

National Weather Service (NWS) Service Description Document (SDD)
Impact-Based Decision Support Services for NWS Core Partners
December 2023

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1 Background

As documented in the National Weather Service (NWS) [Strategic Plan](#), the NWS is on a path to transform into a more nimble, flexible, and mobile agency that is eye to eye with decision makers. Partnerships and communication between the NWS, the emergency management community, the private sector, and amplifying voices in local communities are incredibly important for completing the “critical last mile” — to ensure NWS forecasts and information produce the life-saving actions that are intended. NWS Impact-based Decision Support Services (IDSS) is based on the recognition of the expanding demands on our NWS Core Partners¹ to prepare and respond to extreme events. At the same time, NWS recognizes the growing capacity of the private sector component (sometimes referred to as America’s Weather and Climate Industry) of the Weather/Water/Climate Enterprise² to provide tailored support to an increasing range of customers, including these key decision makers, driving the need to describe the respective roles for the greater good of the Enterprise.

1.1 Policy/Legal Context

The NWS mission to “provide weather³, water, and climate data, forecasts, warnings, and impact-based decision support services for the protection of life and property and enhancement of the national economy” is an inherently governmental function. The enactment of the Weather Research and Forecasting Innovation Act of 2017 (Public Law 115-25) codifies NWS provision of IDSS, further enhancing our services aimed toward public safety preparation, response, and recovery in conjunction with our Core Partners. It describes the primary role of the NWS Warning Coordination Meteorologist (WCM) position to provide IDSS, “to help ensure that users of products of the National Weather Service can respond effectively to improve the outcomes of weather events.”⁴ The Act directs the WCM to “work closely with state, local, and tribal emergency management agencies, and other agencies related to disaster management, to ensure a planned, coordinated, and effective preparedness and response effort”⁵ and encourages the NWS to “assign other staff as the [NWS] Director considers appropriate to carry out such responsibility.”⁶

Through the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), DOC/NOAA has a statutory requirement to support the Emergency Management community (see Section 3.1, below) at the federal, state, tribal, territorial and local levels. Likewise, the National Preparedness System, mandated by [Presidential Policy Directive \(PPD\)-8: National Preparedness](#), includes a series of National Planning Frameworks, with one for each of the five

¹ The definition of Core Partner can be found Section 3.1 of this document..

² The Weather/Water/Climate Enterprise includes all entities in the public, private, nonprofit, research, and academic sectors that provide information, services, and infrastructure in the areas of weather, water, and climate. The private sector component, sometimes referred to as America’s Weather and Climate Industry, includes all elements of the private sector (including media, consultants, equipment providers, etc.) which provide services to the public in the areas of weather, water and climate, broadly defined (e.g., includes all NWS service program areas). The term does not exclude foreign-owned companies which provide services to the American public.

³ In this document, “weather” is used generally to mean all service areas which the NWS supports, including space weather, floods, drought, tsunamis, aviation, fire, air quality, marine, etc.

⁴ Public Law 115-25, Section 405(c)1(A)

⁵ Public Law 115-25, Section 405(c)1(E)

⁶ Public Law 115-25, Section 405(c)2

mission areas: Prevention, Protection, Mitigation, Response, and Recovery. NWS plays a key federal role in ensuring national preparedness related to weather, water and climate.

1.2 Whole Community Concept

The above Public Laws and Statutes provide direction to the NWS to directly support emergency and disaster management at all government levels. However, the NWS recognizes this is not the exclusive domain of the government. Furthermore, the National Planning Frameworks and PPD-8 itself emphasize that it takes support from the “whole community” to build and sustain preparedness. The whole community includes federal, state, local, tribal, and territorial governments; private (including our private sector Weather/Water/Climate Enterprise partners), academic/research and non-profit sectors; communities; households; families; and individuals, all contributing to successful preparedness efforts. This “whole community” concept is echoed in NWS’ Weather-Ready Nation efforts. Achieving a Weather-Ready Nation depends not just on NWS, but on the entire Weather/Water/Climate Enterprise, our NWS Core Partners, as well as the educated actions of individuals who are prepared for and can respond to weather-related events⁷.

While recognizing “whole community” participation is critical for effective preparedness and response activities, NWS IDSS is largely focused on providing services to government Core Partners, especially those in emergency management and water resources management who engage in decision-making which impacts protection of life and property. It is critical that all elements of the broader community have the weather-preparedness they need, using support provided by the entire Weather/Water/Climate Enterprise, to fulfill their role in national preparedness and to support successfully building a Weather-Ready Nation.

1.3 Guiding Principles

Given the context provided above, NWS provision of IDSS will be guided by the following principles:

- NWS’s primary focus is on supporting government partners who share similar mission objectives to ensure the safety of the public and particularly vulnerable populations.⁸
- NWS will support disaster management efforts of federal⁹, state, local, tribal and territorial governments.
- NWS will interact with our partners from the national level to the local community level, therefore reaching as many as possible who are potentially in harm’s way.
- NWS will be flexible in how we provide IDSS to our partners, keeping in mind that they may also be receiving support from others in the Weather, Water, and Climate Enterprise.

⁷ Within this SDD, the term “event” is used to refer to actual hazardous weather events of impact to the public (e.g., hurricane), incidents that are impacted in some way by weather conditions (e.g., environmental hazards such as chemical release), and large gatherings of people at a venue where public safety is often impacted by hazardous weather conditions (also referred to as “special events”).

⁸ Non-government entities may also be supported as described within this document.

⁹ To honor agreements with contiguous countries and territories and the terms of other international agreements, the term “federal” within this document encompasses international governments and organizations supported by NWS.

2 IDSS Definition

NWS defines IDSS as the provision of relevant information and interpretative services to enable Core Partners' decisions when weather, water, or climate has a direct impact on the protection of lives and livelihoods. IDSS may be characterized as being either **episodic** or **routine** in nature:

- **Episodic IDSS** - Event-driven IDSS provided to core partners, either related to a hazardous environmental event or a scheduled event where weather and water related variables are critical to the planning and execution of the event from a public safety standpoint. Examples include supporting Core Partner decisions related to a hurricane or winter storm, including the aftermath, as well as providing support to a Core Partner for a scheduled event such as a festival or fair.
- **Routine IDSS** – Ongoing IDSS provided to a subset of core partners through the year to improve partner mitigation, preparation, response, and recovery efforts related to environmental hazards or to support routine, high-value decisions. Examples include joint training, Integrated Warning Team interactions, pre-event/scenario planning, water use/contingency forecasts and planning, table-top exercises used to plan actions and procedures addressing these events or incidents, after-action reviews, and daily coordination regarding routine high-value decisions such as aviation operations or reservoir releases.

Note: IDSS is a mission critical service for Core Partners, however not all Core Partners are the recipients of IDSS. For example, members of the media may be an active participant in some NWS IDSS activities because of the unique role they play (in coordination with NWS) in communicating critical public safety information; however, NWS does not provide decision making support to the media related to the conduct of their operations.

This document provides details on who will be provided IDSS and the level of support provided. The services described herein apply to all NWS offices¹⁰.

3 Who Will be Supported

NWS will provide the services, described in Section 4, to entities identified as NWS Core Partners who engage in decision-making which impacts protection of life and property and/or have a unique need for interaction with NWS.

3.1 Definition of Core Partner

The 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 that are directly involved the preparation, dissemination and discussions involving weather³, water, or climate related National Weather Service information¹¹ that supports decision making for routine or episodic, high impact¹² events. These

¹⁰ All NWS offices - includes any offices staffed by NWS employees or contract agents, including WFOs, RFCs, NCEP Centers, Office of Water Prediction, NWS National Headquarters, NWS Regional Headquarters, CWSUs, Tsunami Warning Centers, etc.

¹¹ This information may pertain to any service area which the NWS supports, including space weather, tsunamis, aviation weather, fire weather, marine, etc.

¹² Any weather or water-dependent event that significantly impacts safety, health, the environment, economic

entities have a unique need for increased interaction with NWS personnel for provision of IDSS or to facilitate their role in supporting the NWS mission.

