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Operations and Services
Impact-Based Decision Support Services, NWSPD 10-24

IMPACT-BASED DECISION SUPPORT PRODUCTS AND SERVICES SPECIFICATIONS

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SUMMARY OF REVISIONS: This is a new directive. The purpose of this procedural directive is to define a common framework of terminology and methodologies for a minimum baseline of consistent IDSS management and delivery already practiced today. This instruction documents consistent planning and operational procedures observed and collected across the field for national IDSS products and services.

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IDSS Products and Services Specifications

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1 Introduction

Impact-based Decision Support Services (IDSS) is defined in NWSPD 10-24 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 delivery may be characterized as being either **episodic** or **routine** in nature." (See NWS Policy Directive 10-24 for definitions of episodic and routine IDSS.)

1.1 IDSS Products and Services

As described in NWS Instruction 10-2402 IDSS Operations Instruction, IDSS can be broken down into three service tiers: Baseline IDSS; Targeted IDSS; and Integrated IDSS.
While some products and services are specific to a single tier of IDSS, many of them will apply to all three tiers. The differences between the products and services that span multiple tiers are related to the increasing details provided in the content, the targeted nature of the intended audience for dissemination, and the potentially increasing frequency of dissemination of information.

Baseline IDSS delivered to Core Partners in general should address their needs or thresholds for actions while maintaining consistency with public-facing impact-based messaging. The audience for Baseline IDSS will vary depending upon the type of high impact weather event, complexity of the event, and how many Core Partners the weather event potentially impacts.

Targeted IDSS increases the level of detail and specificity unique to a smaller group or category of Core Partners. Targeted IDSS is characterized by the delivery of IDSS to a smaller group of Core Partners that have common but more specific IDSS needs related to weather events or scheduled special events.

Alternatively, these Core Partners could be supporting a non-weather-related event that has very specific vulnerabilities in which weather could impact adversely.

Integrated IDSS provides direct one-on-one IDSS, providing highly specific information based on the individual Core Partner needs related to high-impact weather events or non-weather events.

The primary difference between Targeted and Integrated IDSS products and services are through the delivery of these products and services. Targeted IDSS may utilize electronic forms of delivery (e.g. email), whereas Integrated IDSS may require a direct one to one communication and service delivery, virtually or in person.

The examples of these products provided in the sections below are not intended to be exhaustive, but to demonstrate the type of existing tools that support each type of IDSS. The specific products may change over time.

Content included in NWS IDSS Products and Services must remain within the scope of NWS legal authorities unless we are formally relaying information on behalf of other NOAA line offices (e.g. Harmful Algal Bloom information from National Ocean Service) or Federal Partners.

1.1.1 Automated Watch/Warning/Advisory Notifications for Core Partners (iNWS) - experimental

Mission Connection:

iNWS is a user-driven, real-time alerting service designed to bring critical weather information and automatic alerts (such as NWS warnings, watches, and advisories) directly to cell phones and other mobile devices, expanding the NWS warning dissemination program. iNWS is intended for Core Partners, including members of the emergency management community. iNWS provides an additional level of communication redundancy during weather-related, civil, and other emergency events in addition to the current communications paths between the NWS and its Core Partners. However, iNWS is not intended to replace other official NWS products or official means of communications.

1.1.2 IDSS Chatroom

Mission Connection:

Office or event-specific chat rooms dedicated to two-way communication for a given hazard or event can be an efficient way to share current weather analysis and hazard messaging, as well as any anticipated changes in the forecast. Through the chat, local offices can easily disseminate hazard updates and forecaster thinking to decision makers with the context they need to best understand which decisions to make or actions to take. Core Partners are able to provide feedback, storm reports, or decisions they make through the chat, as well as ask questions to clarify for further understanding. While there are several chat capable applications for NWS Operational Units to use, for more details specifically on the chat application, see NWSI 10-1722.

Coordination: Offices are encouraged to share pre-coordinated information in NWSchat rooms with Core Partners and are encouraged to monitor each other's chat rooms for awareness as a

best practice. If Core Partners are routinely served by more than one NWS office, it is important that the offices are coordinated in both scientific and messaging information delivery outside of the chat environment. As a best practice, impacted offices may join Core Partner chat rooms for awareness as appropriate. If an update is needed that includes impacts beyond an NWS operational unit's area of responsibility, that unit should coordinate messaging via a separate method and deliver coordinated final messages externally to Core Partners on chat.

