NATIONAL WEATHER SERVICE INSTRUCTION 10-1716

DECEMBER 23, 2020

Administration and Management

Dissemination Service NWSPD 10-17

ENTERPRISE - NOAA WEATHER WIRE SERVICE (NWWS) SYSTEMS MANAGEMENT

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SUMMARY OF REVISIONS: This directive supersedes NWSI 10-1716, *"NOAA Weather Wire Service (NWWS) Systems Management,"* dated October 31, 2017. Changes were made to reflect current operational capability.

Content changes were made to:

1. Reflect dissemination branch change from Dissemination Systems Team (DST) to Dissemination Systems Branch (DSB)
2. Modify sentence structure and information for better clarity
3. Use tables to visually represent component information
4. Update graphics to show current NWWS configuration
5. Address Non-Weather Emergency Messages (NWEMs)
6. Remove references to EUC and EUC software
7. Correct references from directive 10-101, Change Management Process (rescinded June, 12, 2019) to directive 30-1205, Change Management Process dated July 23, 2019

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

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

2 System Description

The E-NWWS is an integrated NWS Enterprise Architecture (EA) service providing the fastest dissemination of alerts and warnings to federal, state, and local emergency management agencies, radio and television commercial broadcasters, weather re-distributors, other approved users, and the general public.

E-NWWS is designed to take advantage of both the Internet and satellite product streams to provide the highest degree of product availability to the user.

Additional information pertaining to the EA components and the product streams are covered in NWS instruction 10-1715, *Enterprise – NOAA Weather Wire Service (E-NWWS) Dissemination*.

2.1 E-NWWS Components

The NWWS consists of the following EA components (see table 2.1 and figure 2.1):

Table 2.1

	ENTERPRISE ARCHITECTURE COMPONENT	COMPONENT FUNCTION	RELATED CONNECTIONS
1	Advanced Weather Interactive Processing System (AWIPS)	Product Origination	Weather Forecast Offices National Centers for Environmental Protection National Water Center NOAA Weather Radio AWIPS-WAN
2	AWIPS Wide Area Network (AWIPS-WAN)	Product Distribution	OneNWSnet

	ENTERPRISE ARCHITECTURE COMPONENT	COMPONENT FUNCTION	RELATED CONNECTIONS
3	AWIPS Network Control Facility (NCF)	Product Processing, Filtering and Distribution to NWS dissemination platforms	NCEP Central Operations (NCO) Office of Central Processing (OCP)
4	NCEP Central Operations (NCO)	Product Routing, System Monitoring, and Internet Processing	Integrated Dissemination Platform (IDP) EMWIN FTP Anonymous OCP
5	NWS Satellite Broadcast Network (SBN/NOAAPORT)	Product Dissemination over Channels 101-108 (All NWS products) and Channel 201 (Only NWWS Text Products)	OCP Galaxy – 28 (Intelsat)
6	Integrated Dissemination Platform (IDP)	Internet Distribution (previously known as NWS Internet Dissemination System – NIDS) *NWWS has yet to be fully incorporated into IDP.*	iNWS NWSchat NWWS – Open Interface (OI) ATOM feeds NCO

