

# Coastal Digital Elevation Model (DEM) Fact Sheet

## What is a coastal DEM?

A coastal DEM depicts Earth's land surface and ocean bottom. It is made from public land and seafloor elevation data collected by federal, state and local governments, universities and private companies.

## How are they used?

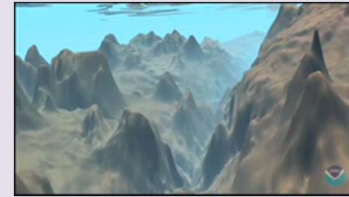
DEMs help us plan, prepare for, and better understand ocean processes. Uses include:

- real-time tsunami and storm-surge forecasting and warning
- hazard mitigation and community preparedness
- ecosystem management and habitat research
- coastal change and terrain analysis
- pollution monitoring and contaminant dispersal
- map creation and Earth visualization
- long-term planning

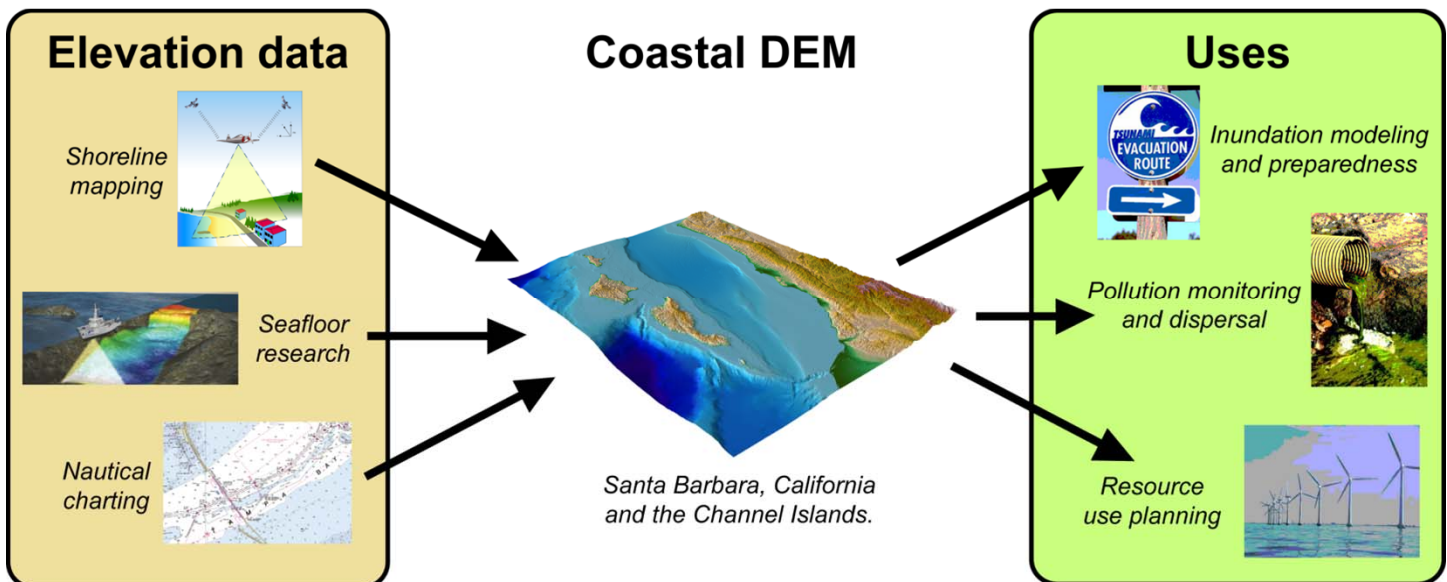
## Where to find them?

NOAA's National Geophysical Data Center (NGDC) is an international leader in coastal DEM development, and freely distributes a wide variety of DEMs online, from global to community-scale. DEMs built by other U.S. and international agencies can also be accessed via NGDC's 'DEM Discovery Portal'.

★ **Director James Cameron** recently dove to the deepest spot on Earth - Challenger Deep, in the Mariana Trench. He was able to view the ocean floor directly outside his submersible; DEMs allow the rest of us to visualize the ocean floor.



NGDC dive animation of the Mariana Trench.  
Vertical scale grossly exaggerated.  
<http://www.ngdc.noaa.gov/mgg/image/marianas.html>



Coastal DEMs integrate seafloor bathymetry and land topography to depict Earth's solid surface, and help us better understand a variety of ocean processes.

For additional information, please see: <http://www.ngdc.noaa.gov/mgg/coastal/>