1.1.3 IDSS Briefings

Mission Connection

National Weather Service offices issue IDSS Briefings to provide the Core Partners with important information which may affect their operations. The briefings also serve as a means of conveying scientific reasoning and forecast confidence, which can provide context that aid in preparedness and response decisions made by our Core Partners. Preparedness information can also be communicated through the briefings, depending on the type of hazardous weather. IDSS Briefings should be consistent with Public Impact-based Messaging products and services as well as the full suite of NWS products and services. IDSS Briefing packages may consist of a one-page written document or email body of text with accompanying graphics, briefing slide decks. Delivery of the IDSS Briefing packages may be through digital means such as email, recorded video briefings, and live webinar briefings which further engage Core Partners for questions and feedback.

IDSS Briefing Package

High impact weather and non-weather events along with Core Partner needs should drive the overarching framework of the IDSS Briefing Package. In determining the framework of the briefing package, NWS offices will also need to consider the outlook, watch, and warning phase of the event that the package will be delivered to the Core Partners. NWS offices should also consider the level of engagement they wish to have with Core Partners to deliver the IDSS Briefing Package. This level of engagement may vary depending upon the complexity of the impact or expected impact, both in severity and in area impacted.

At a minimum, as a best practice, an IDSS Briefing Package should consist of a concise text explanation of the forecast and impacts, with an accompanying graphic to help provide context. The graphics contained in the briefing package should be built off of the same set of graphics being shared publicly (e.g., Public Impact-based Messaging defined in NWSI 10-2402), with additional targeted information based on an understanding of Core Partner decisional needs

For templates and best practices, please reference the National IDSS Products and Services Style Guide.

Email

The IDSS Briefing Packages delivered through email tend to be the simplest packages to construct as well as being quickly received by Core Partners. Core Partners can self-brief from the package on their own time, but will need to reach out to the supporting office with any questions. Core Partners can also forward the briefing package to others in their organization or other agencies they support. Core Partners then become a force multiplier for forecast or impact

messaging in this regard.

Video Recording

The complexity of an expected high impact weather event may necessitate a video recording of the IDSS Briefing Package, consisting of a slide deck. This method of delivery provides a way for Core Partners to receive a briefing from a supporting office that includes a more detailed explanation of the expected event and impacts through the audio of the recording. The briefing NWS Employee can discuss the main point of each slide for added context and understanding. Videos created for Core Partners may be shared via email, video hosting platform and shared with partners via weblink. Videos may also be posted on office websites, but keep public interpretation in mind when developing the briefing content.

Webinar

Offices that choose to host a webinar to deliver their IDSS Briefing Package can achieve a higher level of engagement with their Core Partners in a remote setting. Offices can utilize a slide deck to help facilitate the webinar, and at the end of which Core Partners can ask questions and provide feedback. This gives the supporting office a chance to further explain or clarify what they think. Offices can also provide a PDF document of the slides to be shared with Core Partners or uploaded to the office's website. The webinar hosting office may use a variety of web conferencing platforms to meet the needs of Core Partners.

Stand Up Briefings

The previous delivery methods for an IDSS Briefing Package are generally best practices for Baseline or Targeted IDSS. Integrated IDSS requires a more focused delivery method since the informational needs of the audience are more specific to a particular incident. The deployed onsite NWS employee at an emergency operations center or incident command post will be providing the IDSS Briefing Package, which may be delivered through briefings at designated times by the Core Partner or on demand at a moment's notice. This requires live communication of the briefing package. These live briefings provide more engagement with the Core Partner, allow for more interaction with other agencies supporting the incident that could have weather sensitive operations, and provide clear lanes for weather support of the incident. Stand Up Briefings can be delivered virtually or on-site during a deployment.

Coordination: Content should be consistent with existing public impact based messaging and should be well-coordinated with appropriate National Centers, Regional Operation Centers (ROCs), and neighboring local offices.

For templates and best practices, please reference the National IDSS Hazardous Weather Briefing Template.

IDSS Webinars

Verbal Content: The verbal content of the webinar should focus on reviewing key takeaways from the IDSS Briefing Slides, adding additional clarity or focus to important or potentially complex concepts being presented. The focus should be on conveying potential impacts and any

potential uncertainty in the forecast, along with "what if" scenarios. For Targeted IDSS, focus should be placed on highlighting specific key Core Partner decision thresholds and other customer centric key takeaways. It is important to present information with a clear and authoritative voice, making use of tone and emphasis appropriately to effectively convey risks and potential impacts and to elevate the serious nature of an event when deemed necessary. An important element of webinar engagement is to include a period of direct questions and answers for Core Partners.

Visual Content: Visual content should primarily consist of the IDSS Briefing Slides, but any relevant live screen visual displays should be used as appropriate, such as displaying hourly weather point forecasts, IDSS dashboards/matrices, real time radar and satellite displays, etc.

