Topography indicator TOP (EUSALP)

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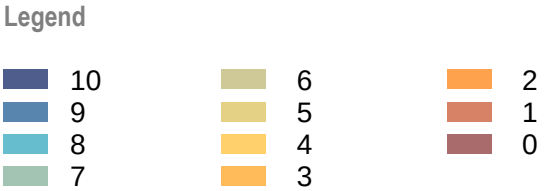
Summary Representation of ecological networks at lower altitude and the topographic influence on dispersal axes. Altitude and slope are classified from 0 to 10 and combined within the topography indicator. It is one of the indicators belonging to the continuum suitability indices CSI (consisting of LAN, POP, FRA, TOP and ENV).



1 Data

We used the ASTER Global Digital Elevation Model GDEM V2 (NASA et al., 2011) for the analysis of altitude and slope. The dataset has a resolution of 30m.

2 Processing and classification

Slope was calculated after defining the projection and spatial extent. Both slope and altitude grids were reclassified based on the classification scheme in Table 1. The topography indicator is the sum of their average values:

$$TOP = 0.5 * value_{altitude} + 0.5 * value_{slope}$$

Table 1: Classification scheme

Altitude (m a.s.l.)	Indicator Value (0-10)	Slope (°)	Indicator Value (0-10)
-1500	10	≤ 30°	10
1500-1675	9	30-40°	7
1675-1850	8	40-45°	5
1850-2025	7	> 45°	3
2025-2200	6		
2200-2375	5		
2375-2550	4		
2550-2725	3		
2725-2900	2		
> 2900	1		

3 References

NASA, METI, AIST, Japan Spacesystems, U.S./Japan ASTER Science Team 2011, ASTER Global Digital Elevation Model V002.