

DRAFT

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

NATIONAL WEATHER SERVICE INSTRUCTION 01-1003

***Administration and Management
Managing the Provision of Environmental Information, NWSPD 1-10
MOBILE WEATHER SERVICES***

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

OPR: W/SP (W. Levine)

Certified by: W/SP (E. Johnson)

Type of Issuance: Initial

SUMMARY OF REVISIONS:

DRAFT—NOT SIGNED

Edward Johnson _____ Date
Director, Office of Strategic Planning and Policy

Mobile Weather Services

Table of Contents	Page
1 Introduction.....	3
2 NWS Approach for Providing Mobile Weather Services.....	3
2.1 Support for NWS “Core Partners”	3
2.2 Direct Mobile Weather Services.....	3
2.3 Indirect Mobile Weather Services	4
2.4 Outreach/Education about Mobile Weather Services.....	4
3 Development/Implementation of New Mobile Weather Services	4
3.1 Policy Compliance	5
3.2 Legality	6
3.3 Waiver for Proprietary Solutions.....	6
3.4 Scientific validation and technical merit	6
3.5 Mission Benefits	6
3.6 Documentation.....	6
3.7 Operational Sustainability.....	6
3.8 Scope of Development.....	6
4 Authorities and Responsibilities	6
APPENDIX A - References and Definitions.....	A-1
APPENDIX B - Guidance on NWS Provision of Direct Mobile Weather Services Versus Indirect Support for External Services.....	B-1

1 Introduction

Wireless communication technology is an important innovation which can increase the effectiveness of NWS warnings designed to protect life and property. Exploiting innovative capabilities of the NWS workforce can help leverage this technology to increase the benefits to the U.S. in life, property, and the economy. As with every new opportunity, there are important factors which must be considered to ensure their effectiveness. This Instruction provides process guidelines intended to ensure NWS mobile weather services are developed in a manner that adheres to appropriate U.S. government policies and maximizes the effectiveness of the NWS.

2 NWS Approach for Providing Mobile Weather Services

The NWS approach to providing mobile weather services includes both direct and indirect mobile weather services¹. Taking this balanced approach optimizes the rapid delivery of critical weather services to Emergency Managers, electronic media, and other core partners as well as to the public. Appendix B provides guidelines on when direct services and indirect support for external services should be utilized.

2.1 Support for NWS “Core Partners”²

NWS recognizes that we have a special mission responsibility for our "core partners" (emergency management community; domestic and international government partners; electronic media). This subset of the NWS user community requires timely information wherever they are, through multiple channels of dissemination, including wireless. NWS needs to know these core partners have access to unaltered NWS data/products to ensure successful interaction between these partners and our field forecasters. In addition, these core partners require tools to facilitate two-way information sharing and decision support with NWS. Consideration for the special needs of this user community will be given in applying the decision process in section 3, below, with the intent of maximizing NWS flexibility in developing mobile services (mobile apps, alerts, web services, etc.) to meet core partner needs promptly.

2.2 Direct Mobile Weather Services

Direct mobile weather services are those for which NWS provides content directly to each user's specific mobile device and controls its presentation on that device.

¹ Mobile weather services can be provided to the public by any component of the environmental information enterprise (government, weather industry, and academia). NWS currently provides web content scaled for mobile devices (e.g. mobile.weather.gov) and has developed experimental services which push hazardous weather alerts to a limited set of users (NWS “core partners”) via SMS messaging. America’s Weather Industry (private sector providers) provides a rich array of services including alerts and general weather information tailored to the mobile community. Academia, too, provides environmental information tailored to mobile devices, to make important data sets available to a wider audience and to explore the utility of new data sets to various user groups.

² See attachment for definition of “NWS Core Partner”

2.2.1 Direct Mobile Weather Services will be developed in accord with standard NWS development practices and policies, including NWS Directive 1-10, “Managing the Provision of Environmental Information” and its associated instructions.

2.2.2 NWS web content will be designed to render appropriately on mobile device web browsers.

2.2.2.1 NWS mobile-enhanced websites will consistently enable mobile device access as new sites are designed and implemented.

2.2.2.2 Mobile Best Practices 1.0 from the World Wide Web Consortium (W3C) at <http://www.w3.org/TR/2008/REC-mobile-bp-20080729/> will be referred to while formulating standards. NWS will use mobile-optimized content as a primary method for device support, with device-specific style sheets as appropriate.

2.2.3 Existing NWS mobile weather services may be updated to reflect the current capabilities of technology.

2.2.4 New mobile weather services may be initiated using the decision process outlined in section 3, below. New mobile services include, but are not limited to, mobile enhanced web content, mobile applications (a.k.a. “apps”), and integration into emerging mobile technologies.