Coordination: Content should be consistent with existing public impact-based messaging and should be well-coordinated with appropriate National Centers, ROC, and neighboring local offices.

1.1.4 IDSS Site-specific Forecasts

Mission Connection:

National Weather Offices provide forecasts for specific sites as requested by a Core Partner, including specialized information unique to the requesting Core Partner's needs. Site-specific forecasts are detailed in nature, addressing Core Partner thresholds and decision points in support of an event or incident. A Core Partner request may require only a single issuance of a site-specific forecast or ongoing updates related to the event or incident. NWS offices should allocate the staff and focus needed to address the scope of an event or incident requiring follow-up IDSS.

The following products and services serve as examples of IDSS site-specific forecasts for mainly local Core Partners. Others such as Geographic Information System (GIS) products may exist or be created as needed to fulfill more specific needs, or to address regional and national Core Partners.

NWS Web Page Point-and-Click Forecasts and Hourly Weather Graphs

The NWS web page provides readily available access to forecasts for a given point within varying formats, including text, tabular, and hourly graphs. In many instances, this resource can provide a Core Partner with needed forecasts for a specific site whether directly accessed by the Core Partner or used by the NWS office in providing forecast information. NWS offices should use this resource as a baseline resource in the provision of Site-specific forecasts.

SPOT Forecast

While Site-specific Spot forecasts are generally issued by offices in support of wildfire management and natural resource management, Spot forecasts are also issued for hazardous materials incidents, marine incidents, search and rescue response, and other threats to public safety, including the provision of IDSS to Core Partners. See, NWSI 10-401.

Customized IDSS Site-Specific Forecast Products (e.g., IDSS Matrix)

NWS offices may provide Site-specific forecasts in formats customized for the Core Partner such as a "IDSS Matrix". These products will derive forecast information from the NDFD while providing more detailed or nuanced related information addressing Core Partner needs and thresholds.

Coordination: This type of communication should be coordinated within the office when possible, and with surrounding offices or other relevant operational units, in cases where a Core Partner's IDSS needs are served by multiple offices.

1.1.5 NWS Initiated Consultations/Proactive Notification Service

Mission Connection: National Weather Service offices will initiate consultations or take steps to proactively notify an individual Core Partner or subset of Core Partners as part of Targeted IDSS. This will occur on a customized basis based on a documented understanding of the Core Partner's needs for various weather, water, or climate related situations.

Service Guidelines Criteria: The decision to engage a Core Partner for a proactive consultation or critical notification will depend on an understanding of that Core Partner's needs in a given situation. The decision to initiate this unplanned type of interaction is focused on when conveyance of information is deemed time sensitive and an office wants to verifiably ensure information is received. Reasons to initiate communication would include but are not limited to:

- Initial notice that a Core Partner's Critical Decision Threshold is anticipated to be met with a level of confidence required by the Core Partner
- Notice of a change in forecast and anticipated impacts critical to a Core Partner's operational focus
- A heads-up notice of forecaster thinking that will have operational or political ramifications for the Core Partner (such as flagging potential thresholds that could be met in the next forecast update)

Proactive Core Partner notifications can take many forms based on documented Core Partner preference and office operational procedures. In many cases, notification will flow through a predetermined hierarchy of attempts to communicate until the message is confirmed as received. Some examples of communication methodology include:

- Direct phone call
- Direct text (SMS) Message
- eChat (open message or private chat)
- Google Meet or other partner-driven web-conference platforms
- Email (Because this type of service is targeting critical updates, email should be used as a last option when all other communication attempts fail, unless at the specific request of a Core Partner.)

Coordination: This type of communication should be coordinated within the office, and with surrounding offices or other relevant operational units, in cases where a Core Partner's IDSS needs are served by multiple offices.

1.1.6 Core Partner Initiated Consultations (Individual or Group)

Mission Connection: National Weather Service offices will respond to requests initiated by Core Partners with the level of attention required to address the Core Partner request. These requests may be received within a number of communication methods from phone calls to chat. Many of these calls received from Core Partners occurring on an ad hoc basis can be addressed in a very timely manner by providing additional interpretation to existing Public Impact-based Messaging or IDSS products and services.

In some cases, additional IDSS may be required to meet the Core Partner request. The NWS office will coordinate with the Core Partner on the needed IDSS, which may be addressed through Baseline, Targeted, or Integrated IDSS. The Core Partner Profile may inform the IDSS needs and planning.

Consultations with the Core Partner and any follow-up IDSS should be logged by NWS offices.

1.1.7 Sharing IDSS Information with General Partners/Public

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

1.2 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, 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 and 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, either 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.