The NWS bears all costs for the operation and maintenance of the E-NWS and relevant support systems. Upon request and at the discretion of the NWS, NWS hardware (satellite dish and receiver) for a state-designated emergency agency may be purchased, installed and maintained by NWS based on a mutually signed Memorandum of Agreement (MOA).

#### **5.1.1 NWS Enterprise Systems**

The NWS EA systems supporting the NWS are operated and maintained by the respective NWS system owner organization. This support includes applicable System Owner, System Administrator management, Internet System Security Officer (ISSO) monitoring, Internet Technology (IT) security documentation and accreditation.

#### **5.1.2 NWS Tier Support**

Except for *user ID* and *password* issuance and resets, the NWS provides a limited NWS problem resolution capability for users. This policy is based on the multi-variant hardware and software configurations that are available to users.

Users may e-mail the NWS Program Office if there is an issue that cannot be resolved locally. The NWS Program Office provides two e-mail addresses for user specific communications; [NWS.Help@noaa.gov](mailto:NWS.Help@noaa.gov) (setup or inquiry questions) and [NWS.Issue@noaa.gov](mailto:NWS.Issue@noaa.gov) (reception problems). The NWS Program Office will respond by the next business day.

Tier I support is provided by NCO and addresses *user ID* and *password* generation, changes, and re-sets within two business days.

Tier II and III support are provided by OCP. This tier support is initiated after discussion(s) with DST concerning extent of issue and risk to the public; including potential impact of current or critical weather to affected users, and recommended solutions.

### **5.1.3 Software Support**

The End User Client (EUC) is a self-contained Java application that allows users to receive either or both NWS product streams (satellite receiver and Internet). The EUC is available for request from the NWS webpage <http://www.nws.noaa.gov/nws/news.html>. EUC users should send any unresolved issues to [NWS.Issue@noaa.gov](mailto:NWS.Issue@noaa.gov). Due to limited resources, the NWS may not be able to update the EUC to correct an issue, the distribution webpage, or issue change notifications in a timely manner and may at its discretion update, change, or discontinue provisioning the EUC without user notification.

## **5.2 State and Other Agencies**

Most state and local agencies currently use NWS or other weather alert, warning and information via the Internet.

Several legacy NWS state agencies (prior to July 1, 2015) elected to retain a government supported satellite dish system. DST installed and maintains those sites, addressing NWS issues when reported.

## **6 NWS Problems and Issues**

Reporting problems and issues is the responsibility of the respective NWS EA system owner and NWS user.

E-mails addresses were set up to handle NWS User problems and issues:

1. [NWS.Help@noaa.gov](mailto:NWS.Help@noaa.gov) for setup or general inquiry questions;
2. [NWS.Issue@noaa.gov](mailto:NWS.Issue@noaa.gov) to identify and alert DST of problems, corrupted or missing products;

DST or the NWS program manager may be contacted directly. EA system owners should contact DST directly.

### **6.1 NWS Outage Reporting**

#### **6.1.1 NWS Enterprise Architecture System Notifications**

The respective EA system operation managers will inform DST of any scheduled outages as soon as planned.

The respective EA system operation managers will inform DST on the cause of any unplanned outage within 24 hours of occurrence.



Respective EA systems that report system status and schedule to NWS management will also include DISS and DST on the distribution.

### 6.1.2 NWWS User Notifications

The DST will notify users of any planned and unplanned system outages for system re-sets for both monitored and un-monitored systems.

NWWS User who experiences an outage or issue should contact the DST or NWWS Program Manager directly or send an e-mail to [NWWS.Issue@noaa.gov](mailto:NWWS.Issue@noaa.gov).

### 6.2 Corrupted or Missing Products

Corrupted or missing products should be reported as soon as possible to DST via [NWWS.Issue@noaa.gov](mailto:NWWS.Issue@noaa.gov) or by e-mailing the NWWS Program Manager directly. Please identify whether the corruption or missing product is from NWWS-OI or SBN/NOAAPORT PID 201 if known.

