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

NATIONAL WEATHER SERVICE INSTRUCTION 10-102
APRIL 2, 2024

Operations and Services
NWS Requirements, Operations and Service Improvements NWSPD 10-1
PRODUCTS AND SERVICES CHANGE MANAGEMENT

NOTICE: This publication is available at: https://www.weather.gov/directives/.

OPR: W/AFS13 (D. Roman) **Certified by:** W/AFS1 (M. Tew)
Type of Issuance: Routine – Admin Update

SUMMARY OF REVISIONS: This directive supersedes NWS Instruction 10-102, "*Products and Services Change Management*," dated April 2, 2024. This is an administrative update made only to fix broken links in sections 1, 2.1, 2.1.1, 2.1.3, 2.3, 7, 8.1.1, and 9, and Appendices A, G, and H. No content changes were made with this update, and the effective date was not affected.

ALLEN.ALLISON.LEIGH.1365831072 Digitally signed by ALLEN.ALLISON.LEIGH.1365831072
Date: 2024.10.30 17:36:42 -04'00'

Allison Allen Date
Director
Analyze, Forecast and Support Office

Products and Services Change Management

Table of Contents **Page**

1 Purpose

The purpose of this directive is to describe the procedures for implementing a new product or service, or making a substantial change to an operational product or service (enhanced product or service) in the National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS). Procedures in this directive are consistent with NWS Policy Directive (NWSPD) 10-1, *NWS Requirements, Operations and Services Improvements*, as well as NWSPD 1-10, *Managing the Provision of Environmental Information* and its supporting instructions. The specific procedures for sending out notifications when needed as part of this process are addressed in NWS Instruction (NWSI) 10-1805, *National Service Change and Technical Implementation Notices*.

Objectives of the procedures in this directive are to ensure that:

a. Innovative field efforts yield nationally comparable, mission-relevant products and services;
b. New or enhanced products/services are not a duplication of existing products/services;
c. NWS resources are directed towards the projects that will have the greatest benefit for NWS users and partners;
d. New or enhanced products/services are in alignment with Department of Commerce (DOC), NOAA and NWS priority goals and policy;
e. An orderly process for implementing and documenting new or enhanced products/services is followed;
f. Proposed new or enhanced products/services are subject to internal NWS-wide review (including NWS Policy review and General Counsel review as appropriate);
g. All proposed new or enhanced products/services are subject to external comment and review to solicit feedback from our partners and the public;
h. Procedures are in place to evaluate feedback from external comment and review and to decide if the proposed new or enhanced product/service should be made operational (official), improved and reissued for additional comments or discontinued;
i. All new/enhanced NWS products and services are introduced to their audiences in a manner that is most likely to benefit NWS partners and users;
j. All new models to be implemented by National Centers for Environmental Prediction (NCEP) are subject to Mission Delivery Council (MDC) review; and
k. All new/enhanced NWS products and services are socialized with the Weather, Water and Climate Enterprise per NOAA Partnership policy and NWSPD 1-10.

2 Framework

This section describes the applicability of the procedures in this directive, exemptions from the

procedures in this directive, and principles for understanding the procedures.

2.1 Applicability

The procedures in this directive apply to implementing new products/services and making substantial changes (enhancements) to existing operational products/services in the NWS. The procedures apply to all NWS products/services that are provided to the public regardless of output type (e.g., text, graphical, digital, Geographic Information Systems (GIS)) or method of delivery (e.g., Internet, email, social media). Any environmental information service (see NWSPD 1-10 for definition) available external to NWS, whether providing observational, guidance, or official forecast information, will fall under the scope of this directive. For a complete definition of what constitutes a "substantial change" to an NWS product or service, see NWSPD 1-10, Appendix B and the underlying instructions.

2.1.1 New Dissemination Systems/Services

New dissemination systems/services (including social media tools) that are used to provide environmental information (see NWSPD 1-10 for definition of environmental information) must be approved through the procedures described within this directive (hereafter referred to as "10-102 process"), or otherwise undergo public comment and review per NWSPD 1-10.[1] Once a new dissemination system/service is operational, any existing operational NWS product/dataset can be provided via that system/service.

Note: New/enhanced products/datasets must first be approved through the 10-102 process prior to posting via an operational dissemination system/service. Approved prototypes/experimental products may be made available via an operational dissemination system/service to solicit feedback, provided the prototype/experimental product is clearly labeled as such using the disclaimer provided in section 2.4.2.

2.1.2 Webpages and Display Applications

Existing operational products/datasets can be displayed on a separate webpage or using an approved operational display application for ease of access/use, without approval through the 10-102 process. However, if the existing operational product/dataset is displayed using a new capability/feature, then the webpage or display application needs to go through the 10-102 process for approval of the new capability/feature.

2.1.3 New or Enhanced Models to be Implemented by NCEP

New models (i.e., those that currently do not exist within the operational production suite) to be implemented by NCEP, including those developed within NWS and those developed by other NOAA line offices, that follow the formal NCEP procedures for model implementations/upgrades will be entered into the Capabilities and Requirements Decision Support (CaRDS) system.

[1] Although changes to dissemination systems/services managed by the Office of Dissemination use a different approval process (refer to NWSPD 10-17), they must still go through public comment/review as identified in NWSPD 1-10 to fulfill NOAA Partnership Policy requirements.

Once entered into CaRDS (Tier 1), the request is forwarded directly to Tier 3 for an operations and policy review before proceeding to the MDC (Tier 4) for review and approval. During Tier 3, the AFS Director has the authority to send the request back to Tier 2 for SPT/MST review if necessary. This MDC review is necessary to integrate NWS weather, water and climate requirements and ensure a holistic view of requirements and priorities. When approved by the MDC, these models will be entered into the National Catalog of New or Enhanced Products and Services for 10-102 tracking. It is not necessary for these models and related output to proceed through the 10-102 Service Program Team (SPT)/Mission Support Team (MST) review process (Tier 2); however, these models are subject to public comment and review as identified in NWSPD 1-10. Final approval for implementation is managed through the NCEP model development/implementation process.

Updates/enhancements to existing models (i.e., extension of an existing operational modeling system such as adding new grids) do not require CaRDS/MDC review. However, these changes should be coordinated with the Analysis and Forecast Branch MST in order to check if the requirements they gathered are being met in these systems prior to entry into the 10-102 process through the CaRDS interface and the National Catalog of New or Enhanced Products and Services for tracking. These changes are also subject to comment/review as identified in NWSPD 1-10 and will follow the formal NCEP procedures for model implementations/upgrades.

2.2 Consistency of Services

NWS products and services should be offered consistently across the NWS and seamlessly across regional boundaries. Products/services approved for national implementation should be available for issuance by all equivalent NWS offices (e.g., all Weather Forecast Offices (WFOs), all Weather Service Offices (WSOs), all Center Weather Service Units (CWSUs), Tsunami Warning Centers (TWCs), and all River Forecast Centers (RFCs)). Requirements for issuance of a particular product will be specified in the Product Description Document (PDD)/Service Description Document (SDD) or directive documenting that product/service (see Appendix E). Local management may determine appropriate thresholds for issuance of nationally implemented products/services if not otherwise defined in a NWS directive. Variations in products/services (e.g., Wind Chill, Snow, Extreme Heat hazards) are acceptable in the following cases:

- Products and services in a particular program area (e.g., marine and coastal weather program) may not be required by a particular NWS office due to geographical differences;
- A unique user need is identified at one or a subset of NWS offices; or
- Thresholds for issuance of a particular product/service may vary from office to office or region to region and may be determined by local/regional management. For example, if a "High-Impact Weather Graphic" were approved for national implementation, the graphic would only be provided when conditions are considered "high impact," and what is considered to be "high impact" may vary across the country.

To support the principles of "consistency of services," the following should be considered before deciding to make a change/enhancement to an existing national operational product/service at the local/regional level.

a. A proposed non-substantial change to an existing national product/service should be implemented at the national level or not at all.

b. A proposed substantial change to an existing national product/service will be evaluated for implementation at the national level or for local/regional implementation, if the proposed change satisfies a unique local/regional need.

2.3 Preliminary Steps

A new/enhanced product/service begins as a concept/idea based on user needs/proposed requirements. A proposed product/service/enhancement that requires significant resources (e.g., database, web development, contractors) must first be submitted into the CaRDS process.

Before any development takes place, the following steps should be taken by the originator:

a. Ensure the proposed product/service/enhancement is consistent with the NWS Mission and Policy and the NOAA Partnership Policy (NWSPD 1-10, sections 2 - 4).
b. Review the National Catalog of New or Enhanced Products/Services and other available databases of ongoing development efforts (e.g., the CaRDS process – login using NOAA account credentials or a Common Access Card (CAC); NWSI 10-103, *Capabilities and Requirements Decision Support Process*) to ensure efforts are not already underway, or completed, on a similar product/service.
c. Ensure that the proposed product/service/enhancement is supported by a validated NWS requirement. New requirements must first be validated through the CaRDS process.
d. NWS-developed models should be entered into CaRDS prior to development, while other NOAA line office models should be entered into CaRDS prior to NWS committing resources to operational implementation. After validation via the CaRDS process, models are listed in the National Catalog of New or Enhanced Products and Services.
e. Determine the appropriate geographic area/scope (local, regional, or national).