NWS recognizes that there are a large number of additional entities that contribute to the overall services provided by NWS or that provide quality services to the public as critical Weather/Water/Climate Enterprise partners in building a Weather-Ready Nation. However, this Core Partner designation is meant to identify those entities that have a unique need for direct access to NWS information and/or require direct interaction with the NWS because of either the level of critical public services they provide or the need to facilitate their role in supporting the NWS mission.

Core Partners support NWS' inherently governmental public safety mission via message amplification (force multipliers). General Criteria for Core Partners include the following:

- Direct involvement in the preparation, dissemination, or discussion involving hazardous weather³, water, climate, or other emergency information.
- Possessing a unique need for increased interaction with NWS for IDSS.
- Having an operational linkage of an allied mission of public safety or critical interdependency on each other's data or actions which impact the missions of both organizations.

NWS Core Partners consist of the following four categories:

1. Members of the emergency management (EM) community¹³ Public safety officials who serve as employees or contract agents of a government agency at the federal⁹, state, local, tribal, or territorial level, and are charged with protecting the public from hazards that are influenced by weather³ or weather-related events.

In select cases, with approval of the NWS office official-in-charge and as resources allow, the NWS may provide similar support for organizations which are not formally government agencies but employ personnel who routinely exercise authority equivalent to the public safety officials described above, particularly those who serve vulnerable populations. Examples include the emergency management function of primary/secondary schools, colleges/universities, and hospitals/long-term care facilities¹⁴.

2. Members of the water resources management (WRM) community. Public officials who serve as employees or contract agents of a government agency at the federal, state, local, tribal, or territorial level and are charged with managing the nation's water resources for the public good, including infrastructure (e.g., dams, levees, reservoirs, etc.) supporting these management activities. In addition, in select cases, with approval of the NWS office official-in-charge and as resources allow, the NWS may provide similar support to quasi-government¹⁵ and private organizations which are not

productivity, or homeland security is considered "high impact". No standard, nationwide criteria define a high impact event. It may impact millions of people or one sector, and it may vary in timing or location. (WRN Roadmap 2.0, p. 11).

¹³NWS IDSS for the EM communities include support to government emergency operations at the federal, state, local, tribal, and territorial levels (e.g., Incident Command Posts, Emergency Operations Centers, etc.), including support to government operations of Emergency Support Functions (ESF), described in the National Response Framework, for which NOAA has been identified as playing a federal support role.

¹⁴Support for health, education, infrastructure/utilities is not broad, as services provided by Enterprise partners, but limited in most cases to provision of hazardous weather information in conjunction with ongoing response efforts related to hazardous weather events.

¹⁵ Quasi-government organizations have characteristics of both public/government and private entities. Some are incorporated as a

formally government agencies but which employ personnel who routinely exercise authority similar to the public officials described above, and whose actions impact NWS operations/forecasts.

3. Government partners. Federal, state, local, tribal, or territorial government partners who have missions that require close coordination with the NWS to support the operational linkages of an allied mission of public safety or critical interdependency on each other's data or actions which impact the missions of both organizations. This includes governmental officials with responsibility over public safety and decision-making authority regarding evacuation and other critical decisions, whether elected or by positional authority.
4. Members of the Real-time Media. Members of the Real-time Media are entities and contract agents of entities that have a need to actively participate in discussions with NWS forecast offices on imminent weather or other hazards. These entities 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. Real-time Media includes providers of weather content through electronic information distribution such as radio, television, internet, cellular, and other wireless means. Members of the Real-time Media may be an active participant in some NWS IDSS activities because of the unique role they play (in coordination with NWS) in communicating critical public safety information; however NWS does not provide decision making support to the media related to the conduct of their operations.

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 definition. In addition, individual NWS spotters, who play a key role in providing information to our forecast offices, but who do not routinely require direct access to NWS information to fulfill their function as a spotter, are not included in the Core Partner definition.

3.2 Clarifications to Core Partner Definition

To better understand which entities are included or not included in the four categories of Core Partners, guidelines for interpretation are provided in Appendix A, *Clarifications and Guidelines for Applying the Core Partners Definition*.

3.3 Review of Core Partners Definition

NWS may occasionally review the group of organizations supported and/or refine the definition of Core Partners provided in this section. Based on experience and external input, review will take place, both informally and in the context of post-event evaluations of IDSS services (see NWSPD 10-1606, Service Assessment), to recognize and address any impacts to the Weather/Water/Climate Enterprise services as NWS is made aware of them.

private, nonprofit organization, but are run by a board of directors that is composed of government officials or directors appointed by a unit of traditional government (but who otherwise are associated with non-government organizations). In general, they are regarded by national laws and regulations as being under the guidance of the government, but also separate from the government. While they may receive some revenue from charging customers for services, these organizations are often at least partially funded by the government. Quasi-government organizations may receive core level service if the organization's primary mission responsibility is related to public safety. Examples include Water Commissions, Avalanche Warning Center, and Port Authorities.

4 Provision of IDSS

Providing IDSS follows an integrated process, an IDSS Operating Cycle, that addresses four primary phases of IDSS readiness and delivery, as pictured below:

IDSS Operating Cycle

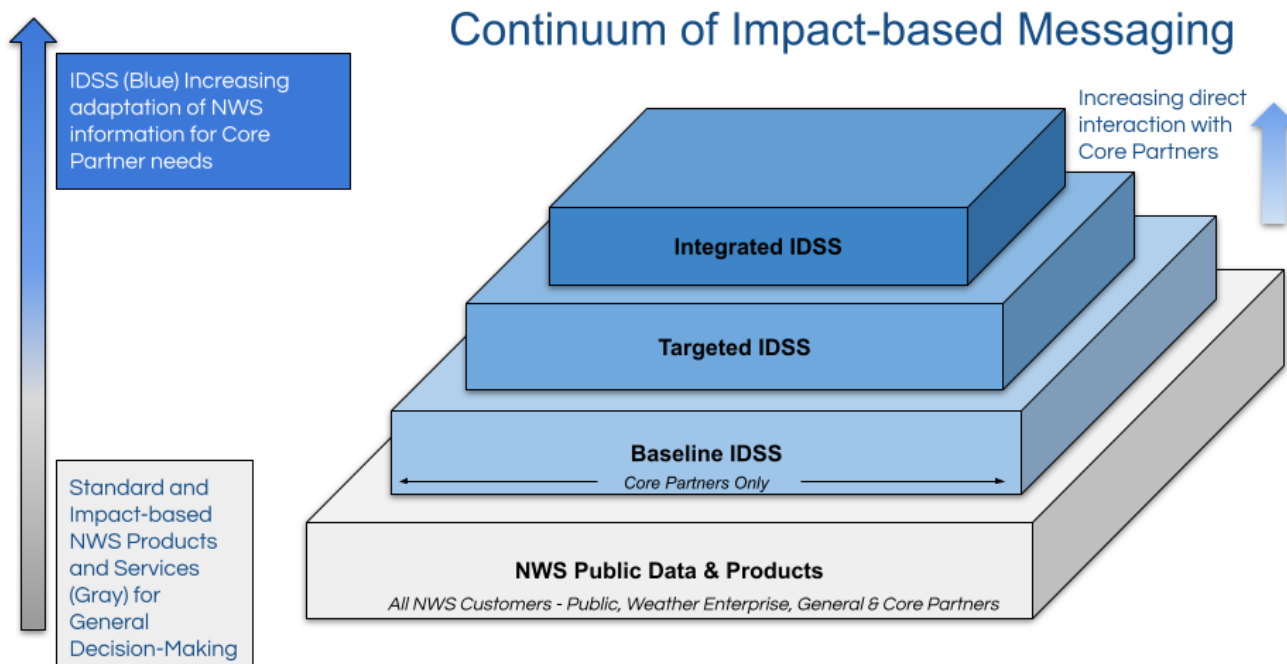


1. **IDSS Relationship Building Phase:** Relationship building and connecting with Core Partners in building Core Partner Profiles and support awareness and long term mitigation efforts.
2. **IDSS Readiness Phase:** NWS office planning activities that leverage Core Partner Profiles to assess Core Partner IDSS needs and the local unit's capacity to respond within an IDSS Planning Guide. This phase informs operational strategies and also includes ensuring staff readiness through training and exercises.
3. **IDSS Delivery Phase:** Activities associated with the tactical delivery of IDSS based on planning during the IDSS Readiness Phase and Core Partner needs, including responding to Core Partner needs before, during, and after an event.
4. **IDSS Evaluation Phase:** Assessment of IDSS delivery to gather internal and Core Partner feedback in order to evaluate, identify gaps, and update our service(s) to better serve the Core Partner future needs.

