



Controls on post-glacial formation of deltas in Como Lake (Italy)

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We present a quantitative analysis of the morphometric properties of the deltas of Como lake in order to understand the processes controlling their post glacial formation.

Como lake (Northern Italy) has a surface of 146 km², a water volume of almost 23370 millions m³ and a 4550 km² drainage basin. Starting from a 2x2 m side scan sonar bathymetry DEM of the Como lake and from a DEM of the surrounding area, we mapped the sub lacustrine and sub aerial fans and their morphometric properties.

Then we investigated the geological setting and the morphometric properties of the drainage basins (area, mean slope, hypsometric curves, river profiles), and their correlation with delta morphology.

In the high part of the lake, the fans seem to have a well recognisable exponential curvature, while the most of the fans have a linear profile. Only two fans have a sigmoidal curvature, probably because of the small fluctuations in base level and of the absence of strong currents. In general small subaqueous fans have steep profiles, and the fans located in Como branch are in general smaller and steeper.

We found statistically poor correlations between drainage basin area, fan surface, fan volume and fan area.

Finally, we estimated the volumes of the sediment accumulated since the LGM, according to different hypothesis of glacier dynamics, and we correlated this volume with drainage basins area in order to derive denudation rates across the study area.