

NATIONAL WEATHER SERVICE INSTRUCTION 10-703

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Operations and Services

TSUNAMI WARNING SERVICES, NWSPD 10-7

POST-TSUNAMI SURVEYS

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SUMMARY OF REVISIONS: This supersedes NWS Instruction 10-703, dated January 17, 2007, and recertified on November 13, 2008.

1. Changed the OPR and certifying responsibility from NWS Pacific Region Headquarters to the Office of Climate, Water, and Weather Services.
2. Ensured the Directive focuses on both domestic and international post-event surveys.
3. Added references to Intergovernmental Oceanographic Commission's (IOC) *Post-Tsunami Field Guide*.
4. Made minor wording changes to Section 2, 3, and 4 for clarification.
5. Added domestic post-tsunami warning effectiveness surveys.

Signed

December 8, 2010

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Date

Post-Tsunami Surveys

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1. Introduction

This instruction describes the process for conducting a domestic or international post-tsunami survey (PTS) as well as a domestic post-tsunami warning effectiveness survey (WES).

A PTS is an investigation to determine the physical extent of tsunami inundation and to capture eyewitness accounts of the impact. A PTS follows a different process from the NWS Service Assessments. NWS Service Assessments are conducted after unusually destructive and significant hydrometeorological, oceanographic, or geologic events resulting in warning and/or other operational activities by the NWS. See National Weather Service Instruction (NWSI) 10-1606 for the policies and procedures associated with Local, Regional, and National Service Assessments within the NWS.

A WES is an assessment of the U.S. tsunami warning system. A WES is conducted after a tsunami warning and/or advisory has been issued for a location within the U.S. The tsunami warning system includes NWS Tsunami Warning Centers (TWC), Weather Forecast Offices, National Tsunami Hazard Mitigation Program (NTHMP) partners, and local warning capabilities. A WES is conducted in conjunction with the NTHMP, and consists of surveys provided to emergency management personnel and the public.

2. Post-Tsunami Surveys

The purpose of a PTS is to observe and document the effects of tsunamis, especially through tsunami eyewitness reports, and to collect perishable data on tsunami impacts, in order to: a) learn about the nature and impact of the tsunami; and b) be able to make recommendations on the need for further research, planning, mitigation, and preparedness. These data are immediately made available and shared with the affected country in order to facilitate damage assessment needs and enable more informed disaster response decision-making.

2.1 Criteria

A PTS is triggered by the occurrence of a destructive tsunami and/or request for assistance through the IOC as described below.

2.2 Authority

A domestic PTS is initiated by the Director of OCWWS and coordinated by the International Tsunami Information Center (ITIC). Any PTS conducted in the U.S. should be coordinated with the appropriate NTHMP Federal/ state/ territory/ commonwealth partner agency. NWS personnel who are approached by outside agencies to serve on a survey team should notify the ITIC Director and their first-line supervisor as soon as possible to let him/her know a request was made.

Upon request, an international PTS is conducted under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Intergovernmental Oceanographic Commission (IOC), following a destructive tsunami to assist authorities in other countries. A PTS is organized and facilitated by ITIC at the request of UNESCO/IOC.

Additional coordination efforts are required for an international PTS. A formal request will be submitted to the Department of State (DOS) by the affected country. When requested by the IOC to lead or support a survey, the ITIC will organize a survey team to investigate tsunami damage and inundation in the affected foreign country. The Director of the NWS Pacific Region and the NOAA Tsunami Program Manager will be notified by the ITIC Director when any international PTS team is being formed, whether the team includes U.S. Government personnel or not. An International PTS involving U.S. Government personnel is approved by the DOS.

2.3 Process

The ITIC conducts domestic PTSs, and coordinates international PTSs. These multi-sectoral surveys may document marine and terrestrial environmental, geological, seismological, tectonic, geotechnical, structural, human, social, and economic impacts, in addition to tsunami runup and inundation. Refer to the IOC's *Post-Tsunami Field Guide*, First Edition, dated 1998 (IOC Manuals and Guides No. 37), online at: <http://ioc3.unesco.org/itic/files/MG037.pdf>, for procedures and guidance on conducting national and international surveys.

Standardized PTS instructions, procedures, and guidance will be made available to all participating nations by the ITIC to enable those countries to conduct their own surveys.

The ITIC will coordinate with PTS team members to develop a summary report immediately following their survey(s). The summary report will include the data collected, preliminary results, and any recommendations for improving mitigation and preparedness. The ITIC, in coordination with the UNESCO IOC, will compile the reports and make them available to the affected countries. ITIC and the World Data Center for Marine Geology and Geophysics (co-located at the NOAA National Geophysical Data Center) hosts a PTS data repository. The ITIC

will coordinate with PTS leaders to obtain quality-controlled data in a timely manner for permanent archiving of the essential tsunami event information at WDC-MGG/NGDC.

3. Domestic Post-Tsunami Warning/Advisory Effectiveness Surveys

3.1 Criteria

A domestic post-tsunami WES may be conducted following a tsunami warning or advisory along the U.S. Coast.

3.2 Authority

The Chair of the NTHMP, with input from the NTHMP Program Administrator or a NOAA Warning Coordination Sub-Committee Co-Chair, will initiate the domestic post-tsunami WES.

3.3 Process

The Director of the ITIC will facilitate a post-tsunami WES. Emergency Management and the general public are the targeted participants of a post-tsunami WES. Following the issuance of a tsunami warning or advisory, the ITIC will conduct an emergency management and public survey using the questionnaires and procedures developed and approved by the NTHMP Warning Coordination Sub-Committee. The ITIC will utilize the following procedure to conduct the surveys.

3.3.1 Conducting the Emergency Management Survey

- Within one week of the warning or advisory, the ITIC will contact affected state NTHMP mitigation representatives and provide the questionnaire with basic instructions concerning who to contact, timeline, and reporting procedures.
- State NTHMP tsunami mitigation representatives will forward the questionnaire to emergency management representatives in their warning or advisory jurisdiction, providing instructions and requested timelines for completion. This may involve travel to jurisdictions for direct interaction with emergency management leaders.
- Within six weeks of the warning or advisory, state NTHMP representatives will return questionnaires to ITIC for compilation of results.
- Within ten weeks of the warning or advisory, ITIC will compile the questionnaire results, and assemble a report on the results. The results should be compared to previous events to identify trends, best practices, and problems.
- The final report will be made public on the NTHMP web site.

3.3.2 Conducting the Public Feedback Survey

- Within one day of the warning or advisory, a prominent link to the public feedback questionnaire on the NTHMP web site will be displayed on TWC and ITIC web sites.
- Two weeks after the warning or advisory, the link will be removed.
- Within ten weeks of the warning or advisory, ITIC will collect and assemble a report on the public questionnaire results. The results should be compared to previous events to identify trends, best practices, and problems.
- The final report will be made public on the NTHMP web site.