4.1 Service Delivery: The Continuum of Impact-based Messaging

There are a variety of products and services disseminated to the general public that contain content that either supports or comprises the provision of IDSS to Core Partners. In order to ensure a consistent message, IDSS must be based on and consistent with the full suite of information that the NWS publicly provides, including forecasts and warnings, model output, and observations. Core Partner baseline understanding of a weather, water, or climate related event begins with that information. In addition to routine products and services, focusing products and messaging on Core Partner public safety needs continues to be necessary.

In order to meet the IDSS mission of the NWS, the entire Continuum of Impact-based Messaging must be addressed. Products and services can be categorized within a tiered approach, beginning with publicly available products and services through increasing levels of targeting of information and dedicated support. The levels comprising this Continuum of Impact-based Messaging are described below.



NWS Public Data and Products - This information provides the foundation of publicly available products and services to support user decision-making needs. There is a broad range of information included:

- **Foundational Data** - Data such as observations, model output, and official NWS forecasts.
- **Standard NWS Products and Services** - Communicate information about weather, water and climate-related conditions, including the potential for related threats and impacts and safety messaging when appropriate.
- **Public Impact-based Messaging** - Specific communication of impact information to the public, building off of information contained in our routine forecasts, watches, warnings and advisories to convey an amplified message. Examples include graphics posted to NWS social media and webpages that contain key messages about threats and impacts.

NWS Public Data and Products serves as the starting point of IDSS, providing a coordinated, accurate, and consistent message that meets needs among Core Partners, the Weather/Water/Climate Enterprise partners, and the public. Public Impact-based messaging is intended to summarize the entire range of potential weather, water, or climate related threats, focusing on potential impacts and including safety related messaging when appropriate.

Baseline IDSS - The Baseline level of IDSS includes products and services that are common or universal

to all Core Partners. IDSS that is universally delivered directly to Core Partners includes information that potentially impacts all Core Partners and is not specific to individual Core Partner thresholds. The majority of content in the provision of Baseline IDSS is built off the foundation of Public Data/Products Supporting Decision-Making, which serves as a starting point for Baseline IDSS messaging and ensures consistency between public messaging and messaging to Core Partners. Baseline IDSS may include briefings in a consistent format, with key messages highlighted, delivered to all Core Partners served by an office.

Targeted IDSS - The Targeted level of IDSS "targets" information to meet the specific need of a group of Core Partners or Core Partner organizations that have similar operational concerns and specific but common decision thresholds that should be addressed (e.g., partners within a specific sector). Identifying Core Partners' impact thresholds and focusing IDSS messaging in response to those thresholds is key in Targeted and Integrated IDSS (below). Meteorologic and hydrologic information (e.g., key messages within an IDSS briefing) is extended beyond routine NWS Public Data and Products, but is not as individually specialized as information provided in Integrated IDSS. Targeted IDSS may include outside agency liaisons embedded within your operations. Alternatively, these Core Partners could be supporting a non-weather related event that has very specific vulnerabilities that weather could adversely impact.

Integrated IDSS - Integrated IDSS is the provision of specialized one-on-one information sharing requiring dedicated support to an individual Core Partner or groups of Core Partners. Integrated IDSS encompasses three types of deployments that includes:

- **Virtual Deployment:** IDSS provided from the office or other remote location not coincident with the location of the Core Partners.
- **Onsite Deployment:** IDSS provided onsite at the location coincident with the Core Partner in response to an event or incident.
- **Embedded Operations:** IDSS provided permanently on location with the Core Partner (e.g. CWSU).

Products and services delivered within these Integrated IDSS deployments (e.g., IDSS briefings) provide information specific to the needs and decision thresholds of Core Partners.

4.2 Determining the Level of IDSS Service Delivery

IDSS Delivery is based on the needs of the Core Partners for a particular event/incident, and on the staffing and technical resources available to a NWS office to provide IDSS. In many cases, Baseline IDSS is a sufficient and efficient means of providing support when Core Partners' needs are similar and/or there is a common message to be delivered from the NWS. In situations where multiple Core Partners, but not all, have common needs, a more Targeted approach can be applied to provide a more nuanced message to a subset of Core Partners. In those cases where direct one-on-one IDSS is required based on the specific needs of a Core Partner, an Integrated approach should be followed if NWS office resources allow. NWS will develop Planning Guides for support in coordination with the Core Partners to set expectations and baseline guidance on the level of IDSS to be provided.

Any Core Partner may receive any level of IDSS (Baseline, Targeted, Integrated) as the situation and

local NWS office resources allow. The NWS office official-in-charge will make decisions on investing resources to best meet the needs of their Core Partners (e.g. in the event of wide-spread impacts or multiple requests) and will prioritize provision of IDSS based on the criteria below, which account for Core Partners roles and responsibilities:

- There is a legal mandate to support the Core Partners (e.g., Executive Order, statute) or support is a matter of national security.
- The Core Partners exercises a large degree of authority or influence relative to other Core Partners on public safety or management of the nation's water resources for the public good.
- The Core Partners serves a population or entity particularly vulnerable to impacts of weather, water, or climate hazards.
- The Core Partners acts as a force multiplier to help amplify NWS messages to other partners.

Prioritization and determination of service level will also take into consideration any existing support provided to the Core Partner by Enterprise Partners. In the event Integrated IDSS cannot be provided to a particular Core Partner, the provision of Targeted or Baseline will be considered. All designated Core Partners should receive Baseline IDSS when their constituencies and operations are impacted or expected to be impacted.

4.3 Capacity to Provide Support

NWS aims to provide an equitable level of support to all Core Partners, given a similar level of need. However, the local office official-in-charge will continue to have the discretion to determine how to most effectively support multiple requests for IDSS, especially during large-scale events with wide-spread impacts. This statement does not reflect a change from current levels of support provided to Core Partners. The availability of NWS resources to support all operations are subject to the limitations of budget appropriations, and decisions on how best to apply those resources continue to be the responsibility of government managers. In the event of wide-spread impacts, NWS regional and national management will support decisions on investing overall NWS resources to best meet the needs of all NWS Core Partners at the federal, state, local, tribal, and territorial levels. NWS offices will strive to maximize NWS' ability to provide IDSS to effectively support multiple partners, especially in mission critical situations, as deemed by the local official-in-charge.

5 Guidelines for Provision of IDSS

5.1 Context of National Response Framework

NWS IDSS for the EM community includes support to government emergency operations at the federal, state, local, tribal, and territorial levels (e.g., Incident Command Posts, Emergency Operations Centers, etc.), including support to government operations of Emergency Support Functions (ESF)¹⁶, described in the [National Response Framework](#) (NRF), for which NOAA has

¹⁶ These emergency support functions, as defined by FEMA's National Response Framework, include transportation, communication, public works and engineering, firefighting, information and planning, logistics management, public health and medical services, search and rescue, oil and hazardous materials response, agriculture and natural resources, energy, public safety and security, long-term community recovery, and external affairs.

been identified as playing a federal support role.

5.2 Provision of IDSS When Multiple Providers are Present

NWS Core Partners obtain support in a variety of ways. Some maintain in-house expertise (e.g., a state government which employs a State Meteorologist), some contract for ongoing support for specialized services provided by Weather/Water/Climate Enterprise partners, and some rely wholly on services provided by NWS. In addition, there may be businesses or other government agencies (e.g., private and public sector infrastructure providers) simultaneously supporting NWS Core Partners who are receiving weather support services either in-house or from Weather/Water/Climate Enterprise partners. When multiple support providers are present, NWS will be flexible in the level and/or type of IDSS provided, seeking input from Core Partners as to what support is needed and what level of coordination is required.

Support to NWS Core Partners, where weather services may also be provided by those external to NWS, is addressed in existing NWS policies. NWSI 10-1806, *NWS Support for Special Events*, describes the NWS roles and responsibilities for supporting the EM community and government Core Partners during special events, including federally-mandated support for National Special Security Events. The NWS does not provide special event organizers or venue operators with site-specific, tailored forecasts and consulting services. Rather the NWS refers event organizers and venue operators to our existing product suite and recommends that they contact Weather/Water/Climate Enterprise partners.