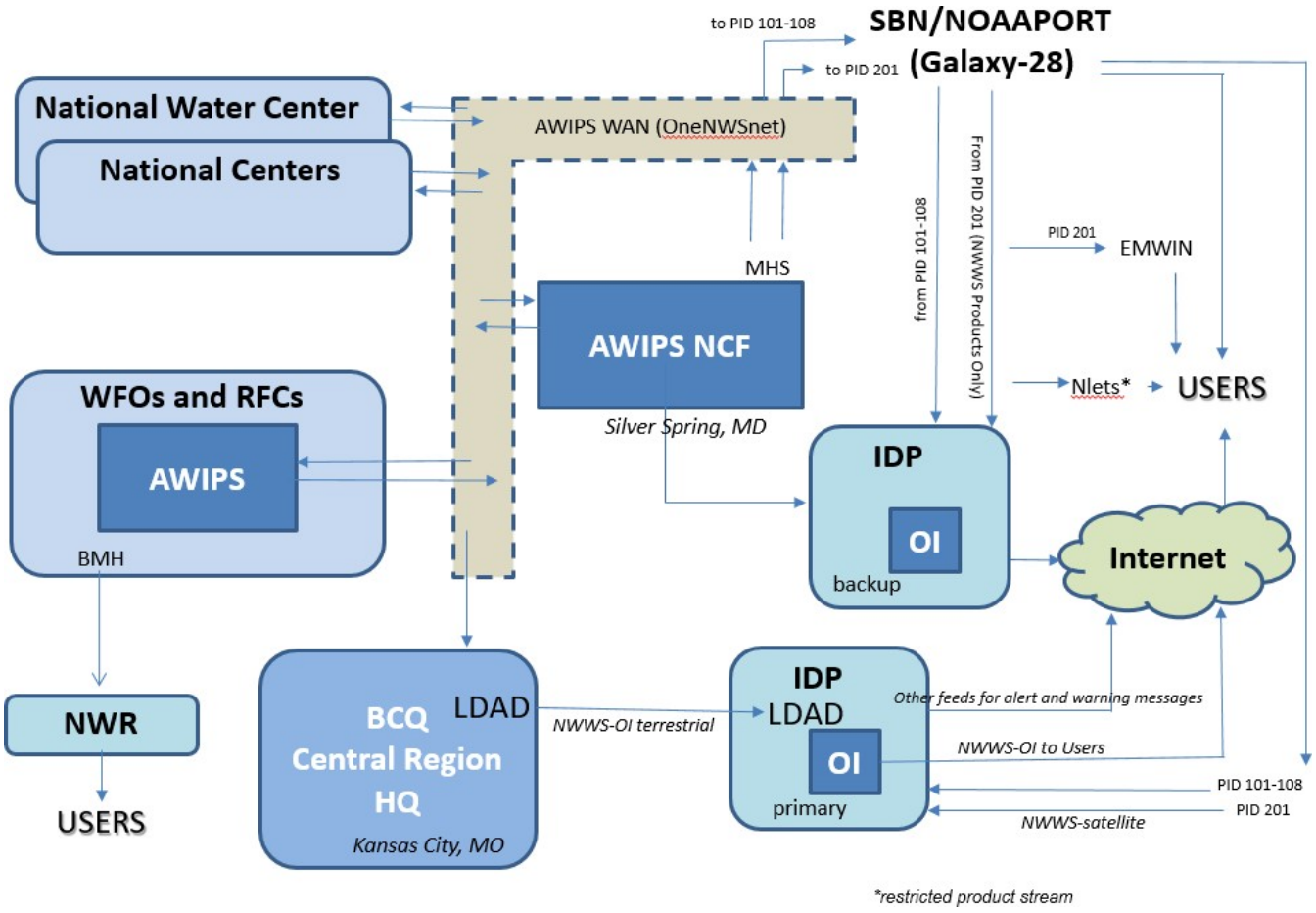

Figure 2.1 E-NWWS Enterprise Architecture Diagram; product flow

3 Organizational Responsibilities

This section addresses 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 (EA) and the E-NWWS.

3.1.1 Office of Dissemination (DIS)

DIS provides staff assistance to the NOAA AA for Weather Services for NWWS program management, configuration control, and user communications.

The Dissemination Systems Branch (DSB) within the Office of Dissemination is responsible for providing staff assistance to include:

a. Program Management of E-NWWS;
b. Coordinating user input of support issues to NCO;
c. Approving, and coordinating change requests for NWWS addition and subtraction changes to the product streams;
d. Recommending system configuration changes (in accordance with NWSI 30-1205, *Change Management Process*);
e. Maintaining the official NWWS product exclude list, and communicate any changes in accordance with NWSI 30-1205;
f. Notifying the NCO Senior Duty Meteorologist (SDM) concerning E-NWWS issues and outages;
g. Reporting user and system issues to Infrastructure and Web Services Branch (IWSB).
h. Responding to NWWS user inquiries, requests, and issues;
i. Coordinating with NCO/Implementation and Data Service Branch (IDSB)'s IDP-Support group for changes and additions to The International Justice and Public Safety Network (Nlets) member-State product subscriptions;
j. Maintaining the NWWS websites;
k. Maintaining state-requested NWWS satellite receiver sites (Total: 3 – see Section 5.2);
l. Performing public outreach and coordination to NWS partners, local, state and federal government agencies; emergency managers; commercial alert entities (re-distributors); radio and television broadcasters; public users, and public and private organizations; and
m. Submitting timely notifications and updates to users regarding planned preventative, corrective maintenance, and unplanned system servicing, upgrades, and outages.

3.1.2 National Centers for Environmental Predication 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 IDP. NCO also includes the IWSB and IDSB.

