

Assessment of DEM quality and applications

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Abstract

1. Requirements of EDAP Task 5
2. DEMs to be controlled: SRTM / ASTER GDEM / ALOS World 3D / Copernicus DEM
3. Statistical assessment
 - 3.1 Intercomparison of DEM - On-the-fly reprojection / difference / 8-bits rendering
 - 3.2 Elevation control - ICESat LiDAR reference data
 - 3.3 Analysis of errors - global / regional / altitud-dependent / roughness-dependent
4. Use-based assessment
 - 4.1 Sentinel-1 orthorectification
 - 4.2 Envisat / MERIS FRS orthorectification
5. Towards a DEM intercalibration platform
 - 5.1 Vertical reference data - LiDAR, geodetic points, altimeter data...
 - 5.2 Vertical reference grids - DEMs, geoid data
 - 5.3 Display tools - On-the-fly param. like resampling methods, hypso.LUTs, shadowings...
 - 5.4 Interactive control tools - sharing of residual maps, dynamic control reports...
 - 5.5 Geomorphological analysis tools - Density of local extrema / saddle points, characteristic lines (ridges, thalwegs), watershed trees... dynamic comparison

Keywords - Digital Elevation Model (DEM)