

9635 **Appendix A. Transitioning NWS Hydrologic Research**
9636 **into Operations**

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9657 (Adapted from the National Weather Service Instruction 10-103, June, 2007, available at:
9658 <http://www.weather.gov/directives/sym/pd01001003curr.pdf>)

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9660 Because of the operational nature of the National Weather Service’s mission, transition of
9661 research into operations is of particular importance. Transition of all major NOAA
9662 research into operations is monitored by the NOAA Transition Board. Within the NWS,
9663 two structured processes are followed to transition research into operations, in
9664 coordination with the NOAA Transition Board. A wider process, the Operations and
9665 Service Improvement Process (OSIP) is used to guide all projects, including non-
9666 hydrology projects, through field deployment within the Advanced Weather Interactive
9667 System (AWIPS). A similar process called Hydrologic Operations and Service
9668 Improvement Process (HOSIP) with nearly identical stages and processes as OSIP is used
9669 exclusively for the hydrology projects. For those hydrology projects that will be part of
9670 AWIPS, HOSIP manages the first two stages of hydrologic projects, and, upon approval,
9671 are moved to HOSIP. The OSIP process is described below.

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9673 OSIP consists of 5 stages. (Table A.1 below). For a project to advance from one stage to
9674 the next, it is necessary to pass a review process (a “gate”), which examines that the
9675 requirements for each gate are met and that the typical gate questions are satisfactorily
9676 answered.

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9680 **Table A.1 National Weather Service Transition of Research to Operations: Operational and Service**
 9681 **Improvement Process, OSIP.**

Stage	Major Activity	Typical Decision Point (Gate) Questions?
1	Collection and Validation of Need or Opportunity	Is this valid for the Weather Service? What is to be done next? (and who will do it)
2	Concept Exploration and Definition	Are the concept and high level requirements adequately defined or is research needed? What is to be done next? (and who will do it)
3	Applied Research and Analysis	What solutions are feasible, which is best? What is to be done next? (and who will do it)
4	Operational Development	Does developed solution meet requirements? Is there funding for deployment and subsequent activities? What is to be done next? (and who will do it)
5	Deploy, Maintain and Assess	Survey –How well did the solution meet the requirements?

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9683 Each gate requires that the project be properly documented up to that point. The first
 9684 stage, *Collection and Validation of Need or Opportunity*, allows people who have a need,
 9685 an idea, or opportunity (including people external to the NWS) to hold discussions with
 9686 an OSIP Submitting Authority to explore the merits of that idea, and to have that idea
 9687 evaluated. For this evaluation, the working team prepares two documents: 1) a Statement
 9688 of Need or Opportunity Form, which describes the Need or Opportunity for
 9689 consideration, and 2), the OSIP Project Plan, which identifies what is to be done next and
 9690 what resources will be needed. For Hydrology projects, the Statement of Need requires
 9691 the endorsement of a field office.

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9693 The *Concept Exploration and Definition* stage requires the preparation of the following
 9694 documents: 1) the Exploratory Research Results Document which, as required for
 9695 research projects, documents the results from exploratory research to determine
 9696 effectiveness, use or concept for associated need or opportunity, and documents the
 9697 availability of already-developed solutions that will meet the Statement of Need; 2), the
 9698 Concept of Operations and Operational Requirements Document, which describes how

9699 the system operates from the perspective of the user in terms that define the system
9700 capabilities required to satisfy the need, and 3), an updated OSIP Project Plan.
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9702 During the Applied Research and Analysis stage, the team conducts applied research,
9703 development, and analysis; identifies possible solutions; defines and documents the
9704 technical requirements; prepares a Business Case Analysis (BCA) to present a detailed
9705 comparison of the potential alternative solutions, with the recommendation of the
9706 working team as to which alternative is preferred. The BCA is a critical element in
9707 demonstrating to NWS, NOAA, and Department of Commerce management that a
9708 program is a prudent investment and will support and enhance the ability of the NWS to
9709 meet current and planned demand for its products and services. This stage requires the
9710 preparation of four documents: 1) the Applied Research Evaluation, which documents
9711 how the research was carried out, how the processes were validated, and the algorithm
9712 description for operational implementation; 2) the Technical Requirements document,
9713 which states what the operational system must explicitly address; 3) the Business case,
9714 which collects the business case analysis that describe how the system will be used, and
9715 4), an updated Project Plan.

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9717 During the Operational Development stage, the team performs the operational
9718 development activities summarized in the approved Project Plan and described in the
9719 Operational Development Plan. The purpose of this stage is to fully implement the
9720 previously selected solution, verifying that the solution meets the operational and
9721 technical requirements, to conduct preparations to deploy the solution to operations, and

9722 carry out the actions stated in the Training Plan. During this stage, the team prepares 1)
9723 the Deployment Decision Document, which summarizes the results of the development
9724 and verification activities and presents the results of preparations for deployment, support
9725 and training; 2) the Deployment, Maintenance and Assessment Plan, which is the plan for
9726 the final OSIP stage, Stage 5, and 3) an updated OSIP Project Plan and other
9727 documentation as needed.