2.3.1 Preliminary/Prototype Development

Preliminary/Prototype investigational development may be necessary to validate that the proposed product/service/enhancement will meet user needs as intended.

Alternatively, if provision of an experimental version of a new/enhanced product/service is not appropriate, the procedures in this directive for review/approval of a "Proposed Change" may be satisfied by fully describing the new/enhanced product/service (e.g., using mock-ups of products that may be evaluated during the review process).

2.3.1.1 Local Development

If local development is planned, obtain approval from local management prior to beginning the development. Such development should be limited to preliminary/prototype development, which will be used to validate that the proposed product/service/enhancement will meet user needs.

Significant resources should not be expended because implementation of preliminary/prototype development is not guaranteed. Note: If significant resources are required to develop a local prototype, then other methods (e.g., mock-up, graphical representation) may be used instead to demonstrate the proposed solution.

2.3.1.2 Regional/National Development

Initial development at the regional/national level (e.g., NCEP Central Operations (NCO), Meteorological Development Laboratory (MDL), Office of Water Prediction (OWP)) resulting in a new or enhanced product/service should be limited to preliminary/prototype development. Significant resources should not be used as implementation of the preliminary/prototype development is not guaranteed. Note: If significant resources are required to develop a prototype, then other methods (e.g., mock-up, graphical representation) may be used instead to demonstrate the proposed solution.

2.3.2 External Feedback on Preliminary/Prototype Development

External feedback may be solicited based on a prototype or mock-up to validate usefulness and ability to communicate intent. A prototype will be clearly labeled as:

> "Prototype/Under Development: Prototype is for demonstration/test purposes only—Not to be relied on for operational decision making. This prototype is not supported 24/7 and may be discontinued at any time without advance notice."

The prototype should be provided externally for no longer than 6 months.

Prototype applies to proposed products and services that are not ready or sufficiently developed and sourced as "Experimental." Prototypes may even be a mock-up used for comment and feedback on its utility and planned features.

Seeking public comment/review on preliminary/prototype development may be preferable to waiting until substantial development has been completed, especially where significant and potentially opposing input is expected. In these cases, external feedback may be obtained on the prototype by first entering the prototype/proposed solution into the 10-102 Tracking/Review Process (see Section 3 below) for NWS-wide review, decision, and approval. Requests that require substantial resources will be submitted into the CaRDS process.

3 Tracking and Review Process

This section describes the tracking and review process to implement a new product/service or to make a substantial change to an existing NWS operational product/service. As shown in Figure 1, the 10-102 process provides the procedures to track and review the new product/service from development/prototype through implementation.

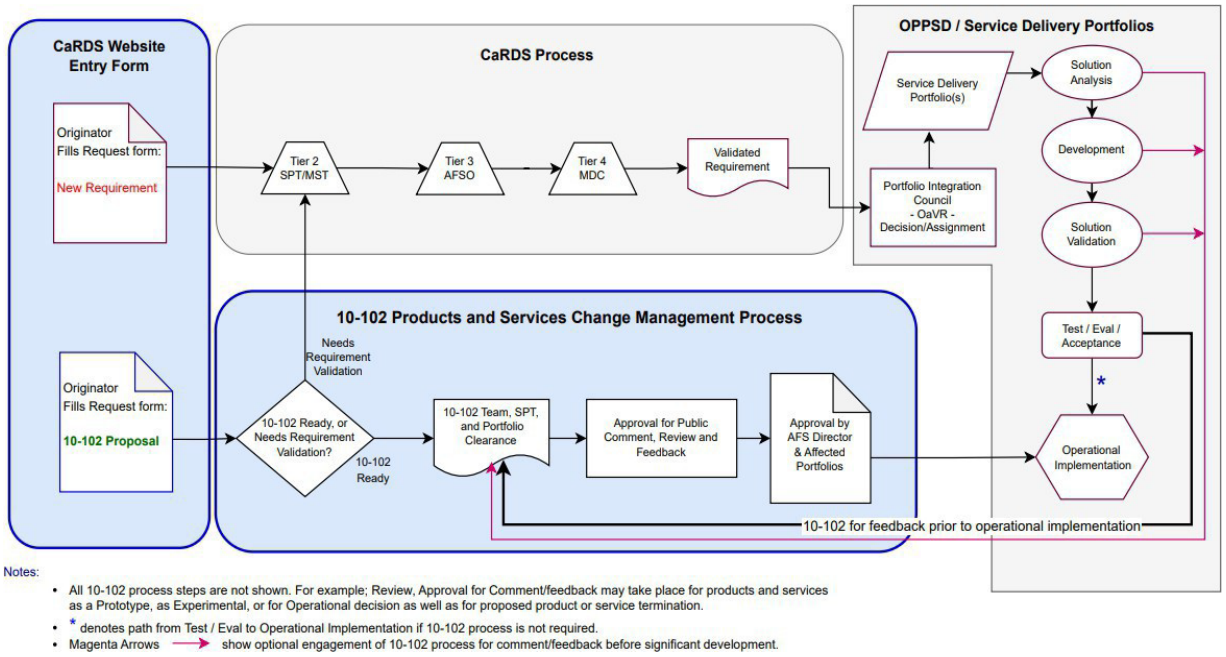

Figure 1. NWS 10-102 Process Diagram.

3.1 Entry into the 10-102 Tracking/Review Process

New entries for a proposed new/enhanced product/service (hereafter referred to as new entry or proposal) that are supported by a validated requirement are entered via the CaRDS portal as "10-102 Requests." Note: A proposed new/enhanced product/service that is not supported by a validated requirement must first be entered into the CaRDS process as a New Mission Need or Requirement Request for validation of the requirement. The entry is then tracked and processed as a Product and Services Change Management (PSCM) 10-102 entry.

Use the following process for entering a new 10-102 request:

a. The originator will navigate to the CaRDS portal at https://nsdesk.servicenowservices.com/cards, and login using NOAA account email/password credentials or a CAC and PIN.

b. From the main CaRDS page, select "10-102 Request." This will take the originator to an entry form. The form allows for the upload of a draft PDD/SDD document (see Appendix E). Once the entry form is filled out (the required fields in the form are indicated by asterisks (*)), click "Send to Supervisor."

c. Once the originator clicks on "Send to Supervisor," the supervisor is sent an email letting them know that there is a new request for their review and a link to access the request. The supervisor reviews the request for accuracy, policy adherence, and support to go forward. If "Approve" is selected, the system will send an email to the person listed as the designated submitter with a link to sign-on and review the entry. Click on this link for a list of designated submitters.

d. The designated submitter will review the new entry to ensure accuracy, policy adherence, and support to go forward. If necessary, the designated submitter can engage the Financial Management Center (FMC) Director or others, in the manner specified by the FMC Director, to address issues, for Situational Awareness, and FMC Director approval. If approved, the new entry request is listed in the National Catalog of New or Enhanced Products/Services. If not approved, the designated submitter will inform the originator and provide rationale. The designated submitter can return the new entry to the originator for rework or cancel the entry, which will permanently delete the request.

e. The CaRDS Program Manager and the PSCM Program Manager will review the new entry to ensure the proposal is supported by a validated NWS requirement and identify resource needs:
   - If the proposal is supported by a validated NWS requirement, the request will continue through the 10-102 process.
   - If the proposal is not supported by a validated NWS requirement, it will proceed through the CaRDS process for validation as a new NWS requirement. When a solution for the proposed product/service has been identified, the solution will complete the 10-102 process, as applicable.
   - If significant resources are requested, the proposal will be entered into the CaRDS process.

3.2 NWS-wide Reviews

Under the authority of the Director of the Analyze, Forecast and Support Office (AFSO), the Products and Services Change Management Team (PSCMT), Service Program Teams (SPTs), and Mission Support Teams (MSTs) conduct preliminary and cross-NWS reviews for proposed new/enhanced products/services.

- **PSCMT** – The PSCMT conducts preliminary reviews for all proposed new/enhanced products/services to ensure compliance with policy, as described in this document. The PSCM Program Manager leads the team, which consists of three members or their designee(s): a staff member in AFS13; the Division Chief for the Analysis and Mission Support Division (AFS1); and a policy representative from the Office of the Chief Operating Officer (OCOO).