2.3 Indirect Mobile Weather Services

NWS indirect mobile weather services support direct mobile weather services provided by other entities in the environmental information enterprise. NWS recognizes that America’s weather industry plays an important complementary role in rapid delivery of critical NWS weather information and relies on NWS weather information to create services specific to their clients. NWS will provide indirect mobile weather services by:

- a. making our data highly accessible and easy to use by those who develop mobile applications;
- b. providing our data in standard formats/protocols which are easily accessed and manipulated; and
- c. providing adequate documentation and interface tools to ensure easy access/use of NWS data.

2.4 Outreach/Education about Mobile Weather Services

NWS will educate the public about mobile weather services.

3 Development/Implementation of New Mobile Weather Services

New mobile weather services developed by NWS will comply with applicable law and policy, and will consider the effects of the new mobile weather service on NWS operations.

A proposal for development/implementation of a new mobile weather service, including mobile

phone "apps" will be provided to the office of the CIO prior to initiation of development/implementation. A decision on whether or not to pursue development/implementation of new mobile weather service will be made after careful analysis of the policy and management factors identified below. This decision will be made by a Deciding Official (see section 4.3), before development/implementation of the service is pursued.

3.1 Policy Compliance

New mobile weather services must conform to U.S. Government policies:

3.1.1 [NOAA's Policy on Partnerships in the Provision of Environmental Information \(NAO 216-112\)](#) – NWS will adhere to NAO 216-112 in developing new mobile weather services. In particular:

3.1.1.1 As stated in NAO 216-112, NWS “will take advantage of existing capabilities and services of commercial and academic sectors to support efficient performance of NOAA's mission and avoid duplication and competition in areas not related to the NOAA mission. NOAA will give due consideration to these abilities and consider the effects of its decisions on the activities of these entities, in accordance with its responsibilities as an agency of the U.S. Government, to serve the public interest and advance the nation's environmental information enterprise as a whole.”

3.1.1.2 In accordance NOA 216-112, the public shall have the opportunity to provide input on any proposed new mobile services. Procedures for seeking input are described in NWSPD 1-10 and NWSI 10-102. Input from a public comment/review period will be considered in making a decision on whether or not to pursue development/implementation of the proposed service. New mobile weather services will not be provided external to NWS until this decision has been reached.

3.1.2 Other Applicable Policies include:

- [Web](#)
- [Internet Use](#)
- Privacy
- NWS, NOAA, and DoC IT Security policies
- [Section 508 of the Rehabilitation Act of 1973](#)
- [Information Quality Act Guidelines](#)
- [Records Retention Requirements](#)
- [NWSPD 1-12, Managing the Acquisition of Environmental Data from External Parties](#) – if the service is used to acquire information
- [Technology transfer, NWSPD 100-4](#) – for technology solutions implemented external to NWS (e.g., mobile phone “apps”)
- [Executive Order 13166, Limited English Proficiency](#)

3.2 Legality

- Use of commercial services to support the proposed mobile weather service must have an end-user license or agreement approved by the General Services Administration and the Department of Commerce Office of the General Counsel.
- An analysis must be done to determine the extent to which (if any) functionality of the proposed mobile weather service is subject to existing patent restrictions (i.e., does any functionality infringe on rights established by existing patents).

3.3 Waiver for Proprietary Solutions³. Development of mobile weather services will be platform/service agnostic whenever possible. To develop an NWS mobile weather service which requires technologies which are not vendor-neutral, a specific waiver must be granted by the Chief Information Officer.

3.4 Scientific validation and technical merit

3.5 Mission Benefits – The analysis will include identification of how the proposed service will improve support for carrying out the NWS mission.

3.6 Documentation – The analysis will identify resources to provide user documentation for the new mobile weather service.

3.7 Operational Sustainability – The analysis will include identification of the office[s] responsible for maintenance, updates, patches, user support services, etc., life cycle costs, and expected impacts on NWS systems and telecommunications.

3.8 Scope of Development - To foster consistency of services across NWS, local/regional development efforts should be applied to improvement of nationally consistent NWS services unless specifically addressing a unique local/regional user need (see NWSI 10-102).

4 Authorities and Responsibilities

4.1 NWS Chief Information Officer – The CIO will analyze the the policy and management factors (described in section 3, above) associated with development/implementation of NWS mobile weather services. This analysis will be provided to the Deciding Official to support the decision process.

4.1.1 The CIO may create or use existing teams to support the analysis. Expertise needed to support a thorough analysis should include views from individuals in the following areas: policy, legal, technical, knowledge of field operations, the NWS labor organization, etc.

4.1.2 The CIO may determine at what stage in the development/implementation process a decision is needed (e.g., prototyping of new capabilities may be needed to perform a thorough

³ For example, a mobile phone application which will only operate on a specific mobile device (e.g. an iPhone) but not others would be a proprietary solution. NWS recognizes that proprietary solutions may favor one vendor over others, and requires a specific justification for such choices.

analysis).

4.2 Strategic Planning and Policy Office (SPP) – SPP will take the lead in evaluation of input from public comment and review, as described in section 3.1.1.2.

4.3 The Deciding Official – The Assistant Administrator for Weather Services will designate a Corporate Board member as the Deciding Official responsible for approving the development/implementation of a new mobile weather service.