NWS uses the following resources to refer requests for support to the community of Weather/Water/Climate Enterprise partners:

- Information on weather services available from NWS and from Weather/Water/Climate Enterprise partners supporting special events - <https://www.weather.gov/media/stormready/resources/specialevents.pdf>
- Resources with listings of Weather/Water/Climate Enterprise providers - <https://weather.gov/enterprise>; <https://www.weather.gov/IM/dirintro>.

In addition, NWS has long recognized the various levels of weather support arrangements used by our Core Partners at state/local Departments of Transportation (DOT). [Applied IDSS - Surface Transportation](#) describes the focus of NWS support as providing our expertise on the evolution, timing, and communication of hazardous weather and water events to help ensure public safety. Weather/Water/Climate Enterprise partners provide the necessary expertise in helping to guide DOT operations in areas related to recommendations for chemical applications and predicted road/pavement conditions (in addition to routine forecasts).

5.3 Coordination

NWS recognizes the value of coordination during an event to ensure consistent weather messaging to all involved in the support effort and to the general public. Upon request of Core Partner authorities in charge of the response activities, NWS will work with Core Partners in charge to identify weather support providers involved (i.e., NWS and any in-house or contracted

provider of weather services to Core Partners or other entities involved in the response effort) and may provide an opportunity for coordination to ensure consistency of messaging and that weather-related roles in the support effort are well understood. For example, NWS may activate a private NWSChat channel or similar capability for weather service providers supporting the event. NWS encourages this coordination; however, Core Partners, in conjunction with their weather support providers, will determine the appropriate level of and procedures for coordination and interaction between NWS and those providers. Actual capacity to provide coordination will inherently depend upon the scope and nature of the event, available resources, as well as the willingness and ability of the parties to participate in any coordination activities.

5.4 Support to General Partners and the Public

5.4.1 Within NIMS Context

IDSS, especially direct, interactive support provided on-site, is typically provided for Core Partner operations that are implemented through coordinating structures consistent with the concepts and principles outlined in the [National Incident Management System](#) (NIMS). In support of these coordinating structures at the federal, state, local, tribal, or territorial level (e.g., Incident Command Post, state, local or event Emergency Operations Center, Joint Field Office, etc.), the NWS provides a common level of awareness and knowledge on the nature and timing of relevant weather events to inform Core Partner operations. These coordinating structures may also include representatives of and participation by organizations that are not covered under the definitions of NWS Core Partners provided in Section 3.1 (e.g., critical infrastructure facilities, private sector utility partners). NWS support to these coordinating structures focuses on informing Core Partners and their supporting government agencies.

When NWS provides IDSS within these coordinating structures to support the aggregate life-safety preparation and response, NWS recognizes that information of value and use in operational efforts is indirectly provided to all response participants. NWS will not, however, provide tailored advice to General Partners (partners who NWS interacts with but who don't meet the definition of Core Partner) and the public on impacts of weather in areas such as how to expedite restoration activities or how to mitigate hazardous weather in the future. In responding to requests for specific weather guidance and information beyond that provided to Core Partners, NWS personnel will inform the requester that tailored support, including customized and highly localized forecasts and warnings, may be provided by our Weather/Water/Climate Enterprise partners.

5.4.2 Outside NIMS Context

Outside the context of a Core Partner-managed coordination structure (e.g., Incident Command Post, Emergency Operations Center, Joint Field Office, etc.), requests to NWS for support to individuals or organizations which fall outside the Core Partner definition must be addressed at the request¹⁷ of a Core Partner for purposes that are critical to public safety.

In addition, services other than IDSS will continue to be provided to General Partners and the public including: provision of general forecasts/warnings via standard NWS dissemination

¹⁷ NWS will consider the request and may provide service only per mutual agreement of NWS and the requestor.

media; response to calls from the public; education about how to access and interpret NWS data/products; outreach/interaction for preparedness; and interaction as part of the NWS StormReady®/TsunamiReady® programs and NOAA's WRN Ambassador program.

If additional support is needed, NWS may refer requesters to Weather/Water/Climate Enterprise partners using the resources identified in section 5.2.

5.5 Support for Special Events

As described in NWSI 10-1806, support for special events is provided only upon request by and in support of NWS Core Partners. NWS does not intend to provide IDSS for every large gathering (e.g., every local/recreational sporting event) within an office's area of responsibility; however, NWS has always maintained situational awareness of these types of events to inform the warning process so that life-saving notification can be provided.

5.6 Method of Provision

IDSS may be provided either on-site (e.g., at an Emergency Operations Center) or remotely, depending on the nature of the event and available resources. Remote support may be provided by the most appropriate means available, including but not limited to: telephone, email, chat, on-line briefings/webinars, recorded briefings, live 2-way briefings, social media, etc. On-site support will be prioritized as described in section 4.2 to allow integration into Core Partner operations, with full-time embedding into partner operations in some cases (e.g., NWS CWSU personnel embedded in FAA ARTCCs, liaison at FEMA HQ, etc.).

5.7 Specialized, Decision-Specific Information Supporting IDSS

In addition to existing standard NWS products, rapid prototyping, modification of existing products, or development of new NWS data/products to meet the immediate needs of Core Partners may be needed during events that are hazardous to life and property. As resources permit, NWS will aim to provide Core Partners with any relevant NWS information needed by the entity being served. When possible, the NWS will rely on currently existing products/services to provide information to Core Partners. However, when necessary and within the bounds of NWS policy, the NWS may use other available technologies and display formats (e.g., GIS) to communicate critical weather and water information to meet the immediate operational needs of our Core Partners. These data/products are a valuable source of information in weather-related decision making and are often a critical means of communicating information supporting IDSS.

If a new or enhanced product/service is required to effectively support IDSS for Core Partners for a particular event, NWS will determine after the event, whether the product/service is temporary (only relevant to that particular incident/event) or if it may be applied more broadly across NWS to support Core Partners on an ongoing basis or to support similar events in the future. If the latter, the new/enhanced product/service will be identified as an "experimental" product/service and made available for public comment/review before a decision is made to continue use of the product/service on an operational basis. This is consistent with the standard practice of seeking input on new/enhanced NWS products/services – see NWSI 10-102, *New or Enhanced Products and Services*.

Any new information/products provided as part of the IDSS support described in this SDD will also, as resources allow and if safety and security considerations do not prohibit, be made available in a timely manner for broader distribution (e.g., via NWSChat, NWS webpages and/or social media).

5.8 Training

NWS personnel providing IDSS will have expertise and training in the relevant conditions being addressed and be familiar with the needs of Core Partners. All relevant NWS product content and interpretation will be coordinated as appropriate with other NWS offices and National Centers to ensure a consistent NWS message. In particular, NWS staff, including deployed personnel, are provided the tools and training to work effectively with Core Partners, as well as to coordinate closely with personnel at NWS offices ensuring consistency between operations supporting multiple Core Partners and the general public. NWS will work with Enterprise partners, especially in the academic/research community, to ensure the latest physical and social science findings are incorporated into NWS IDSS support methodology.

6 Core Partner Approval Process

This section addresses how NWS becomes cognizant of which Core Partners have need of IDSS from our offices. Products/services for General Partners and the Public are provided uniformly to all external users, thus no knowledge of a unique need for these services is required. As described below, NWS will validate Core Partner status of the requestor based on the Core Partner definitions and clarifications/guidelines listed in Section 3 and Appendix A.

Each NWS office maintains a record of Core Partners afforded IDSS (e.g., within office contact listings or within the NWS IDSS Management System (IMS) currently under development). With implementation of NWS IMS, NWS (Analyze, Forecast, and Support Office) aims to be able to respond to external requests for this information¹⁸ from interested parties.

To process requests for support as a Core Partner, NWS will carry out the procedures in this section: (Note: This is a one-time request to be included as an organization receiving IDSS from NWS when conditions warrant. No additional approval is needed for actual support for a particular event other than a standard support request.)

6.1 Current Recipients of NWS IDSS

NWS offices have a long history of providing mission-critical decision support services to Core Partners in their area of responsibility. These well-established IDSS relationships with existing members of the emergency management and water resources management communities, and government Core Partners will be documented by the NWS office providing the support and do not require a new request to remain a Core Partner.