- **SPT** – The appropriate SPT conducts NWS-wide reviews for all proposed new/enhanced products/services. Each of the 11 National Service Programs (NSPs) within the AFSO Forecast Services Division (AFS2) has a corresponding SPT: Aviation Services, Climate, Fire Weather, Marine Weather, Public Weather, Severe Weather, Space Weather, Tropical Weather, Tsunami, Water Resources, and Winter Weather. Each SPT includes voting members from the NWS Headquarters (NWS HQ), each region, NCEP and the Office of Water Prediction (OWP), as applicable. Some cross-cutting changes affecting multiple SPTs may be assigned to a single SPT Lead for coordination among all applicable SPTs. Non-voting members and advisors include representatives from the NWS Employees Organization (NWSEO), MSTs, Service Delivery Portfolios (SDPs) and other stakeholders as identified by the

PSCMT and SPT.

- **MST** – The appropriate MSTs provide input to SPT reviews for proposed new/enhanced products/services that involve/impact their supporting programs or initiatives to ensure alignment with Agency priorities and strategic initiatives. There are currently three MSTs within AFS1: Analysis & Nowcast (AN) program, Decision Support Integration (DSI), and Digital and Graphical Information Support (DGIS) program. Some MSTs include voting members from the regions, NCEP and the OWP, as applicable. Non-voting members and advisors include representatives from NWSEO, other MSTs, SDPs and other stakeholders, as identified by the PSCMT and MST.

PSCMT/SPT/MST reviews will be conducted prior to each step in the 10-102 process. See Appendix B for details.

3.2.1 PSCMT Review

The PSCM Program Manager will initiate a review of the proposed new/enhanced product/service. The PSCMT members will provide their input to the PSCM Program Manager generally within three (3) business days of the request.

3.2.2 SPT/MST Review

Generally, no later than three (3) business days after the completion of the PSCMT review, the PSCM Program Manager will email the leads of the appropriate SPT(s)/MST(s) to initiate the SPT/MST review. The PSCMT recommendation, along with specific issues to address, will be included in the email and will also be indicated in the Experimental Product Decision Information Document (EPDI). The SPT/MST Lead(s) will forward this email (or its contents) to the Regional Meteorological Services Division (MSD)/MSD equivalent Chiefs, the Regional Scientific Services (SSD)/SSD equivalent Division Chiefs, the Regional Hydrological Services Division (HSD)/HSD equivalent Chiefs, and the NCEP and OWP front offices for situational awareness to initiate SPT/MST review and to fill out the EPDI.

Reviews may be conducted virtually. The SPT/MST Lead(s) will ensure the EPDI is complete and provide a recommendation (for the designated approving official) to the PSCM Program Manager no later than 15 business days of receipt of the request for review. If more time is needed to review, then the SPT/MST Lead(s) will notify the PSCM Program Manager via email.

3.3 AFSO Review/Approval

AFSO reviews will be conducted prior to each step in the 10-102 process with AFSO Director or designee providing final disposition at the end. See Appendix D for details.

3.3.1 Approval Package Documents

The PSCM Program Manager will work with the SPT/MST Lead(s) to complete an approval package for review by the designated approving official(s). See Appendix C for specific details. The approval package should be completed and circulated for AFSO review no later than 5 business days after SPT/MST approval.

3.3.2 AFSO Review

The PSCM Program Manager will circulate the approval package via email for review and clearance through the appropriate AFS1 and AFS2 Branch and Division Chiefs (or designees) and OCOO (for policy review and recommendation) prior to forwarding to the approving official(s)'s Executive Officer for signature. AFSO review will generally be completed within 10 business days. The PSCM Program Manager will review and forward the documents to the approving official(s) within 2 business days of completion of the review.

3.3.3 Approval/Disposition

All proposed new/enhanced products/services will be approved by the designated approving official(s) or designee(s) prior to each step in the 10-102 process, with final review/disposition by the AFSO Director.

- If the SPT/MST verifies that the proposed product/service addresses a unique local/regional user need, the appropriate Regional Director (RD)/designee is the designated approving official. If more than one region is involved, RD/designee approval from all regions involved is required in addition to final review/approval by the AFSO Director/designee.
- If the SPT/MST verifies that the proposed product/service is suitable for national implementation, the AFSO Director/designee is the designated approving official.

The approving official will review the approval package, provide a decision and return the approval package (with the signed EPDI and approval memo) to the PSCM Program Manager within 15 business days of receipt of the package. See Appendix D for details.

4 Development

After the approving official has signed the approval memo, work can begin/continue on development of the proposed new/enhanced product/service and any required software applications. Accepted practices and applicable policies (e.g., change management procedures) will be followed. During development, the SPT/MST Lead will coordinate with the developers, and the Office of Planning and Programming for Service Delivery (OPPSD) portfolios (which are responsible for identifying and managing development projects, facilitating coordination among developers, tracking progress and providing reports, and maintaining development management web pages) to ensure that the proposed new/enhanced product/service meets the user need as intended and that the operational requirements are fully met. During development, use of prototypes is encouraged to obtain preliminary feedback or to determine if NWS should proceed further with a development effort that is not yet complete or ready for experimental implementation. Prototypes may be made available to the public to solicit comments, upon SPT/MST concurrence. A draft public information statement (PNS) may be used to solicit comments. The following disclaimer must be prominently displayed on the prototype:

"Prototype/Under Development: Prototype is for demonstration/test purposes only—Not to be relied on for operational decision making. This prototype is not supported 24/7 and may be discontinued at any time without advance notice."

Prototypes may be provided externally for no longer than 6 months. PSCM approval must be obtained for periods longer than 6 months.

When development has been completed (whether completed within a service program field office or OS portfolio) and the proposed new/enhanced product/service is deemed ready for experimental comment and review, the SPT/MST Lead(s) will notify the PSCM Program Manager via email.

5 Experimental Demonstration/Comment and Review or Comment/Review on Proposed Change

Once the proposed new/enhanced product/service has been approved as an experimental product/service and after the PNS has been disseminated from NWS HQ, the responsible office will begin distributing the experimental/ product/service to the public with the primary purpose of receiving partner/user feedback. Alternatively, if provision of an experimental version of a new/enhanced product/service is not appropriate (e.g., changes to an NWS warning product), a "Proposed Change" description may be provided for comment/review, fully describing the new/enhanced product/service (e.g., using example presentations of products that may be evaluated during the review process).

Procedures to use in obtaining feedback and the information needed to request a survey is provided in Section 5.1.1. The product's labels will clearly identify it as experimental (e.g., Experimental Precipitation Runoff Rate). If the product/service is available via the internet, the Uniform Resource Locator (URL) of the page will be included in the PDD/SDD. Links to the PDD/SDD and the survey will be provided on the product webpage.

5.1.1 Notification and Feedback

A national PNS will be issued before distribution of any experimental product/service or proposed change for the purpose of soliciting feedback. The PNS will include a brief description of the experimental product/service or proposed change, methods of dissemination (including how to view/receive the product), links to the PDD/SDD and feedback mechanism (e.g., survey, email address), dates of comment period, and a point of contact. Notification of an extension of comment period will be provided to partners/users by issuing a PNS through coordination with the NWS HQ and the responsible office; advance notification is not required. If applicable, notification will also occur on the website containing the product/service.

Feedback will be solicited either using the OMB-approved standard web-based experimental or proposed change product/service survey (recommended), or direct feedback via email. When soliciting feedback, ensure Paperwork Reduction Act (PRA) guidelines are followed. To use the OMB-approved survey, please contact the PSCM Program Manager.

Offices should also actively seek comments on experimental products/services or proposed changes. The following examples are additional methods to seek user feedback:

- User/Partner Workshops – Partner's Website
- Warning Coordination Meteorologist Outreach
- RFC Service Coordination Hydrologist Outreach
- Management meetings and SKYWARN® training sessions
- Outreach (open house events, school and community visits, workshops, fairs, conventions, expos, seminars)
- Conferences of professional organizations

5.1.2 Dissemination of Web-based Experimental Products/Services

Experimental web-based products/services will be displayed on a webpage that, as a minimum, contains the following:

- "Experimental" label and the dates of the comment period. For example: "New Product/Service Name" is an experimental product/service that will be posted to this page for comment and review from (beginning date) to (ending date). During this period, we encourage your comments or suggestions for improvements using the electronic survey provided. Your feedback will help us determine product/service utility, if modifications are needed, and whether the product/service should become part of our operational suite.
- A brief statement of the intended use of the product/service.
- Link to the PDD/SDD.
- Point of contact (address/phone/email) to address additional comments/feedback.
- Link to the electronic OMB-approved survey.
- Date when webpage was last updated.

Note: All Experimental Product/Service webpages are required to conform to DOC/NOAA/NWS Web policies and directives.

5.1.3 Duration

An experimental product/service or proposed change will be provided to the public for soliciting comments from a minimum of 30 days to a maximum of one year. It is understood that some products/services (e.g., seasonal, climate) could require more time, but the majority should be completed within a year. A longer comment period may be granted on a case by case basis by the PSCM Program Manager with concurrence of the designated approving official.