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9729 During the final stage, Deploy, Maintain and Assess, the team performs the deployment
9730 activities summarized in the approved Project Plan and described in the Deployment,
9731 Assessment, and Lifecycle Support Plan. The primary purpose of this stage is to fully
9732 deploy the developed and verified solution.

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9734 The requirement process for Web page improvements include:

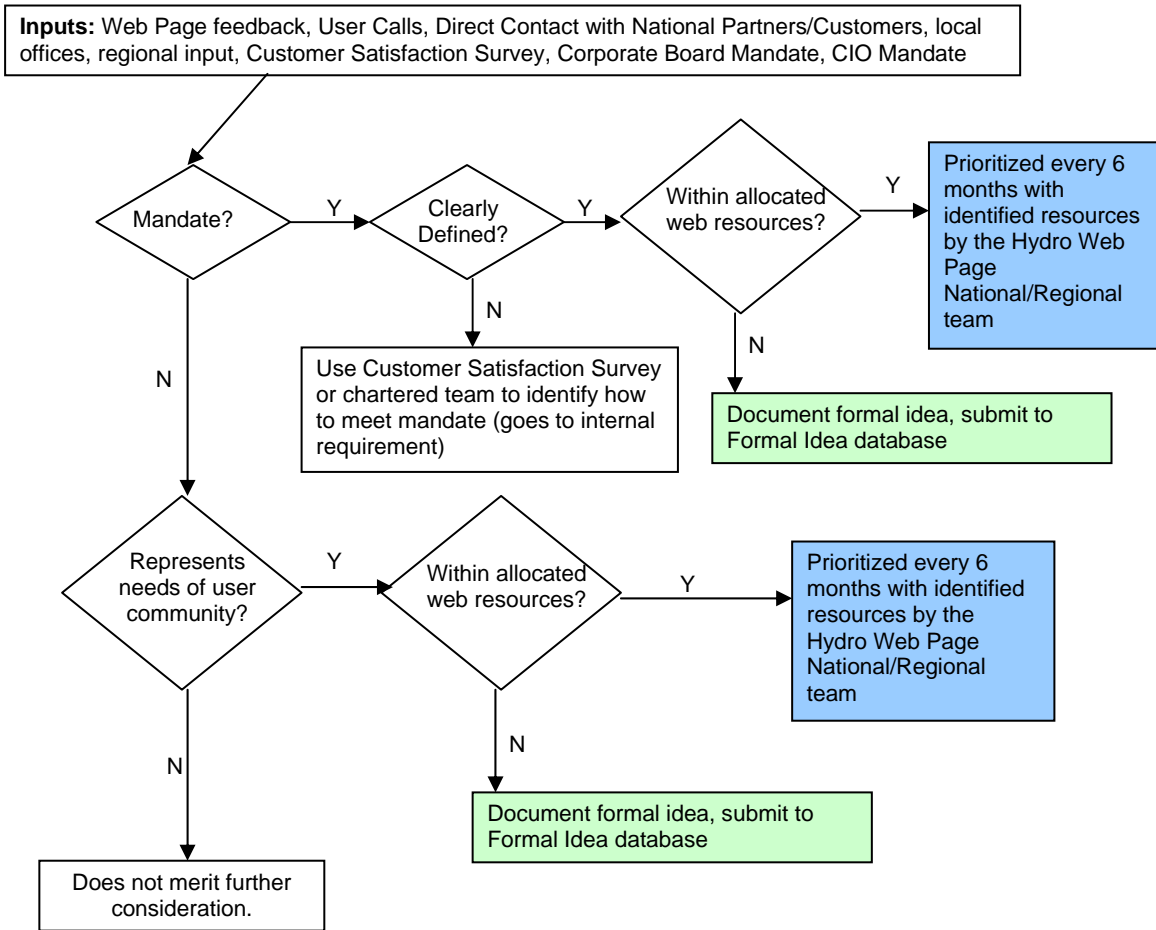
- 9735 • Requests arising from user feedback on the web
- 9736 • User calls
- 9737 • Direct contact with national partners/customers
- 9738 • Local NWS offices and NWS regions input
- 9739 • Customer satisfaction survey
- 9740 • Corporate Board Mandate
- 9741 • Chief Information Office Mandate

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9743 Figure A.1 shows the flow diagram for the web-page improvement requirement process.

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Web Page Requirements Process



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9746 **Figure A.1** Web-page improvement process

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