OpenTopography Community Dataspace

Dataset Description: (The Geomorpho90m global dataset comprising of different geomorphometric features derived from the MERIT-Digital Elevation Model. The fully-standardised 26 geomorphometric variables consist of layers that describe the (i) rate of change across the elevation gradient, using first and second derivatives, (ii) ruggedness, and (iii) geomorphological landform classes.)

Additional Information: (Global Coverage. Full list of geomorphometry layers and file nomenclature are reported in the Amatulli at al. 2020)

Dataset Acknowledgement: (G. Amatulli, D. McInerney, T. Sethi, P. Strobl, S. Domisch. Geomorpho90m, empirical evaluation and accuracy assessment of global high-resolution geomorphometric layers. Scientific Data – Under review.)

User Contact Information: (Giuseppe Amatulli: giuseppe.amatulli@gmail.com)

Dataset keywords: (geomorphometry, geomorphology, topographic variables, Digital Elevation Model)

Survey Date: (base on SRTM3 DEM February 2000 and AW3D DEM January 2006 - April 2011)

Raster resolution: (90m – 3 arc-second)

Tiling and File Naming Scheme: The majority of users utilise the WGS84 Geographic Coordinate System, and hence we reprojected the layers from Equi7 to WGS84 Geographic Coordinate System at a 3 arc-second (~90 m) spatial grain. Here, we used the tiling system implemented in the MERIT-DEM dataset (more info at http://hydro.iis.u-tokyo.ac.jp/~yamadai/MERIT_DEM/). Each tile covers a 5 x 5 degree (6000 x 6000 cell) extent, while the tile name describes the position of the lower left pixel of the layer.

Below are two examples of the layer names under WGS84:

- slope_90M_MERIT_s30e125.tif: layer showing the slope at a 3 arc-second spatial resolution in the WGS84 stem- ming from the MERIT-DEM in Australia with the tile position s30e125.
- aspect_90M_MERIT_s30e125.tif: layer showing the aspect at the identical location of the slope_90M_MERIT_s30e125.tif.

Data Provider and Roles:

Principle Investigator: G. Amatulli

Funders: Yale University – Spatial Ecology

Contributor: D. McInerney, T. Sethi, P. Strobl, S. Domisch