5.1.4 Evaluation for Operational Implementation

At the conclusion of the comment and review period, the submitter/originator will evaluate the experimental or proposed product/service, taking into account user feedback and make a recommendation on the disposition of the product/service (decision recommendation). The decision recommendation will be based on conclusions drawn from evaluation of positive and negative comments received, and any internal factors.

The product evaluation and decision evaluation will consist of the following:

- A technical evaluation of the product/service including the scientific basis of the product.
- An evaluation of comments received, including assessment of public reaction, whether stated user needs have been met, or further development is required.
- A description of outreach activities intended to educate affected users and invite their comments.

Evaluation will result in one of the following recommendations for disposition:

1. Implement the experimental product/service or proposed change as an operational product/service.
2. Re-submit the experimental product/service for another comment period.
3. Discontinue the experimental product/service.

6 Re-submit an Experimental Product/Service for Another Comment Period

A recommendation to re-submit the product for another comment period (Option 2 above) may be appropriate under the following circumstances:

- Conditions during the initial comment period did not produce enough representative cases and sufficient feedback was not collected.
- Comments have revealed the need to change the experimental product/service.

When an experimental or proposed product/service is re-submitted with no changes for the purpose of soliciting additional comments, the comment period will be extended. When an experimental product/service is re-submitted with revisions, the PDD/SDD will be revised as Version 2 (or 3, etc.) and will be considered as a new comment period for that version.

The submitter/originator will complete the Product/Service Evaluation Form (Appendix F) to provide the disposition recommendation and rationale for the recommendation to the PSCM Program Manager no later than 90 days after the end of the comment period. The recommended disposition of the experimental product/service will be reviewed by the PSCMT and applicable SPT/MST. If the PSCM Program Manager does not receive a disposition recommendation document by the end of the 90-day evaluation period, the PSCM Program Manager will follow-up with the originator/submitter requesting the status of the recommended disposition every 30 days.

6.1.1 Abbreviated Process for Extensions of Comment Period

If the applicable SPT/MST unanimously agrees that the comment period for an experimental product/service should be extended and the previous comment period was within 3 years, the comment period for an experimental product/service should be extended using the abbreviated process. When following the abbreviated process, the SPT/MST lead(s) will complete an Approval Memorandum and check a box on the form indicating the reason for extending the comment period in lieu of completing an EPDI, which captures SPT/MST votes. Approval Package Documents applicable to Extension of Comment Period and Extension of Comment Period using the Abbreviated Process are listed in Appendix C.

6.1.2 Notification

When the approving official has signed the approval memorandum to extend the comment period for an experimental or proposed product/service, or to begin a new comment period for an updated version of the experimental or proposed product/service, a PNS will be disseminated. The PNS includes the reason for the new/extended comment period, along with any changes made to the experimental/proposed product/service. Once the PNS has been disseminated, the new/extended comment period may commence.

7 Discontinuing an Experimental Product/Service

When the approving official has signed the approval memorandum to discontinue the experimental product/service/, partner/users will be provided at least 30 days' notification prior to ceasing provision to the public. Notification will be made by issuing a Service Change Notice (SCN) through coordination with the NWS HQ and responsible offices. On the effective date, production will cease and the experimental product/service will be discontinued. For information regarding the termination of an operational product/service, please refer to NWSI 1-1002.

8 Operational Implementation of Products/Services

Products/services approved for national implementation will be available for issuance by all NWS offices (e.g., all WFOs, all WSOs, all RFCs, or all TWCs) for which the product is applicable. AFSO and Regional Program Managers will collaborate in providing implementation guidance to all applicable NWS offices. Local management may determine appropriate thresholds for issuance of nationally implemented products/services, if not otherwise defined in an NWS directive.

8.1.1 Notification

Notification for operational implementation will be made by issuing an SCN through coordination with the NWS HQ and responsible offices. Partner/users will be provided at least 30 days' notification prior to converting an experimental product/service to an operational product/service. However, there are some types of changes that do require additional lead time. Please refer to NWSI 10-1805.

8.1.2 Directives Review/Official Product Designation

The appropriate service program manager under the approving NWS Director at regional or national HQ will ensure that necessary changes are made to an existing NWS directive, or that a new directive is added to cover the new/enhanced product or service. When all required changes are complete, the operational product/service will be designated as an official NWS product/service.

9 National Catalog of New or Enhanced Products and Services Website

The National Catalog of New or Enhanced Products and Services website, https://nsdesk.servicenowservices.com/nws, catalogs and lists information and status on new or enhanced products and services that are currently progressing through or have completed the 10-

102 process (Operational, Experimental, Prototype Development, Termination Candidates as shown in Figure 2 below). The catalog entry for each product/service contains information on the product/service and the status of the product/service (e.g., product/service title, description, link to PDD/SDD, dates of comment/review, points of contact).

Figure 2. Types of New or Enhanced Products and Services in the National Catalog of New or Enhanced Products and Services

The website also lists information on changes to NWS environmental information services that do not go through the 10-102 process, but are still subject to public comment and review through NWSPD 1-10 (e.g., websites, dissemination systems, NCEP model guidance), and on terminations of NWS environmental information services (see NWSI 1-1002).

Responsibility resides within AFS13 for managing the 10-102 process and coordinating necessary activities. AFS13 maintains all the information on the website. Information and status of product/service terminations is managed by OCOO. AFS13 should be notified about any NWSPD 1-10 changes for entry into the National Catalog of New or Enhanced Products and Services.

10 Provision for Emergencies

When the need to protect life and property requires emergency dissemination of NWS information in a form other than an official product/service, the responsible office will do so and notify their Regional or FMC Headquarters as soon as practical. If the office(s) involved intend to continue issuing this information as a new product/service, the provisions of this directive will be followed within 30 days after the emergency has ended.

APPENDIX A – Definitions

Consistency of Services – The NWS products and services will, to the maximum extent possible, be offered consistently across the country and seamlessly across regional boundaries. Variations in products/services are acceptable in the following cases: (1) Products and services offered in a particular program area (e.g., Marine program) are not required by a particular NWS office due to geographical differences; (2) a unique user need is identified at one or a subset of NWS offices; or (3) thresholds for issuance of a particular product may be determined by local management and may vary from office to office or region to region.

Data Service – Any capability provided by the NWS for users to interactively access a subset of NWS data.

Development Product/Service – A proposed new/enhanced product/service in the development step of the 10-102 process.

Enhanced Product/Service – Substantial change to an existing operational product/service; a major change to a current product/service, for example, involving use of an entirely new delivery mechanism (e.g., display of current text product information in graphical form on the Internet). See NWSPD 1-10 for guidance on what is considered a "substantial" change.

Experimental Product/Service – A proposed new/enhanced product/service issued on an experimental basis for a specified, limited time period to solicit public feedback.

Experimental Comment and Review – Provision of an experimental product/service in an operational or other relevant environment to demonstrate functionality and solicit public feedback prior to making a decision on operational implementation.

Guidance – Forecast models and tools used by forecasters internally within the NWS for creating official forecast products.

Local/Regional Product/Service – A product/service that satisfies a unique, local/regional need and which will be implemented at one or several NWS site(s) for a sub-national user-defined area that often extends across the NWS regional boundaries.

National Product/Service – A product/service that is available for implementation at all equivalent NWS offices according to the principles of "Consistency of Services" (see section 2.4).

Official Product/Service – Same as an Operational product/service.

Operational Product/Service – A product/service defined in a product specification, directive, or a regional or local supplement with institutional commitment to deliver the product/service on a sustained, systematic, reliable and continuous basis.

Prototype – A **prototype** is an early sample or preliminary version of a proposed new/enhanced product/service used for testing the concept. Use of a prototype is valuable for early feedback on utility and recommendations for development or to determine if NWS should proceed further with any development effort which is not complete or not ready for implementation in an operational environment.

Products and Services Change Management (PSCM) – Program within AFS13 responsible for the management of the NWSI 10-102 process (PSCM process).

Partners – Companies, corporations, vendors, agencies, universities, etc., which associate with the NWS in the distribution of weather information.

Product – Any collection of NWS information in a defined format.

Service – Any method for providing NWS information.

User – An individual, government agency, or other entity that obtains and applies NWS water, weather, and climate information and services.