Responsibilities include:

a. NWS product routing;
b. Tier I monitoring, incident response, and support;
c. Tier II issue response, resolution and support;
d. Tier III backup and final issue response, resolution and support and revision/re-development as needed;
e. Internet Technology (IT) security implementation and monitoring;
f. 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);
g. Designing, developing, maintaining and validating databases and Local Data Managers (LDMs);
h. Issuing *User IDs* and *passwords* to NWWS-OI users;
i. Implementing the NWWS product exclusion file; and
j. Disseminating NWWS products to SBN/NOAAPORT Channel 201 the dedicated NWWS products only channel and to NIDS for Internet distribution to NWWS-Open Interface.

3.1.3 Analysis, Forecast, and Support Office (AFS)

AFS provides staff assistance to the AA for NOAA Weather Services concerning NWS field sites (Weather Forecast Offices) 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; and

b. Defining message content in accordance with formatting and rules as defined in NWSI 10-1701, 10-1702, 10-1703 and 10-1715.

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 NWS products; including alerts and warnings, in accordance with NWSI 30-1205;
b. Updating the NWWS exclusion file;
c. Monitoring appropriate use of product type messages for proper NWWS dissemination;
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 EA 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 and the Data review group (DRG) per NWSI 30-1205.

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

WFOs and RFCs prepare and issue text weather products, watches, alerts and warnings. Each site monitors their product creation process and assures proper product-type, priority, routing 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 are included. Sites are also responsible for keeping the NWWS Exclude file updated. Sites are responsible for assuring proper routing if NWWS distribution is required for specific products. Sites are responsible for assisting DSB 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. WCMs also perform public outreach and coordination to NWS partners, local government agencies; emergency managers; commercial alert entities (re-distributors); radio and television broadcasters; public users and public and private organizations.

3.4 National Centers (NCs)

NCs add or remove their respective NWWS meteorological and climate products in accordance with NWSI 30-1205. The NCs are also responsible for monitoring their respective products and reporting any issues to NCO Tier I support.

3.5 National Water Center (NWC)

NWC adds or removes NWWS hydrologic products in accordance with NWSI 30-1205. The NWC is also responsible for monitoring the respective products and reporting any issues to NCO Tier I support.

4 E-NWWS Operation

There are two NWS geographic sites that can provide NWWS-OI product streams; a primary and a backup. Only one is operational at any given time. Switching between the two sites will result in a 30-90 minute outage as systems re-synchronize.

After receiving a user ID and password and using either a commercial software or some software they've developed, users can access the NWWS-OI to receive NWWS text products. User IDs and passwords are not required for receiving NWWS products via satellite receivers. Satellite receiver configurations are addressed on the NWWS webpage.

All users are encouraged to have both the Internet NWWS-OI and the satellite SBN PID 201 product streams for highest product availability in the event of planned and unplanned outages.

There is no charge to NWWS users for satellite or NWWS-OI access.

5 E-NWWS Administration

DSB is responsible for program management and user communications / issue resolution. DSB does not directly administer software or system configurations.
Excepting the above, all other actions and requirements are the purview of the respective EA component system owner. With planned and unplanned outages, system owners should issue a notice in accordance with NWSI 10-1805.

5.1 E- NWWS Maintenance

NWS bears all costs for the operation and maintenance of the E-NWWS and relevant support

systems for designated U.S cities. Upon request and at the discretion of NWS, NWWS 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).

Several legacy NWWS state agencies (prior to July 1, 2015) elected to retain a government supported satellite dish system. DSB installed and maintains those sites, addressing NWWS issues when reported. The states currently opting for DSB-NWWS support include Maryland, Montana, and Pennsylvania. DSB also maintains NWWS satellite receiver systems at WSH, the Storm Prediction Center, and the National Tsunami Warning Center.

NWS no longer supports previous NWWS-specific software End User Clients (EUCs) developed for Windows 7 and Windows 8 operating systems. Users are expected to develop their own interface XMPP software client or purchase a commercially available solution.

NWS EA system owners when maintaining their systems, or at such time may incur a temporary outage lasting longer that 30-minutes, should notify DIS/DSB NWWS Program Manager via e-mail and users in accordance with NWSI 10-1805. NCO plans to have monthly transitions between backup and primary sites. Additional unscheduled transitions may be necessary to resolve critical or emergency support situations. Transitions typically last 3-days (Tuesday – Thursday) but may be extended or shortened due to declared Critical Weather Day(s).

DSB will post planned maintenance information on the NWWS webpage as needed.

5.1.1 E-NWWS Support

Support is initiated by the user to the DSB Help (NWWS.Help@noaa.gov) or Issue (NWWS.Issue@noaa.gov) e-mail and then provided by NCO for user ID and password generation, changes, and re-sets. These user-requested actions are completed within two to three business days (M-F except holidays).

