Downloading DEM data

Bodo Bookhagen

There exist several sources of DEMs, with different quality and purposes. One of the most useful DEMs at a global scale is the SRTM DEM, because it is openly available and has seen lots of quality control.

Radar-based DEMs

Reprocessed SRTM - NASADEM

The SRTM data have been reprocessed and merged with ICESAT data for a continuous surface model. The Geoid has been adjusted and changed (so it aligns with the TanDEM-X DEM). This reprocessing has been initiated during the MEaSUREs project. The NASADEM is described here with a more detailed Guide to NASADEM.

HydroSHEDS SRTM DEM has been adjusted and corrected for drainage networks and is available at the HydroSHEDS site. Vector files can be downloaded as well.

ALOS 2 Palsar

ALOS - PALSAR is an L-band radar. The 12.5 m historical datasets (2006-2011) processed into a high-resolution DEM is availably at the ASF Data Facility through EarthData.

```
cd AP_08149_FBD_F0610_RT1
gdaldem hillshade AP_08149_FBD_F0610_RT1.dem.tif AP_08149_FBD_F0610_RT1.dem_HS.t
#making color relief maps
echo '1000 0 0 0
1500 110 220 110
2500 240 250 160
3000 230 220 170
3500 220 220 220
4000 250 250 250' > color-relief.txt
gdaldem color-relief -of PNG AP_08149_FBD_F0610_RT1.dem.tif color-relief.txt AP_
```

TanDEM-X

Commercial data. High quality, but not available for general use.

Stereogrammetry from optical imagery

ASTER GDEM

ASTER GDEM V3 has been made publicly available in August 2019.

HMA high resolution

For some parts of the Himalaya, the (High Mountain Asia 8-meter Digital Elevation Models)[https://nsidc.org/the-drift/data-update/high-mountain-asia-8-meter-digital-elevation-models-now-available/] with (more detailed documentation)[https://nsidc.org/data/highmountainasia].

Compiled with:

```
pandoc --listings --variable papersize=a4paper \
    --variable urlcolor=blue \
    -V lang=en-GB \
    -s downloading_DEM_data.md \
    -o downloading_DEM_data.pdf
```