APPENDIX B – PSCMT and SPT/MST Reviews

Evaluation for Development/Prototype	
PSCMT review will: 1. Ensure that the proposed new/enhanced product/service and implementation process is compliant with the NWS Partnership Policy; Determine if the proposed new/enhanced product/service meets the user need as intended; 3. Determine if scientific validation is necessary; 4. Validate the proposed scope. If the proposed new/enhanced product/service was entered with local or regional scope, the PSCMT will evaluate to determine whether the proposed new/enhanced product/service represents a truly unique local/regional user need or should be pursued for NWS-wide implementation; 5. Identify issues that may be a risk to further development of the proposed product/service; and 6. Provide a recommendation on the disposition of the request along with specific issues for the SPT/MST to address.	SPT/MST review will: 1. Ensure that the proposed new/enhanced product/service is consistent with NWS mission and policy; 2. Ensure that the proposed product/service meets the user need as intended; 3. Validate scope. Determine whether the proposed new/enhanced product/service represents a truly unique local/regional user need or should be pursued for NWS-wide implementation; 4. Ensure that scientific validation is conducted, if necessary; 5. Ensure that input/concurrence is obtained from all internal stakeholders; 6. Ensure resources for development have been secured; 7. Confirm that the proposed solution or methods for generation and dissemination are appropriate and sustainable; and 8. If development has already been completed, ensure resources for provision of the proposed new/enhanced product/service to the public as an experimental product have been secured. **The SPT/MST review will result in one of the following recommendations:** **1. Proceed with further development of the proposed new/enhanced product/service;** **2. Do not proceed with further development of the proposed new/enhanced product/service; or** **3. Combine the effort with another approved existing effort.**

Evaluation for Comment and Review/Demonstration for Experimental Product/Service or Proposed Changes	
The PSCMT review will: 1. Ensure that the proposed change or experimental product/service implementation process is compliant with the NWS Partnership Policy; 2. Determine if the proposed change or experimental product/service meets the user need as intended; 3. Determine if scientific validation is necessary; 4. Ensure scope is well defined; 5. Ensure that the proposed change or experimental product/service is not a duplication of services; and 6. Identify issues that may be a risk to providing the proposed change or experimental product/service to the public for feedback.	The SPT/MST review will: 1. Ensure that the proposed change or experimental product/service is appropriate for the NWS (consistent with NWS Mission and Policy); 2. Ensure that the proposed change or experimental product/service meets the user need as intended; 3. Ensure that the scope is well defined; 4. Identify/address issues requiring NWSEO review; 5. Arrange for scientific validation as necessary; 6. Confirm that the proposed methods for generation and dissemination are appropriate and sustainable; 7. Identify/address issues that may be a risk to providing the proposed change or experimental product/service to the public on an experimental basis; 8. Ensure all necessary internal stakeholders have been engaged and are in agreement; and 9. Ensure resources for provision of the proposed change or experimental product/service to the public have been secured. **The SPT/MST review will result in one of the following recommendations:** **1. Provide the proposed change or new/enhanced product/service to the public as an experimental product/service for comment and review;** **2. Discontinue plansforthe proposed or new/enhanced product/service; or** **3. Not ready for experimental comment and review; further development is needed.**

<table>
<tr><th colspan="2">Evaluation for Operational Implementation</th></tr>
<tr><td>The PSCMT review to implement the proposed enhancement or experimental product/service operationally will ensure that:

1. The proposed operational product/service and implementation process is compliant with the NWS Partnership Policy, and that the SPT/MST addresses any negative comments;
2. The proposed operational product/service meets the user need as intended;
3. Scientific validation has been completed by the SPT/MST, and that the proposed operational product/service meets scientific specifications and standards;
4. Scope is well defined;
5. The SPT/MST has identified and secured Operations and Maintenance (O&M) resources; and
6. NWSEO issues (if any) have been resolved.</td><td>The SPT/MST review to implement the experimental product/service or the proposed change operationally will:

a. Ensure that the proposed operational product/service is appropriate for the NWS (consistent with NWS Mission and policy);
b. Ensure that the proposed operational product/service meets the user need as intended;
c. Ensure scope is well defined;
d. Ensure any issues requiring NWSEO review have been addressed;
e. Ensure scientific evaluation of the proposed operational product/service has been completed, and the proposed product/service is scientifically valid;
f. Ensure all necessary internal stakeholders have been engaged and are in agreement; and
g. Ensure O&M resources have been secured.</td></tr>
<tr><td>The PSCMT review to resubmit for another comment period or extend the comment period will ensure that:

1. Any revisions to the proposed change or experimental product/service and implementation process are compliant with the NWS Partnership Policy, and that the SPT/MST addresses any negative comments;
2. The revisions to the proposed change or experimental product/service meet the user need as intended;
3. Revisions are subject to scientific validation;
4. Revisions are documented in an updated PDD/SDD and PNS;
5. There are no NWSEO issues with the revisions to the proposed change or experimental product/service; and
6. The request to extend the comment period is justified.</td><td>The SPT/MST Review to extend the comment period for the proposed change or experimental product/service will:

a. Ensure that any revisions to the proposed change or experimental product/service are compliant with the NWS Partnership Policy and that the SPT/MST address(es) any negative comments;
b. Ensure that the revisions to the proposed change or experimental product/service meet the user need as intended;
c. Ensure that revisions are subject to scientific validation; and
d. Ensure that there are no NWSEO issues with the revisions to the proposed change or experimental product/service.</td></tr>
<tr><td>If the recommended disposition is to discontinue the experimental product/services, the PSCMT will evaluate the rationale and make an appropriate recommendation for the SPT/MST.</td><td>The SPT/MST review to discontinue the experimental product/services will evaluate and validate the rationale.</td></tr>
</table>

	The SPT/MST review will result in one of the following recommended decisions: **1. Implement the proposed change or experimental product/service as an operational product/service;** **2. Discontinue the experimental product/service; or** **3 Re-submit the proposed change or experimental product/service for another comment period.**

APPENDIX C – Approval Package Documents

Development/Prototype Preliminary PDD/SDD (if applicable) Experimental Products Decision Information Document (EPDI) Draft PNS, if a Prototype will be made available publicly Approval Memorandum Correspondence Control Cover Sheet	Experimental or Proposed Change FINAL PDD/SDD Experimental Products Decision Information Document (EPDI) Draft Public Information Statement (PNS) Approval Memorandum Correspondence Control Cover Sheet
Extension of Comment Period Updated PDD/SDD Experimental Products Decision Information Document (EPDI) Appendix F Evaluation and Decision Recommendation document Draft Public Information Statement (PNS) Approval Memorandum Correspondence Control Cover Sheet	Extension of Comment Period (Abbreviated) Updated PDD/SDD Appendix F Evaluation and Decision Recommendation document Draft Public Information Statement (PNS) Approval Memorandum (Abbreviated) Correspondence Control Cover Sheet
Operational Implementation Operational PDD/SDD Experimental Products Decision Information Document (EPDI) Appendix F Evaluation and Decision Recommendation document Draft Service Change Notice (SCN) Approval Memorandum Correspondence Control Cover Sheet	Discontinue Experimental Product/Service Appendix F Evaluation and Decision Recommendation document Draft Service Change Notice (SCN) Approval Memorandum Correspondence Control Cover Sheet

APPENDIX D – AFSO Review and Approval

Evaluation for Development/Prototype Approval Decision

The decision will result in one of the following actions:

1. Proceed with further development/prototype of the proposed new/enhanced product/service;

2. Do not proceed with further development of the proposed new/enhanced product/service; or

3. Combine the effort with another approved existing effort.

Evaluation for readiness for experimental comment and review

The decisions will result in one of the following actions:

1. Provide the proposed new/enhanced product/service to the public as an experimental product/service for comment and review;

2. Discontinue the proposed new/enhanced product/service; or

3. Continue with further development.

Disposition

If approved, the new/enhanced product/service will be entered into NWSI 10-102 as an experimental product. PNS can be disseminated to begin experimental comment and review.

The decisions will result in one of the following actions:

1. Declare the experimental product/service operational;

2. Discontinue the experimental product/service; or

3. Re-submit the experimental product/service for another comment period.

Disposition

If approved the SCN can be disseminated. The product will be transferred to the operational catalog.

APPENDIX E – Product/Service Description Documents

Preliminary/Draft Product/Service Description Documents (PDD/SDD)

A preliminary/draft PDD/SDD will be used to document a proposed new/enhanced product/service that has not yet been developed or is being developed. The draft PDD/SDD will identify, in the Mission Connection section, whether the product/service is intended to meet a unique local/regional user need or if it is intended for NWS-wide (National) implementation. Because the document is in draft form and may only describe experience with the proposed product/service through preliminary investigational development, some sections of the draft PDD/SDD may describe future plans or intent for development activities. For example, the feedback method/period section may provide plans for how feedback will be obtained and for how long, instead of the actual feedback dates and survey link normally provided in the final PDD/SDD.

Final PDD/SDD

A final PDD/SDD will be used to document a proposed new/enhanced product/service that is ready for experimental comment and review or operational implementation. The final PDD/SDD has two purposes:

a. To provide official information to users and partners about the intent to provide a new or enhanced product/service that will initially be made available for comments/feedback during a specified time period. The PDD/SDD will describe the product/service content, format, intended purpose, and target audience.
b. To point to the location where detailed information is provided for experimental and operational products/services that have been approved through the NWSI 10-102 process.

