

**National Weather Service (NWS)  
Experimental Service Description Document (SDD)  
Experimental Mobile Decision Support Services (MDSS) Interactive NWS  
(iNWS):  
Warning Alert SMS Text and Email Messaging Services via Mobile Device Technologies**

**June 2010**

**Part 1 - Mission Connection**

**a. Service Description:**

The National Weather Service (NWS) is responsible for providing weather warnings and alerts in a timely and effective manner to support the protection of life and property. The NWS must provide this information to an increasingly mobile user community who are utilizing rapidly evolving technologies for accessing Internet content via mobile wireless devices. In response to this, the NWS is developing weather warning messaging services that leverage mobile device technologies such as Personal Digital Assistants (PDA) and cell phones, in order to better serve NWS core partners.<sup>1</sup>

The NWS Western Region (WR) has developed a real-time, warning messaging service adapted to the unique characteristics of cellular phones and mobile devices. This service has been named Mobile Decision Support Services (MDSS) interactive NWS (iNWS). Users who subscribe can configure their user profile (via an interactive web page) to receive alerts for weather and environmental warnings, watches and advisories via Short Message Service (SMS) text messages or email, as they occur. This capability is provided on the MDSS (iNWS) webpage through an application called “iNWS Mobile Alerting”. “iNWS Mobile Alerting” provides the user the option to choose which class/classes of NWS products (hydrologic, marine, severe weather, etc.) to be alerted for. “iNWS Mobile Alerting” also allows the user to define specific alert areas by city, state, line or point and the recently adopted polygon for defining short fused NWS watches and warnings. SMS text and email alerts will only be sent to users when an alert falls within the user’s configured area of interest The SMS text and email alert provides a short headline and

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<sup>1</sup> NWS core partners include (1) Members of the Emergency Management community at all levels of government; Federal, State, Local and tribal. Other members of this community include: safety and emergency personnel, from universities or other entities with large populations, whose roles are similar to the public safety officials. (2) Other government agencies: specific government partners NWS requires close coordination with, e.g. FAA officials (for NWS Center Weather Service Units) and water and land management officials (for NWS River Forecast Centers). (3) Members of the Electronic Media: parties who operate systems that routinely provide weather and water warning information rapidly to a significant part of the population served by the NWS.

embedded hyperlink which the user can select to see additional multimedia information (including graphics and images relevant to the particular weather event). This additional information may include products currently available on the NWS Website or products generated specifically to support decision making by NWS core partners.

MDSS (iNWS) services are provided via a web page <http://inws.wrh.noaa.gov>. Currently, only “iNWS Mobile Alerting” is being provided as an experimental service to NWS core partners in preparation for a decision on operational implementation. In future phases of this project in addition to the experimental service documented in this SDD, the web page may link to other mobile services that are already operational such as NWS web services via wireless technologies (see [NWS web services via wireless technologies SDD](#)) as well as additional experimental services.

The national experimental MDSS (iNWS) SDD supersedes the regional experimental: NWS Warning Alert Messaging Services via Mobile Device Technologies SDD issued in November 2007. The regional experimental service was previously provided by NWS WR to the general public. In August 2009, the NWS approved a phased approach toward developing a standardized, baseline national mobile decision support service (see attached NWS Decision Memorandum, August, 2009) with the initial focus on NWS core partners. The experimental MDSS (iNWS) is now available as a national experimental service for NWS core partners only.

#### **b. Purpose/Intended Use:**

This service is intended to duplicate information already provided by the NWS in formats suitable for display on mobile devices. “iNWS Mobile Alerting” will deliver NWS issued warnings, watches, and advisories to mobile devices via SMS text and email messaging. It will also provide, via hyperlink, access to additional multimedia information (including graphics/images) critical for NWS core partner response to impacts of the weather event.

The alert notification feature will provide critical decision support information, including weather warnings, to NWS core partners using mobile devices as soon as they are issued. For example, if a user creates a profile with interest for receiving tornado warnings via their cell phone, they will be notified of such a warning when it is issued if it falls within their geographic configured location.

MDSS (iNWS) is intended to be a supplemental service. NWS watches, warnings, and advisories are available on NOAA Weather Radio, the NWS website (weather.gov) and through commercial media providers.

#### **c. Audience:**

This service is intended to enhance decision support for NWS core partners using mobile devices for communication. Provision of this service provides access to current NWS issued products and weather information from any location within a cellular service coverage area. This service will not be made available for the general public (non NWS core partners) at this time. This service is available only to NWS core partners, as defined in footnote 1, and in the MDSS (iNWS) Terms of Service Agreement. Users must subscribe for access to this service through the

MDSS (iNWS) website. Applicants will be required to voluntarily provide contact information and agree to the “[Terms of Service](#)” and NWS “[Privacy Policy](#)”. Access to the service will be provided after NWS personnel review and approve subscription requests.

**d. Presentation Format:**

The experimental service for providing NWS weather information in formats suitable for mobile devices is named **MDSS (iNWS)**. Alert messages are disseminated via email and SMS text messages, embedded with a short hyperlink providing additional multimedia content (including graphics and images) via “iNWS Mobile alerting”. The text and graphical content combination was determined to be the best format to meet user need and to prompt action to protect life and property. For full documentation on this service, please see <http://inws.wrh.noaa.gov>.