## 7 Acronyms

AA	Assistant Administrator
AFS	Analyze, Forecast and Support Office
AWIPS	Advanced Weather Interactive Processing System
BCQ	Central Region Headquarter site, Kansas City, Kansas
BOU	Alternate backup site, Boulder Colorado
DIS	Office of Dissemination
DST	Dissemination Systems Team
EA	Enterprise Architecture
EMWIN	Emergency Manager's Weather Information Network
E-NWWS	Enterprise-NWWS (commonly referred as NWWS)
EUC	End User Client
ID	Identity
ISSO	IT System Security Officer
IT	Information Technology
LDAD	Local Data Acquisition and Dissemination
LDM	Local data manager
MOA	Memorandum of Agreement
NC	National Center
NCF	Network Control Facility (AWIPS related)
NCO	NWS Central Operations

NDS	NWS Directive System
NIDS	NWS Internet Dissemination System
Nlets	National Law Enforcement Telecommunication System (aka The International Justice and Public Safety network)
NOAA	National Oceanic and Atmospheric Administration
NWC	National Water Center
NWS	National Weather Service
NWSI	NWS Instruction
NWWS	NOAA Weather Wire Service (aka E-NWWS)
OCIO	Office of the Chief Information Officer
OCP	Office of Central Processing
OI	Open Interface
PC	Personal computer
PID	Port ID
PM	Program Manager
RFC	River Forecast Center
RH	Regional Headquarters
SBN	Satellite Broadcast Network
VSAT	Very small aperture terminal
XMPP	Extensible Messaging and Presence Protocol
WAN	Wide-area network
WCM	Warning Coordination Meteorologist
WFO	Weather Forecast Office
WSH	Weather Service Headquarters

## 8 Definitions

**End User Client (EUC)** is an NWS-developed XMPP Java script designed for Windows-based PCs for extracting and filtering NWWS text products from either SBN/NOAAPORT Channel 201 or NWWS-OI, or from both product streams with a de-duplication feature. The latest EUC version can be requested from NWS using the NWWS webpage; <http://www.nws.noaa.gov/nwws/news.html>

**Enterprise Architecture (EA)** is a comprehensive blueprint that aligns an organization's business processes with its Information Technology (IT) strategy. It is documented using

multiple architectural models or views that show how the current and future needs of an organization will be met. The key components of the EA are:

- Accurate representation of the business environment, strategy and critical success factors
- Comprehensive documentation of business units and key processes
- Views of the systems and data that support these processes
- A set of technology standards that define what technologies and products are approved to be used within an organization, complemented by prescriptive enterprise-wide guidelines on how to best apply these technology standards in creating business applications.

**SES-1** is a telecommunication satellite principally used to provide high-power direct-to-home (DTH) and digital broadcasting services to very small aperture terminals (VSAT) in the US. <http://www.aerospace-technology.com/projects/ses1communicationsa/> The SES-1 is the platform for the NWS SBN/NOAAPORT Channels 101-105 and Channel 201 (NWWS products only).

## Appendix A NWS User Configuration

End users have multiple options of receiving NWS text alerts via satellite or the Internet. For NWS product stream, it is recommended that NWS users have *both* satellite (SBN/NOAAPORT PID 201) and the Internet (NWS-OI) for the highest product availability. Updated information is available to the public on the NWS webpage ([www.nws.noaa.gov/nws](http://www.nws.noaa.gov/nws)).

### Configuration 1 - Satellite only

- A. Satellite dish (historically 1.2m; though 2.4m or larger is recommended for better reception and product availability)
- B. Low Noise Band (LNB) down converter (Norsat Model 3220 or similar)
- C. Ethernet, RF coaxial and CAT5 network cables (as necessary)
- D. Windows - based PC with minimum 20GB storage and 3GB RAM
- E. Satellite receiver DVB-S2 that as a minimum is characteristically similar to or better than a Novra S300.
- F. Software to filter and display products (similar to the NWS End User Client-EUC)

or

### Configuration 2 – Internet only

- A. Internet connection
- B. Windows - based PC with minimum 20GB storage and 3GB RAM
- C. XMPP client (Commercial Software or EUC) for NWS-OI Internet stream access and message display.

Note: A *user-ID* and *password* required. See NWS webpage-NEWS to request.

or

### Configuration 3 – Both Satellite and Internet access

This is the recommended configuration for the highest product availability. The EUC is capable of receiving both SBN/NOAAPORT PID 201 and the NWS-OI from the Internet and de-duplicate the product streams.

Note: There are commercial software interfaces that allow user's access to the NWS product stream(s) using the *user ID* and *password*.