



DATA & APPLICATIONS ONLINE

ASTER Global Digital Elevation Model (GDEM)

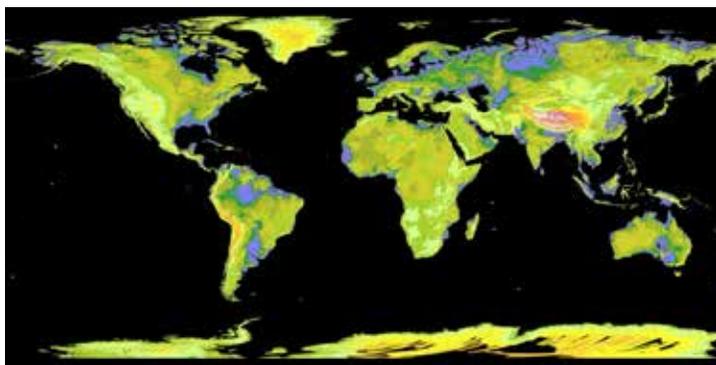
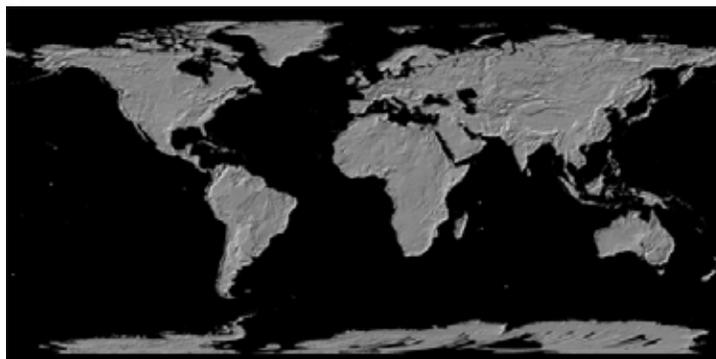
Overview

The Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) is an imaging instrument onboard NASA's Terra satellite. The ASTER mission is a cooperative program between NASA, Japan's Ministry of Economy, Trade and Industry (METI), and Japan Space Systems. The ASTER GDEM was developed jointly by NASA and METI. The ASTER GDEM data are distributed by NASA's LP DAAC at no charge to users. The data are also available from Japan's Earth Remote Sensing Division (formerly, the Earth Remote Sensing Data Analysis Center (ERSDAC)).

The ASTER Global Digital Elevation Model (GDEM) was compiled from over 1.5 million ASTER scenes acquired between March 2000 and August 2010. GDEM is based on ASTER stereoscopic data (nadir and backward-looking near-infrared channels 3A and 3B at 15m spatial resolution). A newly developed cloud-mask function was applied to remove cloudy pixels. All cloud-screened DEMs were stacked onto a global grid with a horizontal spatial resolution of 30 m, and a statistical selection algorithm was used to remove abnormal values and outliers. Enhanced accuracy was achieved by using multiple scenes from the same area. Islands as well as continental areas were included, as long as at least one percent of an ASTER scene contained land.

About the Data

- Coverage: Land surfaces between 83° N and 83° S with 22,702 1° by 1° tiles, each an array of 3,601 by 3,601 elevations on a 1 arc-second (30 m) grid
- Geographic projection: Latitude/Longitude
- Accuracy information is available at: https://lpdaac.usgs.gov/products/aster_products_table/aster_gdem_version_2_validation



Data Access

- To register to access GDEM data, go to: <https://reverb.echo.nasa.gov/reverb/users/new>
- To access the data using Global Data Explorer (GDEx), go to: <http://gdex.cr.usgs.gov/gdex/>
- ASTER data usage policies are described at: https://lpdaac.usgs.gov/products/aster_policies

References

- Sensing Our Planet, 2011, Waiting for Gojal, <https://earthdata.nasa.gov/featured-stories/featured-research/waiting-gojal>



Land Processes Distributed Active Archive Center (LP DAAC)
United States Geological Survey
Earth Resources Observation and Science (EROS) Center
Sioux Falls, South Dakota
<https://lpdaac.usgs.gov>



EOSDIS DAACs
LP DAAC is one of twelve NASA Earth Observing System Data and Information System (EOSDIS) Distributed Active Archive Centers (DAACs).

To learn more about data and tools available from EOSDIS, go to earthdata.nasa.gov.