

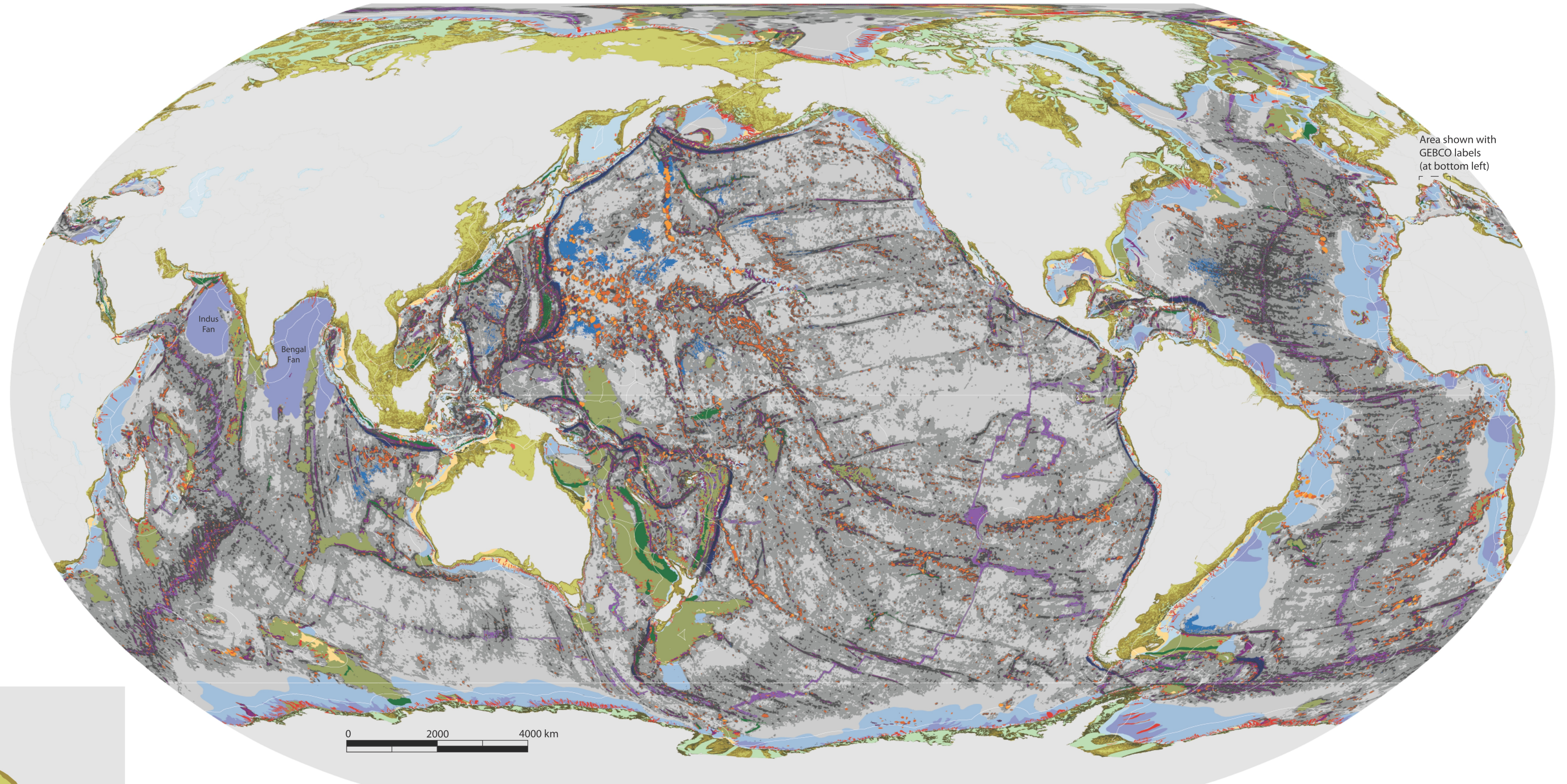
Global seafloor geomorphic features map: a polygon for every named feature in the GEBCO Gazetteer