¹⁸ Information provided will be limited to organization supported. More detailed information will not be available due to privacy restrictions.

6.2 New Recipients of NWS IDSS

As NWS continues its efforts to improve IDSS, there is a reasonable expectation that additional organizations will request these services and therefore will request to become an NWS Core Partner. These requests to be a Core Partner will be processed in the following manner:

- a) Any organization may request IDSS from their local/regional/national NWS office by describing how they meet the definition of Core Partner (Section 3.1). The local office will document all requests. (Note: This is a one-time request to be included as an organization receiving IDSS from NWS when conditions warrant in the future. This type of approval is not needed for actual support for a particular event.)
- b) Based on information provided by the requestor and the definition of NWS Core Partner, the local NWS office will determine whether they have a need for mission-critical IDSS services. Requests will be evaluated based on information provided, the definition of NWS Core Partner, and the NWS office official-in-charge's determination of projected resource ability to provide the support. Best practices will be applied based on our body of experience, for classes of entities which should/should not be approved for services, using the clarifications/guidelines in Appendix A.
- c) After internal NWS review/validation, the office will notify the requester of the decision to either accept or deny their request to be designated as a Core Partner. NWS should provide a response within 7 days upon receipt of user request. In cases where additional review is needed, a provisional acceptance may be provided, with a final decision within 30 days of original request. Note: IDSS may be provided to the requesting entity during the provisional period.
- d) If Core Partner designation is denied, the office will provide an explanation to the requestor, typically in the form of an email. The NWS office may offer publicly available support/ information to the requestor, as well as the NWS list of Weather/Water/Climate Enterprise resources available, as applicable (see section 5.2 for resources used to refer requests to Enterprise partners).
- e) Denied requests may be appealed through the offices identified in Table 1. All appeals will be coordinated with the originating office, the office of first appeal (for final appeals), and the requesting organization prior to reaching a decision. NWS processing of each appeal is not to exceed 45 days from the date of appeal.
- f) On a periodic basis, Core Partner lists will be reviewed to ensure consistency with policy and the need for modifications to best practices/guidance.

Office Receiving Request	First Appeal	Final Appeal
Weather Forecast Office, Weather Service Office, Data Collection Office, River Forecast Center, Center Weather Service Unit, Regional Operations Center	Regional Headquarters	Office of Chief Operating Officer (OCOO) or designee
NCEP Centers	NCEP Headquarters	OCOO or designee

Office of Water Prediction, NWS Operations Center	OCOO/Operations Division	OCOO or designee
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Table 1. Appeals for IDSS Request

7 Emergency Circumstances

In rare cases, if NWS staff are concerned that lives and property are at imminent risk, IDSS may be provided to individuals/organizations outside the scope of existing policy or without a previous request/approval being in place. For example, in the event of an immediate threat, direct notification by NWS about the threat may be initiated. The purpose of this type of notification, which is expected to occur infrequently, is to ensure awareness of the threat and that precautionary actions are underway. No further actions will be taken if the individual/organization is already informed of the threat (e.g., per service from a Weather/Water/Climate Enterprise provider).

If such an action is taken, the local office or regional/center management will be notified, a record of the action made, and review performed after the incident to determine impacts, if any, of this action and if IDSS for the individual/organization is needed on an ongoing basis. If the NWS office providing direct IDSS has a reasonable expectation of providing future IDSS services to the individual/organization, then request and approval for future services will be obtained after the emergency situation has passed.

8 Need for Continued Review

The content in this SDD describes the NWS planned approach for providing IDSS to our Core Partners while acknowledging the role of those Weather/Water/Climate Enterprise partners who are similarly providing support to help build a Weather-Ready Nation. The document cannot address every possible question or situation that our forecasters will be presented with, but tries to describe the approach NWS will take in providing IDSS and the guidance provided to our forecasters to manage many of the issues which may arise concerning boundaries between NWS and our Weather/Water/Climate Enterprise partners. Should NWS find instances where critical unmet services needs exist, NWS will evaluate these in collaboration with our Weather/Water/Climate Enterprise partners.

In reality, these boundaries will continue to be adjusted as all parties in the Weather/Water/Climate Enterprise continue to learn from actual support situations. NWS is committed to incorporate lessons learned from review, both informally, and in the context of post-event evaluations of IDSS services. These lessons learned will drive improvements, both in services to our Core Partners, and in better recognizing and addressing any impacts to Weather/Water/Climate Enterprise partners and their role in providing complementary or exclusive services to customers, to ensure the safety of life and property in our nation.

9 Feedback Method

This SDD is a second issuance (v. 2.0) and will be updated periodically. As described in section 8, above, NWS will continue to assess and revise our guidance for providing IDSS based on

internal input, feedback from our Core Partners, and input from our partners in the Weather, Water, and Climate Enterprise. Feedback may be provided to NWS during in-person interactions (e.g., NWS Partners Meetings) or questions and comments may be addressed at any time by sending to:

Office of the Chief Operating Officer
National Weather Service
1325 East West Hwy
W/COO Room 15326
Silver Spring, MD 20910
nws.idss.comments@noaa.gov

Appendix A. Clarifications and Guidelines for Applying the Core Partner Definition

The table below provides detailed information on clarifications and guidelines for interpreting the NWS Core Partner definitions. The table should be used as a resource to recognize who may or may not be considered NWS Core Partners.

This table does not include references to all NWS partners, but serves to provide guidance on who is included in the Core Partner definition for specific sectors where additional clarification is needed. The clarifications serve as a means for NWS to help standardize its level of service across NWS offices and, in some cases, may indicate where NWS may need to scale back and refer contacts to Weather/Water/Climate Enterprise as an alternative source of services in the future.

NWS may occasionally review the group of organizations supported and/or refine the definition of Core Partners provided in this document. Based on experience and external input, review will take place, both informally and in the context of post-event evaluations of IDSS services (see NWSPD 10-1606, Service Assessment), to recognize and address any impacts to Weather/Water/Climate Enterprise partner services as NWS is made aware of them.

Note: Any Core Partner example provided may also receive services from Weather/Water/Climate Enterprise partners. If this is the case, NWS should be flexible in the level of support provided. NWS services should be adjusted based on Core Partner direction.

Core Partner Category	Descriptions, Considerations, and Clarifications in Determining Core Partner Status
Emergency Management Community	<i>Note: Contract Agents of a Core Partner are considered Core Partners.</i>
	<p>Federal, State, Local, Tribal, and Territorial Government Emergency Managers or Public Safety Officials.</p> <p>Public safety officials who serve as employees or contract agents of a government agency at the federal, state, local, tribal, or territorial level, and are charged with protecting the public from hazards that are influenced by weather or weather-related events.</p> <p>In select cases below, (e.g., education, health, infrastructure) the NWS may provide similar support for organizations which are not formally government agencies, but which employ personnel who routinely exercise authority equivalent to government public safety officials, particularly those who serve vulnerable populations. With approval of the NWS office official-in-charge, and as resources allow, NWS offices providing IDSS may extend support to these organizations. Support for health, education, infrastructure/utilities, is not broad, as services provided by Enterprise partners, but limited in most cases to provision of hazardous weather information in conjunction with ongoing response efforts related to hazardous weather events.</p>