**MDSS (iNWS) SMS** text message alerts are sent when the NWS issues a warning, watch or advisory. Users will receive an SMS text message if their user alert profile area falls within the boundaries of the alert area. Users configure geographic areas of interest by defining a line, point or polygon on a map (using a browser via a web interface) or by texting a five-digit zip code to the WR Headquarters (WRH) short-code (56149). For example, texting 20230 to 56149 will register interest in weather alerts for Washington, D.C.

**MDSS (iNWS) EMAIL** message alerts are sent when the NWS issues a warning, watch or advisory. Users will receive an email message if their user alert profile area falls within the boundaries of the alert area. Users configure geographic areas of interest by defining a line, point or polygon on a map using a standard HTML web browser.

**Services required:**

• **Cell Phone -- Text and Data Service Plan**

The SMS text alert service requires a [text service plan](#) for mobile devices. NOTE: Text service plans will not be sufficient to view the embedded hyperlink within the text message. The hyperlink requires a data service plan to access the Internet.

The email alert service requires a [data service plan](#) for mobile devices.

Users can opt out of the service by texting STOP to 56149 or by going into the MDSS (iNWS) web page (preferred path.)

**e. Feedback Method:**

Comments will be compiled through June 30, 2011 and will be evaluated by the appropriate NWS program managers. Feedback can be submitted through an electronic survey posted on the website (<http://www.weather.gov/survey/nws-survey.php?code=mama>). Technical support will be obtained through the application support email address posted on the website ([wr.mobile.alerts@noaa.gov](mailto:wr.mobile.alerts@noaa.gov).)

## **f. SDD Approval**

This Experimental Service Description Document has been approved by Dave Caldwell, Director, Office of Climate, Water and Weather Services (OCWWS).

## **Part 2 – Technical**

### **a. Format and Science Basis:**

This mobile alert messaging service is a next-generation NWS application bringing NWS SMS text and email alerts to mobile devices, as weather events occur, based on user configured geographic areas of interest.

The application is compatible with and has been approved by the following United States cell phone carriers for providing experimental text messaging and email services.

AT&T  
Verizon Wireless  
T-Mobile  
Sprint/Nextel  
Virgin Mobile  
Alltel  
Boost  
US Cellular  
Dobson Cellular  
Cricket Communications  
Rural Cellular Corporation  
Western Wireless

### **b. Availability:**

MDSS (iNWS) is designed to operate 24 hours per day. However the service is provided on a best effort basis and there may be times when the service is temporarily suspended. Reasons for the suspense of service include, but are not limited to, software or hardware upgrades, fixes or maintenance, or unexpected technical or security issues. Every effort will be made to eliminate unplanned outages, and those that occur will be addressed as quickly as possible. NWS personnel may not immediately respond to MDSS (iNWS) user subscription requests or other inquiries if they are addressing other critical warning or forecast tasks or experiencing technical issues.

There may be times when issues beyond the control of the NWS prevent MDSS (iNWS) messages from reaching users or cause a significant delay in the receipt of messages. Examples of this include, but are not limited to, network congestion, wireless carrier outages, dead zones, local connectivity issues, changes in physical location, and user error.

**c. Reliability:**

NWS cannot guarantee message delivery times based on the factors stated above. This service is not to be relied upon as the sole source of NWS information and is intended to be used as a supportive/supplemental tool for decision making.

**d. Additional Information:**

This experimental service will be tested at all National Weather Service Offices. More information is available at <http://inws.wrh.noaa.gov>.



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AUG 11 2009

NWS DECISION MEMORANDUM

MEMORANDUM FOR: NWS Corporate Board

FROM:

  
Vickie Nadolski

SUBJECT:

Decisions and Actions from the August 11, 2009  
NWS Corporate Board Video Teleconference

The NWS Corporate Board (CB) held a VTC on August 11, 2009. The following summarizes discussions, decisions, and actions.

**Recommendation for a Standardized NWS Mobile Decision Support Service**

Objectives:

- **Desired outcome:** Corporate Board decision to approve a phased approach in developing a standardized, baseline mobile decision support service

Presentation: <https://bestpractices.nws.noaa.gov/contents/cbm/2009/fboard/fb2009.php>

- The NWS needs to adopt a standardized system to deliver its warnings and other critical decision support information to core partners on mobile devices.
- Whether that service should be offered to the general public is yet to be determined.
- The prototype iNWS system seems to be positioned as the best *short term* option to offer mobile DSS to our core partners *now*

Decisions and Actions:

CB DECISIONS:

1. Approve a phased approach toward developing a standardized, baseline mobile decision support service
2. Focus initially on core partners. Benefits include:
  - Meeting core partner needs first and foremost by facilitating critical decision support service to them – anyplace, anytime
  - Leveraging NWS-Chat directives governing use and participation
  - Multi-tier system with boundaries based on service mission
  - Compatibility with existing web farm formats and data feeds
  - Use of information-centric, open architecture
3. Turn implementation process over to OST
  - Project plan, cost analysis via RITT & OSIP #09-10
4. Explore options for dissemination of mobile warnings to general public in Phase II
  - PR and CIO recommend NWS work with DHS in exploring options for public dissemination