For other issues, DSB will coordinate with WSH office as needed to resolve missing products, connection problems, etcetera after discussions with the affected user(s).

Any significant change to NWWS to resolve an issue is initiated after discussion(s) with DIS concerning the extent of the issue and risk to the public, including the potential impact of current or critical weather to affected users, and recommended solutions.

5.1.2 E-NWWS Problem Reporting

Users may e-mail the NWWS Program Office if there is an issue or product problem. Reporting problems and issues is the responsibility of the respective NWS EA system owner, DSB and NWWS user.

E-mails for NWWS problems and issues are:

1. NWWS.Help@noaa.gov for setup or general inquiry questions;
2. NWWS.Issue@noaa.gov to identify and alert DSB of problems, corrupted or missing products, product reception problems, or unplanned outages;
3. NWWS users who experience an extended outage should contact the DSB or

NWWS Program Manager directly.

EA system owners experiencing problems or recurring issues should contact DSB or the NWWS program manager directly. Respective EA system owners that report system status and schedule to NWS management will also include DSB (NWWS.Issue@noaa.gov) on the e-mail.

5.1.3 E-NWWS User Notifications

The DSB will communicate issues and planned maintenance with users via e-mail.

5.2 E-NWWS Products

NWWS products are designated by AFS, coordinated through the Data Review Group (DRG)m and maintained in the requisite AWIPS configuration files. Adding or subtracting products is coordinated with the DRG.

Individual WFOs are responsible for keeping the AWIPS NWWS Exclude file current. The NWWS Exclude file removes specific aviation, forecast and observation products from inadvertent NWWS dissemination.

5.3 E-NWWS Corrupted or Missing Products

Corrupted or missing products should be reported as soon as possible to DSB via 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.

NOTE: *Non-Weather Emergency Messages (NWEMs) from external sources are not on the NWWS product stream(s). In 2020, NWS will be incorporating a direct feed to the NWWS satellite Channel 201 to resolve this issue. Channel 201 automatically feeds the NWWS-OI.*

6 Acronyms

AA	Assistant Administrator
AFS	Analyze, Forecast and Support Office
AWIPS	Advanced Weather Interactive Processing System
BCQ	NWWS-OI terrestrial ingest point; Aviation Weather Center, Central Region Headquarters LDAD to NIDS LDAD, Kansas City, Missouri
DIS	Office of Dissemination
DSB	Dissemination Systems Branch
DTH	direct-to-home
EA	Enterprise Architecture
EMWIN	Emergency Manager's Weather Information Network
E-NWWS	Enterprise-NWWS
ID	Identification
ISSO	IT System Security Officer
IT	Information Technology
LDAD	Local Data Acquisition and Dissemination
LDM	Local Data Manager
MHS	Message Handling System
MOA	Memorandum of Agreement
NC	National Centers (previously the National Centers for Environmental Protection)
NCF	National Control Facility (AWIPS related)
NCO	NCEP Central Operations
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
NWEM	Non-Weather Emergency Message
NWS	National Weather Service
NWSI	NWS Instruction
NWWS	NOAA Weather Wire Service (aka E-NWWS)
NWWS-OI	NWWS Open Interface
OCIO	Office of the Chief Information Officer
OCP	Office of Central Processing
OI	Open Interface
PC	Personal computer
PID	Port ID (for SBN/NOAAPORT satellite; Galaxy-28 Intelsat)
PM	Program Manager
RFC	River Forecast Center
RH	Regional Headquarters
SBN	Satellite Broadcast Network
VSAT	very small aperture terminal
XMPP	eXtensible Machine and Presence Protocol
WAN	Wide-area network

WCM	Warning Coordination Meteorologist
WFO	Weather Forecast Office
WSH	Weather Service Headquarters

7 Definitions

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.

Galaxy-28 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 United States. The Galaxy-28 is the platform for the NWS SBN/NOAAPORT Channels 101-108 (for all NWS products) and Channel 201 (for only NWWS products).

Appendix A Basic NWWS User Configuration

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

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

or

Configuration 2 – Internet only

A. Internet connection

B. Windows - based PC with minimum 20GB storage and 3GB RAM

C. XMPP client (Commercial Software) for NWWS-OI Internet stream access and message display.

Note: *A Open Interface (OI) user-ID* and *password are required. See NWWS webpage to request.*

or

Configuration 3 – Both Satellite and Internet access

This is the best recommended configuration for the highest product availability.