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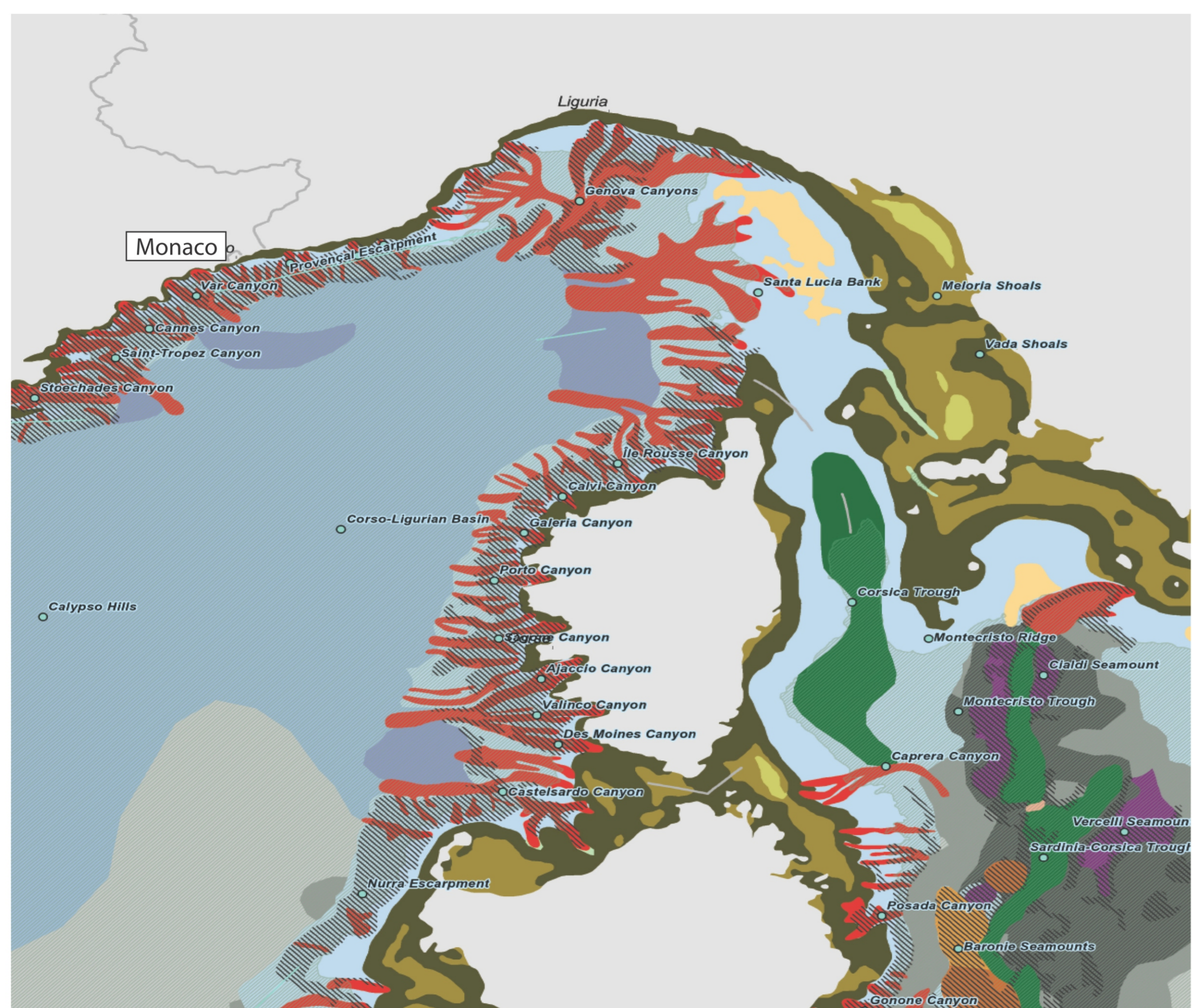
A new global seafloor geomorphic features map (GSFM) has been created based on the analysis and interpretation of the SRTM (Shuttle Radar Topography Mission) 30 arc-second (~1 km) global bathymetry grid (Harris et al., 2014). The new map includes global spatial data layers for 29 categories of geomorphic features, defined by the International Hydrographic Organisation.

During the creation of the map, the GEBCO Gazetteer of Undersea Feature names was consulted to ensure all named features were included (provided that they were resolved in the SRTM bathymetry). The GSFM contains 131,192 separate polygons compared with 3,491 named features in the gazetteer. This provides an opportunity to tie each named feature to a specific polygon.



Key:

Shelf - high profile	shelf valley
Shelf - medium profile	rift valley
Shelf - low profile	glacial trough
Slope	trough
Abyss - mountains	ridge
Abyss - hills	spreading ridge
Abyss - plains	fan/apron
Hadal	rise
canyon	terrace
guyot	trench
seamount	plateau
bridge	basin
sill	
escarpment	



Close-up view of part of the western Mediterranean Sea, showing named features extracted from the GEBCO feature name database. The GSFM polygons match many of the GEBCO features, illustrating how the two could be easily merged.

A first-pass assessment shows that there are several categories where named features could be assigned an ArcGIS polygon from the existing GSFM. This could be accomplished by a group of volunteers. The categories of features could include: canyon, guyot, seamount, bridge, sill, escarpment, shelf valley, rift valley, glacial trough, trough, ridge, spreading ridge, fan/apron, rise, terrace, trench, and plateau.

References:

Becker, J.J., Sandwell, D.T., Smith, W.H.F., and others, 2009. Global Bathymetry and Elevation Data at 30 Arc Seconds Resolution: SRTM30_PLUS. *Marine Geodesy* 32, 355-371.

Harris, P.T., MacMillan-Lawler, M., Rupp, J., Baker, E.K., 2014. Geomorphology of the oceans. *Marine Geology* 352, 4-24.

IHO-IOC, 2012. GEBCO Gazetteer of Undersea Feature Names, <http://www.ngdc.noaa.gov/gazetteer/>

