

# TSUNAMI WARNING CENTER REFERENCE GUIDE

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## Forward

Reflecting on the devastation wrought by the Indian Ocean tsunami of December 2004 underscores the importance of a robust tsunami warning system that can effectively save lives should such a seismic chain of events repeat itself.

To counter the threat of tsunamis to the United States, the National Oceanic and Atmospheric Administration (NOAA) has developed the many components of an end-to-end warning system including Deep-ocean Assessment of Reporting Tsunami buoy technology, numerical tsunami propagation models, establishing tsunami warning centers, and development of the TsunamiReady program to prepare coastal communities for tsunamis. NOAA has shared technical leadership, technology and capacity-building on aspects such as these as part of the U.S. Government's response to the Indian Ocean region after the 2004 tsunami.



In establishing an operational warning system for one of nature's most intense and severe threats to coastal populations, NOAA developed a Concept of Operations (CONOPS) that defined the human, scientific, and technological resources required to provide critical warning to communities at risk. This document represents the knowledge accumulated by NOAA in accomplishing an operational warning program for the United States—it represents our “best practices.”

We hope this document, the *Tsunami Warning Center Reference Guide*, will assist the United Nations Education, Science and Cultural Organization's Intergovernmental Oceanographic Commission in its effort to encourage countries to establish tsunami warning systems. The CONOPS within should help the countries surrounding the Indian Ocean establish warning programs for national centers as well as regional watch providers. In addition, this document could serve as a catalyst toward developing a multi-hazard CONOPS.

Many countries recognize that an integrated end-to-end multi-hazard warning capability is essential to reduce vulnerability and risk to future disasters such as the 2004 tsunami. We hope this CONOPS contributes to the critical efforts underway in the Indian Ocean region and the efforts in development elsewhere around the globe. In keeping with the Tsunami Warning and Education Act, NOAA pledges continued support to the international community.

A handwritten signature in black ink that reads "Conrad Lautenbacher". The signature is written in a cursive, flowing style.

Conrad C. Lautenbacher, Jr.  
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