Each PDD/SDD will be provided in the National Catalog of New or Enhanced Products and Services on the Internet at https://nsdesk.servicenowservices.com/nws. The PSCM Program Manager (AFS13) will maintain the catalog of PDDs/SDDs with links to all experimental and operational products/services that have gone through the 10-102 process. If non-substantial changes are made to an existing operational product/service, the SPT/MST Lead will provide the PSCM Program Manager with an updated PDD/SDD to ensure the catalog is current. Substantial changes will require approval through the 10-102 process prior to updating the PDD/SDD. PDDs/SDDs will be submitted in Microsoft Word or Adobe .PDF format only. The PSCM Program Manager will link the PDD/SDD to the catalog within five working days after approval.

Format

The PDD/SDD has the author respond to the five journalistic questions (who, what, when, where, and why) to describe the content, format, and purpose of the proposed product/service. When modifying existing products/services or developing new ones, it is critical to understand the intended use of, and the mission need for the product/service. The PDD/SDD will have the following components:

a. Mission Connection
   1. Product/Service Description
   2. Purpose/Intended Use
   3. Audience
   4. Presentation Format
   5. Feedback Method/Period

b. Technical
   1. Format and Science Basis
   2. Availability
   3. Additional Information

Guidelines for completing a PDD/SDD are included in Appendix G, and examples of PDDs/SDDs are in Appendix H.

"Umbrella" PDDs/SDDs

PDDs/SDDs exist which contain several sub-elements (i.e., aspects or features of a product/service) under a "parent" PDD/SDD. Normally, a one-to-one correspondence between a product/service and a PDD/SDD is required to provide adequate documentation for all products/services, including both "policy" documentation (why we produce it, connection to mission, etc.) and "technical" documentation (techniques used to produce it, format description, etc.). Under an "umbrella" PDD/SDD, one general document may be written for the overall product/service (e.g., National Digital Forecast Database (NDFD)). Included within the "umbrella" PDD/SDD are references or links to other documents. Web links can simply link back to the "umbrella" PDD/SDD for the description of all of the applicable general information required, leaving only the specifics about the individual element in the "attachment." Using cross-links in a uniform way can improve the readability of every "parent"/ "child" PDD/SDD, avoids duplicating information in multiple locations, and shows more clearly how the information in any product/service is related to the information in other products/services.

APPENDIX F – Product/Service Evaluation and Decision Recommendation Document

Product/Service Name:
Evaluation by:
Product/Service Developed by:
Product/Service Website (URL):

Brief Product/Service Description:

In addition to checking the boxes below, please provide a general summary of both positive and negative comments received. A general response to any major negative concerns should be provided.

1. Does the product/service comply with NOAA partnership policy? *Yes ☐ No ☐*

2. Is this product/service replacing or similar to another product/service? *Yes ☐ No ☐*

3. Does the product/service meet scientific and government technical specifications? *Yes ☐ No ☐*

(Provide documentation)

4. Do any comments express a view that it is inappropriate for NWS to provide this product/service? *Yes ☐ No ☐*

(If yes, provide the specific comments and how you plan to address the issue.)

5. Indicate any outreach activities used to educate affected users and invite their comments.

6. Does the product/service need further development? *Yes ☐ No ☐*

(If yes, provide details, and indicate if resources are available.)

7. If product/service is being considered for operational implementation, are resources available to implement and sustain the product/service operationally? *Yes ☐ No ☐*

(Provide documentation.)

Summary of comments received (both positive and negative):
[Please include the number of responses you received, provide a general summary of both positive and negative comments received. A general response to any major negative concerns should be provided.]

Decision Recommendation:
[*This section should draw conclusions drawn from evaluation of comments received (positive and negative) and any internal factors, and present a final recommended decision*.]

APPENDIX G – Guidelines for Preparation of PDDs and SDDs

This appendix provides the document format required to describe experimental (new or enhanced) and official NWS products/services. Advances in science and technology provide the capability to produce better information in multiple formats for use by users and partners. We consider the content and format of proposed new products/services to ensure they meet our mission, effectively convey information, and are understandable and consistent in format. In developing new/enhanced products/services, we ensure that NOAA acts in a fair and evenhanded manner, and in accordance with NOAA's Partnership Policy. To maximize fairness and openness, we will follow the six principles outlined in NWSPD 1-10, Section 3.

Appendix H provides an example of a PDD for *Operational Gridded Marine Offshore and High Seas Forecasts in the National Digital Forecast Database (NDFD)* and an SDD for *NWS Use of Twitter as an Environmental Information Service*. A long list of examples (including an "Umbrella" PDD as described in Appendix E) can be found within the National Catalog of New or Enhanced Products and Services at the following URL: https://nsdesk.servicenowservices.com/nws.

Part I – Mission Connection. A brief description of the product/service, as well as responses to questions designed to stimulate thought about content and format, plus rationale for the product or service.

a. Product/Service Description – Provide a brief description of the experimental product/service.

b. Purpose/Intended Use – Why should the NWS produce this information? Is the product/service available to our general mission or to a well-established area of service? What NWS requirement does the product/service support?

Keep in mind:
1. There are specific areas where the NWS has been prohibited from providing services (e.g., specific agricultural forecasts).
2. New products/services should be developed to satisfy valid user needs and/or requirements.
3. Products/services created to support another government agency's mission should document the request from that agency.

c. Audience – Who is the intended audience for the product/service? For example, is the product/service intended for the general public, for the government decision makers, etc.? Remember to consider the principles in Section 3 of NWSPD 1-10. In general, specialized products/services for a limited number of users (e.g., for a particular industry group or company) are not allowed.

d. Presentation Format – How is the information presented (e.g., text, graphic) and why have we chosen to present it in this manner?

1. We should aim to make currently available forecast information readily accessible, usable, and understandable.
2. We should aim for presentations of forecast information to be consistent nationally.
3. Presentations in a proprietary format are generally not acceptable. Stick to formats that are widely accepted as standards (e.g., GRIB, HTML, XML, and KML/KMZ for geo-referenced data).

e. Feedback Method – Describe how feedback can be provided on the experimental product/service.

Provide the following information:

- Point of contact for information on the product/service. For example, the person who originally developed the product/service.
- Name of point of contact's office.
- Office address.
- Telephone number for point of contact.
- Email address for point of contact.
- Dates of comment period.
- Link to survey, if one is being used.

Describe where comments on the new product/service can be registered and how they will be addressed. Follow the guidelines in Appendix G for collecting feedback on experimental products/services from the user community.

Part II – Technical Description

a. Format and Science Basis – Provide a brief description of the product/service format. What type of software is required to decode and/or display the product/service? Be sure to include whether it is one of the following:

- Text or graphically disseminated over an NWS-supported system. Include the format for the product/service data, (e.g., ASCII, JPG). Optional: provide an example that can be uploaded.
- Image or data displayed via the Internet. Provide the URL where the product/service can be accessed. Briefly describe any capabilities that users may need to custom configure for the product/service to meet their own needs.
- Briefly describe the science basis for the product/service as well as its technical limitations (e.g., what it can and cannot do). What input data are used to generate the product/service (e.g., model output)?
- Describe why the product/service presents information in the selected format (e.g., text, graphic, probabilistic). Keep the following in mind:
    - Make currently available forecast information readily accessible, usable, and understandable.
    - Make presentations of forecast information consistent nationally.

b. Availability – Describe: When is the information available? How often is the product/service updated?

c. Additional Information – Include any other pertinent technical detail, such as:

1. Who created the product/service (person, office)?
2. What data are used to generate the product/service (e.g., model output)?
3. Software package that can be used to decode or display the product/service.
4. References to relevant technical or scientific publications (e.g., Universal Geographic Coding (UGC) or Valid Time Event Code (VTEC)) and directives.

APPENDIX H – Examples of Product/Service Description Documents

Example of Product Description Document (PDD)

Operational Gridded Marine Offshore and High Seas Forecasts in the National Digital Forecast Database (NDFD)
Product Description Document
August 23, 2017

Part I – Mission Connection

a. Description of Product – The National Weather Service's (NWS's) National Centers for Environmental Prediction (NCEP) Tropical Analysis and Forecast Branch (TAFB) is providing gridded forecasts of five marine weather elements to the National Digital Forecast Database (NDFD) on an operational basis for its offshore waters and high seas forecast areas of responsibility for the Atlantic basin. NCEP's Ocean Prediction Center (OPC) is providing gridded forecasts of five marine weather elements to the NDFD on an operational basis for its offshore waters in the Atlantic basin. OPC high seas forecast grids are under development.

For TAFB and OPC, the marine weather elements are: 10-m wind speed, 10-m wind direction, 10-m wind gusts, significant wave heights, and marine hazards.

b. Purpose – The NDFD is the primary means by which digital information is made available to customers and partners. As part of this digital database, offshore and high seas information will be provided in response to user needs for planning purposes and critical safety decisions. Future digital datasets will continue to be developed in accordance with growing user needs.

c. Intended Audience – The current audience for the NDFD offshore and high seas grids include the marine transportation industry, emergency managers, commercial fishermen, government agencies, and recreational users. It is also for anyone else who wishes to decode and explore various potential applications of the NWS digital data, or simply view, post, or distribute the graphic images.

d. Presentation Method – The offshore and high seas grid domain, hereafter referred to as the NDFD oceanic domain, covers the Atlantic, Pacific and Arctic basins for the offices issuing offshore waters and high seas forecasts. The upper right latitude (lat), longitude (lon) for this grid is: 79.99N, 10.71E. The lower left corner lies directly on an NCEP Gridpoint 204, which coincides with all other Pacific region NDFD grids. The lower left lat, lon for this grid is 30.42S, 129.91E. See Figure 1 below. Specific information on the grid domain can be found at: https://ocean.weather.gov/opc_gridded_marine.php.