4.3.1 The Deciding Official will review the CIO analysis (section 4.1) to determine whether the expected benefits to the NWS mission justify the expected costs of the new mobile service.

The Deciding Official also will consider the input from public comment/review (see 3.1.1.2 above) in determining whether the proposed new mobile weather service will be developed/implemented, and may confer with other NWS, NOAA, or Department officials and NWSEO (e.g., by seeking the advice of the NWS Corporate Board) in reaching their decision.

4.3.2 The decision will be recorded in a decision memorandum and should include an explanation that is responsive to comments received from public comment/review. The decision memorandum will be posted in the public database of proposed changes to NWS information services (see NWSI 1-1001).

APPENDIX A - References and Definitions

References

- NWSPD 1-10 – [Managing the Provision of Environmental Information](#)
NWSI 1-1001 - [Tracking and Public Notification of Proposed Changes to NWS Information Services](#)
NWSI 10-102 – [New or Enhanced Products and Services](#)
NWSI 10-103 – [Operations and Services Improvement Process Implementation](#)
NAO 216-112 – [NOAA’s Policy on Partnerships in the Provision of Environmental Information \(NAO 216-112\)](#)

Definitions (as applied in this instruction)

Mobile application (“apps”) – a software application that runs on a mobile device such as a smartphone, tablet, or other portable device. Mobile applications typically perform one dedicated task. Mobile applications support both “pulling” data/information from a web service and allowing the web service to “push” information or data to the device.

Mobile enhanced web content – web pages which allow mobile devices to interact with the web page using a standard mobile Web browser and use pull technology to access data/information from the web server and display on the mobile device.

NWS “Core Partner” –

The National Weather Service (NWS) has defined a classification of its users which it terms “core partners.” This class of users is defined as:

“Government and non-government entities which are directly involved in the preparation, dissemination and discussions involving hazardous weather or other emergency information put out by the National Weather Service.”

While there are a large number of individuals who contribute to the overall services provided by NWS, all of whom play key roles in providing quality services to the public, this “core partner” designation is meant to identify those entities which have a unique need for assured access to unaltered NWS information because of the level of interaction they have with NWS personnel.

NWS “core partners” consist of the following three groups of individuals:

- a. Member of the emergency management community. This includes public safety officials who serve as employees or contract agents of a government agency at the federal, state, local, or tribal level and are charged with protecting the public from hazards that are influenced by weather or weather-related events. Other members of this community include: safety and emergency personnel, from universities or other large entities with large populations whose roles are functionally equivalent to the public safety officials

described above, Skywarn Net Control Operators, such as Amateur Radio Emergency Services (ARES) and Radio Amateur Civil Emergency Services (RACES).

- b. Government Partners. Federal/state/local government partners who have missions that require close coordination with the NWS. Government partners include (but not limited to) the FAA, and water and land management officials.
- c. Members of the electronic media. Members of the electronic media are parties, and contract agents of parties, who have a need to actively participate in discussions with NWS forecast offices on imminent weather or other hazards, and operate systems that routinely and rapidly relay weather and water watches, advisories, warnings and forecast information to a significant part of the population served by an NWS office. Electronic media includes providers of weather content through electronic information distribution such as radio, television, internet, cellular, and other wireless means.

Note: Individuals, companies, or other entities involved in ‘chasing’ weather events and posting or streaming video or pictures of the event, but do not otherwise have a need to communicate with NWS do not meet the “core partner” standard. In addition, NWS spotters, while playing a key role in providing information to our forecast offices are not included in the “core partner” classification as they do not routinely require assured access to unaltered NWS products to fulfill their function as a spotter.

At this time, the “core partner” designation has been used to distinguish those users who meet the need for user accounts for the NWSChat service (see <https://nwschat.weather.gov/>) and the experimental iNWS service (<http://inws.wrh.noaa.gov/>).

APPENDIX B - Guidance on NWS Provision of Direct Mobile Weather Services Versus Indirect Support for External Services

Factors which favor direct provision of NWS mobile weather services:

- Service is essential to protection of life and property
- Service is essential for use by NWS employees in performing NWS mission
- Service is essential for use by NWS “core partners” to access information needed for coordination / collaboration with NWS
- Service is provided using widely applied standards and vendor-neutral forms, as opposed to methods which depend on proprietary standards
- Commercial sources do not provide service, or provide a service that does not have features essential to NWS mission
- NWS able to sustain development and operating costs for NWS to provide service
 - Development and operating costs include costs of compliance with relevant policies and may include licensing fees for patents, etc.

Factors which favor NWS indirect support of external mobile weather services:

- External services available that meet NWS requirements
- Service not necessary for protection of life and property
- Service not necessary for NWS employees
- Service not necessary for coordination/collaboration between NWS and “core partners”
- NWS provision would require use of proprietary standards
- NWS unable to sustain development and operating costs for NWS to provide service
 - Development and operating costs include costs of compliance with relevant policies and may include licensing fees for patents, etc.