	<p>Education Sector Emergency Management/Public Safety Officials</p> <p>Emergency management function for a school district or college/university – exercise broad decision-making authority to protect staff and students during weather-related emergencies (functional, not title-specific (e.g., school district superintendent)). There is no distinction between public and private educational institutions for consideration as a Core Partner.</p> <p>Those not considered Core Partners include other personnel within a school/school district or college/university who request support that does not fall under the umbrella of protection of life/property as a public safety function (e.g., individual teachers/professors, transportation depot, grounds operations, event organizers, venue operators).</p>
	<p>Health Sector Emergency Management/Public Safety Officials</p> <p>Most of the health sector emergency management function <i>does not qualify on its own</i> as being a Core Partner. An exception would be if an NWS Core Partner made a specific request to provide support (see section “Exceptions: Situational Support for General Partners,” in table below). The majority of support for the health sector is intended to be through (1) the larger governmental emergency management construct, including EM agencies and 911 call dispatch centers, and (2) the EM function of hospital/long term care facilities (e.g., hospice facilities/nursing homes).</p> <p>Those not considered Core Partners include EMS/ambulance/paramedic personnel and all other care facilities (urgent care, clinics, surgi-centers, etc.)</p> <p>See the Government Partners section of the table for government partners related to public health/healthcare.</p>
	<p>Infrastructure/Utilities (Non-Water Resource Management) Emergency Management/Public Safety Sector</p> <p>The majority of the Infrastructure/Utilities sector emergency management function (Phone, electric, wind, solar, (and other utilities that do not fall within Water Resources Management Community)) <i>does not qualify on its own</i> as being a Core Partner. Ultimately, the goal is for important utilities to work with their EMA to support mitigation efforts.</p> <p>See the Water Resource Management section of the table for those utilities that qualify as Core Partners in that context.</p> <p>Note: Any entity operating in the ICS Structure for public safety response as part of Core Partner Operations may receive the same IDSS information provided to Core Partners in that setting. See Situational Support for General Partners below.</p>

	<p>SKYWARN® Coordinators and Net Control Operators</p> <p>Local Office SKYWARN Coordinators and Net Controllers, and others serving in those capacities, such as Amateur Radio Emergency Services (ARES) and Radio Amateur Civil Emergency Services) should be considered Core Partners.</p>
Government Partners	<p>Federal, State, Local, Tribal, or Territorial Government Officials with Operational Linkages to Allied Mission of Public Safety or Critical Interdependency</p> <p>Partners who have missions that require close coordination with the NWS to support the operational linkages of an allied mission of public safety or critical interdependency on each other's data or actions which impact the missions of both organizations. These include governmental officials with responsibility over public safety and decision-making authority regarding evacuation and other critical decisions, whether elected or by positional authority. Quasi-government¹⁵ (quasi private) organizations - may receive core level service if the organization's primary mission responsibility is related to public safety.</p> <p>Examples include, but are not limited to, Federal Aviation Administration, Federal Emergency Management Administration, state Departments of Transportation, Department of Defence, United States Geological Survey, U.S. Army Corps of Engineers, U.S. Coast Guard, and other water and land management officials.</p> <p>Those government organizations with no allied mission would not be considered NWS Core Partners.</p>
	<p>International Governments</p> <p>International Governments and governing bodies (e.g., World Meteorological Organization) that provide a wide range of international weather, water and climate services, which support the U.S. national interests abroad. Existing formal agreements should be in place for NWS to provide a specialized level of support (e.g., under the terms of international agreements).</p>
Water Resources Management Community	<p>Public officials who serve as employees or contract agents of a government agency at the federal, state, local, tribal, or territorial level and are charged with managing the nation's water resources for the public good, including infrastructure supporting these management activities (e.g., dams, levees, reservoirs, etc.). In addition, in select cases, the NWS may provide similar</p>

support to quasi-government¹⁵ and private organizations that are not formally government agencies but which employ personnel who routinely exercise authorities similar to the public officials described above, and whose actions impact NWS operations/forecasts. With approval of the NWS office official-in-charge, and as resources allow, NWS offices providing IDSS may extend support to these organizations. These groups may be governmental, quasi-government or private organizations.

Key Infrastructure/Utilities (water supply) Support is critical because actions of these partners have the potential for impacting the quality and timeliness of NWS forecasts/warnings (e.g., river/flow forecasts, flood warnings).

Ecosystems/Water Quality

Includes government and quasi-government entities responsible for ecosystems/water quality (should include most wastewater treatment facilities, for example). Water and natural resources managers, who use information on water quality parameters to execute their water supply and resource management programs. NWS should be working in partnership with other government entities to provide the weather information needed by our partners to inform the services they provide to their customers.

Water Policy/Planning

Water managers leverage information on a range of hydrologic fields for use in planning, emergency preparation, response, and mitigation to inform critical decisions that save lives and property, and support natural resources management.

Real-time Media	<p>Members of the real-time media are entities, and contract agents of entities, that have a need to actively participate in discussions with NWS forecast offices on imminent weather or other hazards. These entities 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. Real-time Media includes providers of weather content through electronic information distribution such as radio, television, internet, cellular, and other wireless means. Real-time Media Core Partners typically are in the private sector. Members of the real-time media may be an active participant in some NWS IDSS activities because of the unique role they play (in coordination with NWS) in communicating critical public safety information; however, NWS does not provide decision making support to the media related to the conduct of their operations. Members of the Real-time Media would typically only receive Baseline IDSS.</p> <p>Note: All media entities are force multipliers in communicating valuable Weather, Water and Climate information more broadly to the public. As such, NWS will grant interviews, as resources allow, to all media entities even if they are not deemed Core Partners. Providing media interviews is not considered IDSS.</p>
<p style="text-align: center;">Private Sector</p> <p>Most private sector entities are not considered Core Partners and therefore do not receive IDSS. These include retail stores (e.g. Walmart); farmers, agriculture organizations; amusement parks, resorts (e.g., lake, mountain, ski, beach), casinos; sporting and other event venues; transportation/shipping, cruise lines, airlines (unless per Federal Aviation Administration (FAA) direction), private vessels, railways, boating organizations, and port operators associations.</p>	
<p style="text-align: center;">Exceptions: Situational Support for General Partners</p> <p>There are situational instances where General Partners (partners who NWS interacts with but who don't meet the definition of Core Partner) may receive support. Those scenarios are outlined below.</p>	
<p style="text-align: center;"><i>Operational Environment</i></p>	<p style="text-align: center;"><i>Examples of General Partners That May Receive Support</i></p>
<p>Within ICS Operations Structure</p>	<p>NWS IDSS support for these coordinating structures focuses on informing Core Partners and their supporting government agencies. However, when NWS provides IDSS within these coordinating structures to support the aggregate life/safety preparation and response, NWS recognizes that information of value and use in operational efforts is indirectly provided to all response participants including critical infrastructure facilities and private sector utility partners.</p> <p>NWS will not, however, provide tailored advice to General Partners that support their operations outside of the ICS structure (e.g., consulting with a utility</p>

	<p>company on how to mitigate impacts of hazardous weather beyond the event at hand). When responding to requests for specific weather guidance and information beyond that provided to Core Partners, NWS personnel will inform the requester that tailored support, including customized and highly localized forecasts and warnings, may be provided by our Weather/Water/Climate Enterprise partners.</p> <p>Any entity operating in the ICS Structure for a public safety event or in support of Core Partner Operations may receive IDSS information in that setting. However, they are not considered Core Partners just by virtue of being part of a response.</p> <p>Typical examples include Voluntary Organizations Active in Disasters/Community Organizations Active in Disasters/Non-Government Organizations (VOAD/COAD, NGO¹⁹) utilities and other critical infrastructure support; support to government operations of FEMA Emergency Support Functions (ESFs) in the National Response Framework (NRF) for which NOAA has been identified as playing a federal support role.</p>
Outside of the ICS Operations Structure	<p>Occasionally, Core Partners may request that their associated contacts, who do not fall within the definition of NWS Core Partner, but who routinely perform public safety duties on behalf the Core Partner, be included as part of the IDSS activities of the requesting Core Partner*. These entities will retain their General Partner status and do not qualify for IDSS beyond the specific support requested by the Core Partner.</p> <p>In addition, support may be provided to non-profit entities (e.g., VOAD/COAD/NGO¹⁹) with a specific Memorandum of Understanding (MOU) in place to provide support.</p> <p><i>*Approval should depend on public safety mission alignment or interdependency on data or actions and resource availability.</i></p>
Emergency Situations	<p>In rare circumstances, NWS Offices may provide IDSS situationally as deemed appropriate to any entity, public or private, deemed critical in support of a public emergency. (See Section 7 of this document.)</p>

¹⁹ Voluntary Organizations Active in Disasters/Community Organizations Active in Disasters/Non-Government Organizations

Appendix B - Descriptive Example Scenarios of IDSS for NWS Core Partners

The scenarios presented in this appendix are meant to provide descriptive examples of how Impact-Based Decision Support Services (IDSS) may be provided to NWS Core Partners. IDSS will be provided to State, local and tribal emergency management agencies, and other agencies related to disaster management, to ensure a planned, coordinated, and effective preparedness and response effort. The intent is to further illustrate the description of services provided in the body of this Service Description Document (SDD). Any references to specific products or actions within the scenarios are not intended to represent required actions on the part of the NWS.