Areas of the offshore gridded forecasts that coincide with the NDFD contiguous United States (CONUS) grid will be included in the CONUS mosaic. For the purposes of operational gridded marine offshore and high seas forecasts in the NDFD, the coverage area is shown in Figure 2, below.
The operational marine weather elements are available at a spatial resolution of 10 kilometers

(km). The data will have an operational temporal resolution of three (3) hours out to 72 hours or three (3) days for the domain, and six (6) hours then to 168 hours or seven (7) days for the domain.

The domain of the NDFD 10-km oceanic grid is illustrated in Figure 1, below:

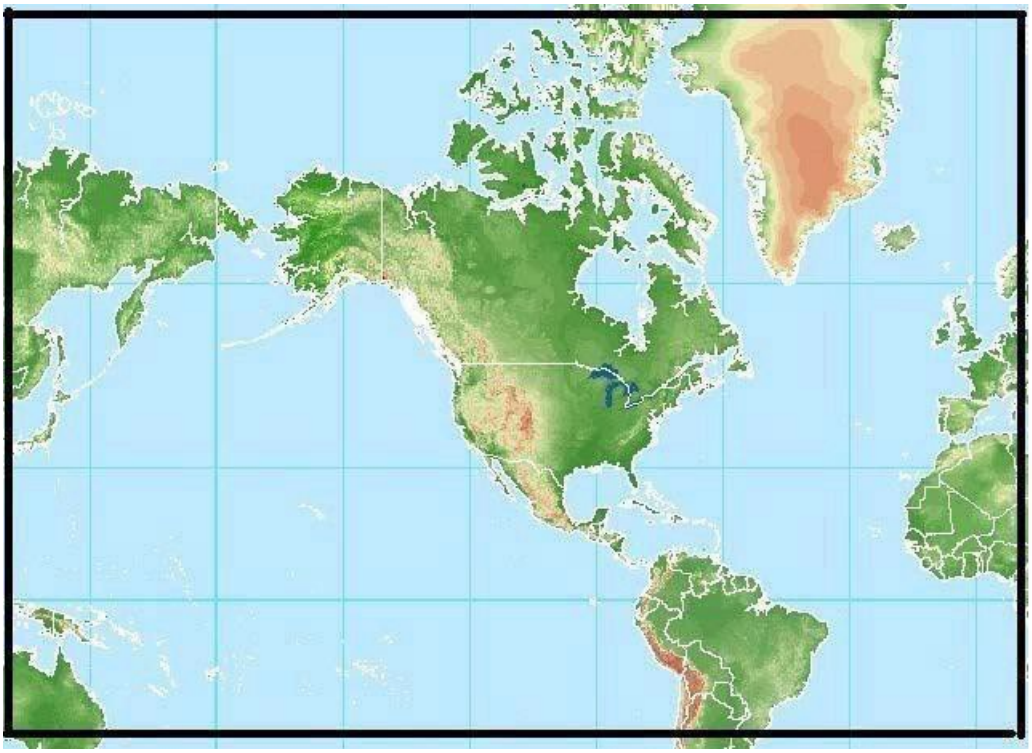

Figure 1: Domain (thick black line) of the NDFD 10-km oceanic grid

The Atlantic Offshore and High Seas Forecast Areas and their corresponding producing offices are shown in Figure 2, below:

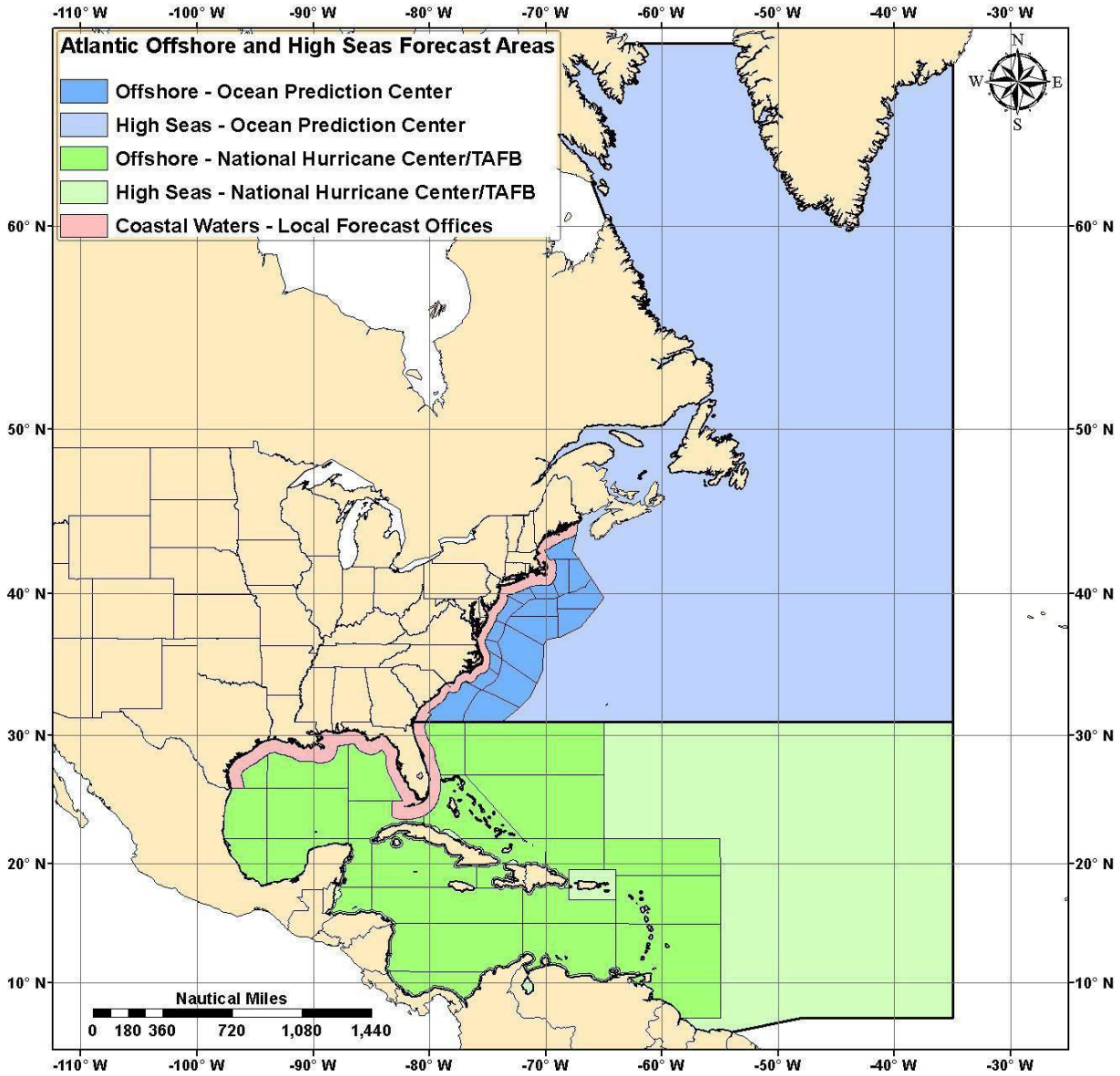

Figure 2: Offshore and High Seas Producers' Areas of Responsibility (AOR) across the Atlantic that contain the NDFD operational Offshore (OPC in dark blue, TAFB in bright green) and High Seas (TAFB in lighter green) Grids from the providers.

The map viewer image shown below in Figure 3 shows oceanic domain forecasts that are now available via NDFD both operationally (Atlantic and Alaska) and experimentally (elsewhere in the Pacific). It includes the WFOs coastal waters, the Alaska coastal and offshore waters, the TAFB offshore and high seas areas, and the OPC offshore AOR.

