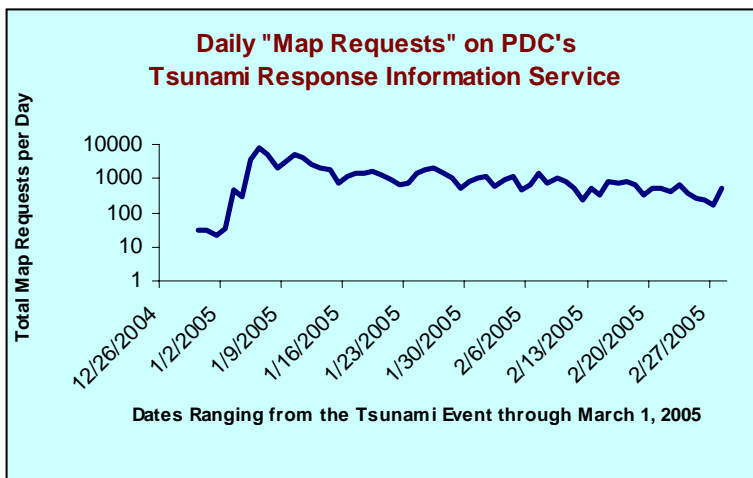


Data facts and figures

The catastrophic Indian Ocean tsunami of December 26, 2004 left humanitarian organizations around the globe desperate for **high-resolution data of impacted areas**. To help meet this unprecedented need, the Pacific Disaster Center (PDC) immediately launched a web-enabled geospatial information service—the ArcIMS-based *South East Asia and Indian Ocean Tsunami Response Map Viewer* (<http://www.pdc.org/tsunami>).

The Map Viewer was soon declared a “consolidated access point” by the U.S. Government for American and international agencies to access critical disaster-related data. As illustrated below, daily “map requests” topped nearly 8,000 in the week following the tsunami, and sustained at nearly 1,000 for most of the following three months.



Daily “Map Requests” to the service through March 2005.

Data Processing

In tandem with launch of this service, PDC began receiving high-resolution satellite imagery from the National Geospatial-Intelligence Agency (NGA)’s Commercial Satellite Imagery Library (CSIL). Through a SkyMedia terminal at its Maui-based facility, PDC directly acquired images at a 1-meter resolution or greater. Eventually over **1.4 terabytes** (1.4 x 10¹² bytes) ClearView-licensed QuickBird and Ikonos images were received, processed, and served to humanitarian organizations around the world. This formidable library of data included coverage of impacted areas in Thailand, Indonesia, Sri Lanka, India, Malaysia, and the Maldives.

Imagery Collaboration

An essential prerequisite for delivering this time-sensitive information to humanitarian organizations was the conversion of data from native *NITF format* (primarily used by the U.S. defense community) to a more “GIS-ready” *GeoTIFF format*. This was a formidable task, especially given the immense volume of data being delivered to PDC as well as other processing steps. However, through collaborations with agencies including Mercy Corps, the University of Washington, and the United Nations, eventually over 110 scenes of QuickBird and Ikonos imagery were processed. **This resulted in nearly 400 images covering nearly 35,000 square kilometers** that were subsequently offered through the Map Viewer. Through a collaborative effort between PDC and the Maui High Performance Computing Center, these images were also made available for direct download by organizations involved in relief efforts.



Humanitarian Assistance Support

“We increasingly believe we are not alone here...”

-Local Indonesian NGO Walhi North Sumatra, who used PDC’s Map Viewer to support local relief operations

Data Contributors

- Mercy Corps
- United Nations
- U.S. Government
- National Geospatial-Intelligence Agency/
Commercial Satellite Imagery Library
- National Center for Earth Resources Observation and Science (USGS)
- Armed Forces Medical Intelligence Center
- Indonesian Government
- BAKOSURTANAL
(National Coordinating Agency for Surveys and Mapping in Indonesia)
- East View Cartographic, Inc.

Organizations that provided data and/or processing assistance for PDC’s tsunami response geospatial information service.

Supporting the Global Community

PDC's geospatial support to tsunami relief efforts has assisted **International, national, local, nongovernmental, and educational organizations** worldwide. A "snapshot" of some of these end users is depicted below.

Through activities including direct deployments to Indonesia and Thailand, as well as close collaboration with partner organizations, PDC is also aware that this information has been used in activities including: 1) U.S. Pacific Command CSF-536's (Combined Support Force) mapping of transportation infrastructure damage, supply routes, helicopter landing zones, field hospitals, and internal displacement camps in Indonesia; 2) the Government of Thailand's national relief operations; and 3) Mercy Corps' reconstruction projects in Indonesia, Sri Lanka, and the Maldives.

End Users of PDC's Tsunami Response Geospatial Information Service			
International and Regional Organizations	National Agencies (U.S. and International)	Non-Governmental Organizations (International and local)	Educational Institutions
Geo Information and Space Technology Development Agency (Thailand)	Belgian Ministry of Defense	Global Aid Network Canada	California Institute of Technology
International Atomic Energy Agency	Indonesian Government	Indonesian Institute for Sciences	Cornell University
International Sustainable Development Studies Institute	Indonesian Ministry of Marine Affairs	MS Swaminathan Research Foundation	Manchester Metropolitan University, UK
United Nations Food and Agricultural Organization	Indonesian Telecommunication Users Group	The World Conservation Union	Ressenlaer Polytechnic Institute
United Nations Office for the Coordination of Humanitarian Affairs	United States Army Corps of Engineers	Walhi North Sumatra	Tamil Nadu Agricultural University
United Nations Population Fund	United States Army Strategic Command	www.recoverlanka.net	University of Alaska
UNOSAT	United States Department of Agriculture		University of Durham
	United States Geological Survey		University of Edinburgh
	United States Department of State		University Paris 1 Panthéon Sorbonne
	Wildlife Institute of India		University of Peradeniya, Sri Lanka

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Mission: To provide applied information research and analysis support for the development of effective policies, institutions, programs and information products for the disaster management and humanitarian assistance communities of the Asia Pacific and beyond.