Scenario 1: Severe thunderstorms (weather event, local; Service to: General Partners/Public, Core Partners; Provision of NWS Public Products and Services, Baseline/Targeted IDSS)

Over previous months and years, a local NWS Weather Forecast Office (WFO) has engaged in various activities to ensure the local EM community, other government Core Partners, and the general public are all able to successfully take advantage of the common suite of products/services provided by NWS to the general public which are a valuable source of information in weather-related decision making. These activities include leading a Severe Weather Preparedness Week, participating in tabletop exercises of severe thunderstorm and tornado disasters, providing severe weather climatology for the local area, developing public outreach materials, and holding severe weather spotter training classes. As a result of these activities, the EM community is fully familiar and able to take advantage of the standard products issued by NWS, including severe weather watches and warnings.

When an outbreak of severe thunderstorms with potential for the development of tornadoes is forecast, the WFO initiates IDSS, inviting the local EM community and other area government Core Partners to attend a series of multimedia teleconferences describing the prediction of severe weather. The goal is to ensure that all have a coordinated understanding of the nature and timing of the forecast events. Local WFO records indicate that the emergency manager of the county impacted (a Core Partner) has requested inclusion on the call of emergency coordination staff from two local hospitals, as well as the utility company providing power to the area. At the request of the local EM, these contacts are invited to join the call as well.

During the call, the local WFO briefs participants on the nature, severity, and timing of the forecast severe weather event. Some time is allowed for questions from participants. NWS responses are focused on ensuring that all on the call have a common understanding of the forecast events and where/when to monitor for new or updated information from NWS as the event evolves²⁰.

²⁰ Any requests for tailored or specific products from participants on the call who are not Core Partners, to directly assist with preparation, response, or optimization of their infrastructure or business activities, would be referred to Weather/Water/Climate Enterprise partners.

Scenario 2a: Significant winter storm (weather event, local/state; Service to: General Partners/Public, Core Partners; Provision of NWS Public Products and Services, Baseline/Targeted/Integrated (on-site) IDSS)

An early winter storm is expected to affect a state with significant ice accumulation and heavy wet snow before all of the leaves have fallen off the trees. Outreach and preparedness activities (ensuring successful use of the common suite of products/services provided by NWS to the general public, which are a valuable source of information in weather-related decision making to all NWS users) and multimedia, interactive briefings with NWS and its Core Partners have been completed. In anticipation of the storm, the State Emergency Operations Center (EOC) is activated. The local WFO Meteorologist-In-Charge determines that resources will allow a 24- hour deployment of an NWS deployment-ready meteorologist to the State EOC (the State EM has been classified as a Core Partner). Due to the possibility of impassable roads, power outages, and communication failures, the state's Incident Commander also activates Emergency Support Function (ESF)-1 (Transportation), ESF-2 (Communications), and ESF-12 (Energy). Representatives of electricity and cellular telephone providers, Department of Transportation (DOT) officials, and a private contractor responsible for helping to clear the roads will be among those responding to the State EOC to support these ESFs.

While deployed to the EOC, the NWS meteorologist coordinates with staff at the WFO using NWSChat to ensure that he and other forecast office staff are using consistent information and products to communicate across the broad community of users being supported by NWS. The deployed meteorologist also joins in on scheduled online briefings between the WFO and Core Partners to ensure consistent communication is provided both to the EM community, other public safety officials, the media, and the general public.

The NWS deployed personnel primarily interacts with the Incident Commander and the Situational Awareness Section Chief, but everyone else in the EOC will be in a position to monitor any verbal or written briefings provided by the NWS. The focus of NWS briefings is on the timing, location, amounts, and rate of precipitation, as well as wind and temperature, to support the aggregate life-safety preparation and response. The NWS meteorologist does not, for example, work with the contractor on the types of materials to use when treating roads, nor do they work with the energy providers on temperature trend forecasts for strategic business planning (e.g., transactions on the electricity market). If asked, the NWS would refer the companies to our Weather/Water/Climate Enterprise partners for support of this nature.

Scenario 2b: Significant winter storm (weather event, local/state; Service to: General Partners/Public, Core Partners; Provision of NWS Public Products and Services, Baseline/Targeted/Integrated (remote) IDSS; Core Partner has in-house meteorological support services)

An early winter storm is expected to affect a state with significant ice accumulation and heavy wet snow before all of the leaves have fallen off the trees. Outreach and preparedness activities (ensuring successful use of the common suite of products/services provided by NWS to the general public which are a valuable source of information in weather-related decision making to all NWS users) and multimedia, interactive briefings with NWS Core

Partners have been completed. The EM in this area benefits from in-house meteorological services provided by the State. In anticipation of the storm, the State Emergency Operations Center (EOC) is activated. Due to the possibility of impassable roads, power outages, and communication failures, the state's Incident Commander also activates Emergency Support Function (ESF)-1 (Transportation), ESF-2 (Communications), and ESF-12 (Energy). Representatives of electricity and cellular telephone providers, Department of Transportation (DOT) officials, and a private contractor responsible for helping to clear the roads will be among those responding to the State EOC to support these ESFs.

The local WFO Meteorologist-In-Charge determines that resources will allow Integrated IDSS for its core partner²¹, the EM. Because the EM uses the service of an in-house meteorologist, NWS IDSS is provided remotely. As the WFO has done in the past per EM request, the NWS coordinates closely with the EM's in-house meteorologist and is present via remote connection in EOC coordination briefings²². During the briefings, the NWS confirms that information provided on the timing, location, amounts, and rate of precipitation, as well as wind and temperature are consistent with information and messaging being provided to the media and the general public. In addition he relates a summary of spotter reports that have been received confirming the continuation of snowfall across the area, as forecast.

Scenario 3: Major hybrid tropical/extra-tropical system (weather event, national significance; Serviceto: Core Partners; Provision of Integrated IDSS (on-site))

A dangerous "hybrid" (tropical/extra-tropical) system is expected to impact several states and large cities from the Mid-Atlantic to Northeast US. In anticipation of the disaster, numerous EOCs at the local, tribal, state, regional, and national level are activated. The NWS makes a determination in coordination with the EM community, based on the expected scale and severity of the event and the resources available at the time, as to which EOCs can be supported with on- site deployments and which will be supported via remote IDSS, from the WFO. All relevant ESFs are activated at the EOCs, including private sector representatives from a variety of critical commerce sectors (e.g., transportation, energy, communication, retail, health care, etc.).

When deployed, the NWS deployment-ready meteorologist coordinates with the Incident Commander and Situational Awareness/Planning personnel to identify critical participants for weather coordination. EM staff identify that one retail, one health care, and two communications infrastructure entities are employing support from Weather/Water/Climate Enterprise partners. The NWS deployed meteorologist identifies an ad hoc NWSChat channel for weather-related coordination for the duration of this event and all weather service providers are invited to coordinate with NWS via NWSChat to ensure all parties are providing similar messaging to those they support.

²¹ The EM is classified by the local office as a core partner per inclusion in the Emergency Management Community category within the definition of Core Partner.

²² Any requests for tailored or specific products from non-EM community participants during the briefings, to directly assist with preparation, response, or optimization of their infrastructure or business activities, would be referred to Weather/Water/Climate Enterprise partners.

Whether deployed on-site or remotely supporting an EOC, the NWS provides regular overview briefings, both written and verbal, to the Incident Commanders and Situational Awareness/Planning personnel. These materials focus on the various hydrometeorological aspects of the hazardous weather event and are generally made available to all EOC participants. Discussions with EOC personnel are focused on key life-safety decisions such as providing weather input to evacuation decisions, road closures, protection of personnel and infrastructure, and so on²².

The unusual nature of the event requires “temporary” products to be provided to the Incident Commanders - that is, specialized products specific to the event and its response. This “hybrid” (tropical/extra-tropical) system produced heavy rainfall over a large watershed and has led to multiple locations exceeding flood stage. Intense rainfall bands concentrated in basins upstream of a dam are resulting in elevated reservoir pool levels behind the dam. In response to the rapidly rising reservoir pool levels, the dam operator is making significant adjustments to their planned reservoir release schedule. The increasing reservoir releases from the dam, combined with high tributary inflows below the dam, are increasing flood impacts at downstream locations.

