FAQs

General subjects

Q: Are any SRTM raw data still unprocessed?
A: All X-SAR data sets have been processed. The last digital elevation model (DEM) was processed on June 22, 2004.

Q: Why are there no SRTM data for the higher N/S latitudes?
A: The shuttle orbit only allowed for recording areas between 57 ° S and 60 ° N. Areas further to the north or south were out of the radar range.

Q: Why are there gaps between the X-SAR ground tracks? (see the coverage maps)
A: The orbit of the SRTM mission was designed so that the U.S. SIR-C instrument could just barely cover the land mass between 57 ° S und 60 ° N. Because of its higher resolution, the X-SAR ground track was considerably narrower so that there were inevitable gaps between the individual tracks. Other gaps are a result of shuttle motion caused by orbit maneuvers, during which the radar instruments were not able to record.

Q: What is the difference between the DEMs from the USA and the DEMs from Germany?
A: Two independent radar instruments were used in the SRTM mission: the U.S. SIR-C and the German-Italian X-SAR.

- SIR-C records in C-band at 2.2 GHz. These DEMs are coded following the DTED-1-Standard and have a resolution of 3 arcsec. The SIR-C-DEMs are also known as “90m DEMs”.
- X-SAR records in X-band at 8.8 GHz. The coding standard in this case is DTED-2; the resolution is 1 arcsec.

Questions about the data

Q: What is an“arcsec“?
A: “arcsec“ is short for “arc second.” It is the 3600th part of a degree, amounting on the globe at middle geographic latitudes to about 25 meters. The resolution of radar instruments is measured in “arcsec“.

Q: What do DTED-1 and DTED-2 mean?
A: DTED (Digital Terrain Elevation Data) specifies the coding of elevation data and their gridding (tiling) in the form of a matrix of coordinates for each measuring point (geographic latitude and longitude and elevation above reference height). There is an overlapping of neighboring tiles because one row N or one column E has been added. The choice of reference height is either the reference ellipsoid WGS84 or mean sea level (MSL).

- The DTED-1 standard describes 3-arcsec DEMs with a tiling of 1° x 1°, which is equivalent to 1200(+1) x 1200(+1) elevation values.
- The DTED-2 standard describes 1-arcsec DEMs with a tiling of 1/4° x 1/4°, which is equivalent to 900(+1) x 900(+1) elevation values.

Q: What does coverage of a DEM tile mean?
A: The coverage [in %] is the ratio of land pixels to total pixels for each tile. Water bodies, oceans, data gaps and defective data are ignored, which reduces the coverage. This value is given in the metadata under “ContinentalCoverage.”

Q: What are Metadaten?

A: Metadata are what describes a data set. They contain all important information about the sensor, browse images, geographical coordinates, time, processing and other descriptive parameters. The metadata are included in the delivery package and can, for example, be read in EOWEB using the magnifying glass icon.

Q: How are the tar files unpacked?

A: On UNIX and LINUX platforms: gunzip <File Name> tar -xvf <File Name>. If WINZIP WINZIP is used on a WINDOWS PC, the option ”TAR file smart CR/LF conversion” must be disabled, since the binary DTED data would otherwise be destroyed

Miscellaneous

Q: Where can the SIR-C 3-arcsec DEMs (90m DEMs) be obtained?

A: These data are marketed only by the U.S. Geological Survey (USGS).
Their address is: http://srtm.usgs.gov