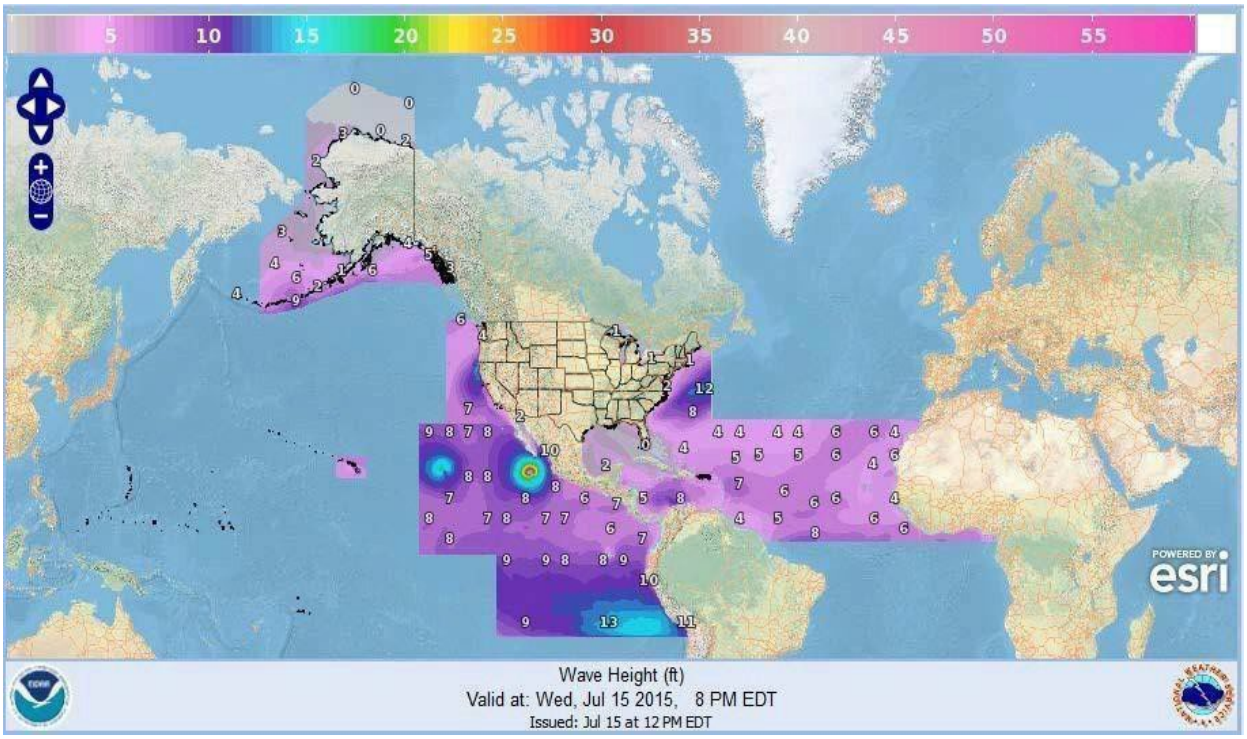

Figure 3: Coastal, Offshore, and High Seas Grids available both operationally and experimentally

e. Questions or Comments

Service questions or comments may be provided to:

National Hurricane Center/Tropical Analysis and Forecast Branch
Miami, FL
(305) 229-4454
eric.christensen@noaa.gov

National Centers for Environmental Prediction/Ocean Prediction Center
College Park, MD
(301) 683-1497
darin.figurskey@noaa.gov

NWS/STI/Digital Forecast Services Branch
Silver Spring, MD
(301) 427-9457
david.ruth@noaa.gov

Part II – Technical Description

a. Format & Science Basis – The gridded marine elements are produced by the forecasters, utilizing the Graphical Forecast Editor (GFE) in the Advanced Weather Interactive Processing System (AWIPS). These are value-added grids with forecaster input based on marine forecast expertise over each center's respective AORs. The forecasters also use GFE "smart tools," and grid averaging techniques, along each center's AOR boundaries, to take into account local marine effects, and blend forecaster and numerical model solutions, as appropriate. This combination of tools and techniques, and forecaster expertise, allows gridded forecasts based on the best performing model(s), or an ensemble of model runs, in a given forecast scenario.

b. Product Availability – Each contributing Marine Center updates their grids at least four times per day.

URLs to download the operational marine grids:

ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndfd/AR.oceanic/VP.001-003/
ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndfd/AR.oceanic/VP.004-007/

URL to view the marine grids: https://digital.weather.gov/

Example of Service Description Document

National Weather Service (NWS) Service Description Document (SDD)
NWS Use of Twitter as an Environmental Information Service

Part 1 – Mission Connection

a. Service Description – Twitter is a social networking and microblogging service that enables its users to send and read short messages known as tweets. It has over 75 million users sending over 50 million tweets per day (Computer World, 2/23/10). Microblogging services (e.g., Twitter) provide a platform for the NWS to combine/contribute its authoritative voice with NWS partners in the social stream. NWS partners (local to national) have adopted microblogging as a means to disseminate timely information to their communities. Many times, NWS partners microblog in response to weather/water impacts to their communities. Microblogging services offer another platform to distribute/contribute critical warning and impact information rapidly, while also allowing NWS partners to contribute to what is being microblogged. This is known as information packaging in the social stream.

The NWS is using Twitter as a supplemental channel to disseminate environmental information and promote weather awareness activities including outreach and educational efforts. Environmental data will scale to the area served by a particular Twitter account (e.g., Weather Forecast Office (WFO) level). A presence on Twitter offers a powerful tool to help disseminate lifesaving information; increase the public's understanding of weather, water, and climate; and increase the public's ability to take action.

Content posted to Twitter is derived from information that exists on NWS official Web pages, or from official NWS products. Tweets may concern:

- The science and anticipated impacts of the forecast period
- Long-fused warnings, watches, advisories (***after product issuance***)
  - NOTE: Automated county-level feeds of short-fused warnings may also be pursued in the future, but not from office-level Twitter feeds
- Non-weather emergency messages from emergency management officials
- Weather/Climate facts
- Outreach and educational information
- Post-event information

b. Purpose/Intended Use – The goal of the NWS's use of Twitter is to reach out to a diverse audience and talk about weather/water (the science and the impacts) in plain language. Social science research has shown that people generally need to have a message come from more than one source before they will react to it. The NWS's use of microblogging services adds another source to the already traditional methods in place.

NWS Posting Policy for Twitter (see https://www.weather.gov/twitter)

The National Weather Service (NWS) is using Twitter as a supplemental channel for improving weather awareness. Postings to this page highlight activities of interest and importance to both the weather community and the public, and include NWS meetings, constituent and partner engagement activities, and public education efforts.

Questions or comments about local forecasts or local advisories/watches/warnings need to be submitted to the issuing local WFOs. The local WFOs are listed under: https://www.weather.gov/organization/regional.

There is no endorsement, implied or otherwise, by the NWS of any fan posts, links, or photos. Writers/fans are fully responsible for the content they submit.

Your comments are important to us and others who follow these feeds. It is important to remember that our weather community includes people of all ages and backgrounds. What seems funny to one person might be truly offensive to another. From our experience, the people who join in the dialog on these pages mostly self-moderate each other. The NWS posting policy is intended to set clear guidelines on what is appropriate for these pages. Above all, posted comments must be appropriate for all ages and be courteous and respectful of others and related to matters, activities, programs, policies or operations relevant to the NWS. The NWS has established the following posting policies and reserves the right to delete postings that are inconsistent with them. Therefore, it is our policy to remove any tweets that:

- Is from anyone younger than 13 years of age;
- Contains defamatory, vulgar, obscene, abusive, profane, threatening, hateful, intimidating, or otherwise offensive language;
- Contains malicious or offensive comments based on gender, race, class, ethnicity, national origin, political affiliation, religion, sexual orientation, disability, or other classification;
- Contains advertisements, endorsements, or promotions, including spam and similar content;
- Contains comments on matters unrelated to activities of the NWS or its programs,

policies, operations, or general areas of responsibility;
- Contains impersonations or misrepresents the writer's identity or affiliation;
- Contains viruses or similar harmful programs;
- Contains proprietary information or intellectual property that is posted without the approval of the owner;
- Recommends that members of the public contact a member of Congress or of a state or local legislature;
- Contains comments regarding a candidate in a partisan political campaign or regarding a political party; or
- Contains information that violates a local, state, or national law.

c. Audience – This service will be expanded to all WFOs, River Forecast Centers (RFCs), and National Centers. The audience served by this service includes any member of the general public served by the area of coverage of a participating office.

To find a Twitter feed from your local forecast office, search for @NWS on Twitter. The local WFOs are listed under: https://www.weather.gov/organization/regional.

Note: Access to this service requires a Twitter account (see https://www.twitter.com/). Use of Twitter to support this service does not imply an endorsement of Twitter.

d. Presentation Format – Information is presented on Twitter as brief posts or tweets, which are sent to all "followers" of a particular NWS Twitter account. A hyperlink may be included within the post to provide more detailed information on an official NWS web page, as required.

Part 2 – Technical

a. Format and Science Basis – Standard feeds have been built from NWSChat to automate the dissemination to a particular Twitter account and the same mechanism(s) can be used to feed other social media sites in the future. Updates will be generated mostly by RSS feed or API. Manual posts will also be presented by local offices.

b. Availability – Dissemination of environmental information via Twitter is considered a supplemental service. NWS posts will be made on a time-available basis.

Availability of this service is subject to constraints of Twitter service availability and to availability limitations of the users' Internet connection.