NWS personnel (RFC and WFO forecasters along with the deployed meteorologist) are in continuous coordination with the dam operator (an NWS Core Partner, part of the water resources management community) who provides updated reservoir release information. RFC forecasters incorporate these newly coordinated reservoir releases and projected tributary inflows into river models and provide updated river forecasts for downstream locations. Based on the new forecasts, the WFO issues updated river flood warnings. A set of contingency forecasts for reservoir and tributary flows is also generated by the RFC, based on various meteorological scenarios coordinated with the Weather Prediction Center and the WFO. These contingency forecasts are useful for the EM community and partners to make risk-informed decisions. This impact information is then shared with the NWS meteorologist deployed at the FEMA Regional Response Coordination Center (RRCC), provided to ESF-3 (Public Works and Engineering) Army Corps of Engineers personnel, and made available via NWSChat for those Core Partners who are able to make use of this additional information and understand the uncertainty associated with these forecasts.

In addition, after landfall of the storm, products are generated to integrate new NOAA aerial photography and shoreline survey information with updated NOAA hydrographic surveys, and NWS marine data/forecasts covering key shipping channels in order to safely re-open the ports and enable emergency response activities. These products (not available to the general public for security reasons) organize existing information available from NOAA in a manner to make it more directly and efficiently useful to EOC staff in developing recovery strategies, facilitating search and rescue efforts, and identifying hazards to navigation.

Due to the time-critical need for the products, they would not be subject to the typical NWS new/experimental product processes. However, after action reviews with the response agencies capture feedback on the efficacy of these products and a determination would be made whether similar future events would include similar products. If similar products are

planned to be used to support future events, the product would be fully described and undergo the standard public comment/review process governing new/enhanced products/services (see <https://www.nws.noaa.gov/directives/sym/pd01001002curr.pdf>).

To help ensure the integrity of public communications infrastructure, an Incident Commander has included a representative of three cellular network providers in the EOC. Cell network providers A and B have ongoing support from Weather/Water/Climate Enterprise partners and arrive in the EOC up-to-speed on the potential impacts to their network. Plans are already underway to shore up their network and maintenance crews are on standby to implement the cell network providers' recovery plans. The cell network providers A and B coordinate with their weather services providers to determine if they should relay the NWS information they receive in the EOC to their weather service providers or if they will be monitoring the NWS-provided chat channel for updates. Either option will ensure they are aware of the messaging that is being provided by NWS.

Cell network provider C does not retain the services of a Weather/Water/Climate Enterprise provider. This cell network provider has access to the basic information provided by the NWS deployed meteorologist to the Incident Commander and EOC personnel related to the severity and timing of weather impacts. Cell provider C uses the information to help ensure the safety of any recovery efforts as they are deployed. The representative from provider C makes a note on the Weather-Ready Nation pamphlet, given to him by the NWS meteorologist, to speak to company management about employing weather support services from Weather/Water/Climate Enterprise partners in the future, as a means to avoid the heavy disruption in service that they expect their customers will experience if this type of event should occur again.

Scenario 4: Sailing competition (planned outdoor event; Service to: Core Partner; Provision of Integrated IDSS)

A large, multi-day sailing competition annually draws a million people including spectators, competitors, and staff. The NWS, at the request of the event's multi-agency EOC Incident Commander, deploys an NWS meteorologist to provide on-site support, focusing on hazardous weather and water information such as lightning, high seas, strong winds, and low visibility. The NWS meteorologist also proactively runs dispersion models in case of a hazardous materials release and monitors winds aloft and ceiling forecasts for the safety of aviation activities. The NWS meteorologist provides daily verbal and written briefings²³, as well as special briefings when necessary, to guard against threats to safety of fans and participants, and to support Coast Guard operations and any rescue efforts.

The NWS meteorologist does **not** provide direct support to the race organizers (e.g., forecasts for making profit by selling umbrellas or lemonade) or to competitors (e.g., wind forecasts to win the race). The NWS meteorologist also does not interfere in a contract between race organizers and a Weather/Water/Climate Enterprise vendor to deploy wind

²³ Any requests for tailored or specific products from non-EM community recipients of the briefings, to directly assist with non-safety-related aspects of event preparation, would be referred to Weather/Water/Climate Enterprise partners.

instruments around the course, but does work with the vendor to obtain the data in support of the EOC.

Scenario 5: Inland Oil spill response (unplanned, non-weather event; Service to: Core Partners; Provision of Integrated IDSS)

An oil pipeline bursts unexpectedly, with oil spilling into a tributary of a major river. A multi-agency EOC is activated in response, supported by the county EOC. A Unified Command is established with co-equal incident commanders from the EPA, the State environmental department, and the pipeline operator. The NWS determines, based on available resources and the significance of the event, to staff the command center during regular business hours and provide “on call” remote support during nights and weekends with no hazardous weather. The primary purpose of the NWS support is the safety of the response teams from threats such as lightning, extreme heat or cold, flooding of the tributary/river, and so on. Interpretation of hydrologic (river) modeling provided by NOAA and other agencies is also critical to the response, through interaction with a US Army Corps of Engineers official also deployed to the EOC. While on-site, a representative from the pipeline company asks the deployed NWS meteorologist if she would be able to provide long-term temperature trends to support improved efficiency in pipeline maintenance for the future. After a brief conversation with regional managers to confirm the appropriate response, the meteorologist responds that this type of support is more appropriately provided by our Weather/Water/Climate Enterprise partners and refers the pipeline company to the a resource listing of Weather/Water Climate Enterprise providers at <https://weather.gov/enterprise>.

(Note: This scenario does not represent the full range of oil spill related response activities that are carried out by NOAA.)

Scenario 6: Application of SDD Section 7, Emergency Circumstances (Service to: General Partners/Public, Core Partners; Provision of NWS Public Products and Services, Targeted IDSS)

An outdoor concert is being held at the State Fairgrounds with over 4,000 expected in attendance. A month previous, the WFO had been contacted by the concert organizer to ensure they were aware of the most appropriate NWS products to monitor for expected weather conditions during the time of the concert. The WFO provided standard information on key NWS products and provided the organizer with a “Special Events” flyer describing levels of support for outdoor events available both by NWS and Weather/Water/Climate Enterprise partners. As the concert date approaches, NWS support has not been requested by emergency managers, but the local WFO is aware of the event as a matter of routine situational awareness of possible vulnerabilities within their area of responsibility.

NWS radar (WSR-88D) is indicating that a line of severe thunderstorms capable of producing quarter size hail and damaging winds in excess of 60 mph will approach the Fairgrounds within the next 20 minutes. A severe thunderstorm warning has been issued. However, the lead forecaster, remembering the fatalities resulting from the Indiana State Fair stage collapse and feeling concerned about the possible impact on the spectators at the

concert, makes a call to the concert organizer while another staff member calls the county emergency manager. Concert staff quickly indicates that they are aware of the situation and that evacuation is underway.

NWS office staff continue to keep the emergency manager informed as the thunderstorm approaches.

The lead forecaster enters his action to call the concert organizer in the office's operations log for the day and contacts the Meteorologist-In-Charge (MIC) to let her know that the action had been taken. The MIC notifies her office's regional headquarters and Regional Operations Center staff. The following week, staff at the NWS regional headquarters follow up with a brief call to the concert organizer to inquire about actions taken during the thunderstorm. The concert organizer indicated that they had hired a private meteorologist who recommended evacuation but that they appreciated the effort to ensure the spectators were safe, as well as the WFO's flyer providing information about the type of weather support available from Weather/Water/Climate Enterprise partners.

A summary of the results of the action is generated indicating (1) that the concert organizer does not require approval for IDSS (concert organizer does not fall within the NWS definition of Core Partner and IDSS support is not warranted) and (2) that no disruption of Weather/Water/Climate Enterprise partner services was identified by the office's action. The regional headquarters staff also suggests that the WFO proactively coordinate with emergency managers to determine whether contacting EMs may be the most efficient means of contacting event staff about hazards, even if the WFO hasn't been formally asked to provide weather support to the EM for that event.