Global marine biodiversity and biogeography

Rate of discovery of marine and terrestrial species per year (top) and in total (lower plot). Models of this data predict 2 million species on Earth, including 300,000 in the oceans; but only 2/3 are currently named.

Map of 30 marine biomes distinguished by the uniqueness of their species composition.

Marine species richness from 65,000 validated species in the Ocean Biogeographic Information System adjusted for sampling effort; showing more species (red squares) in coastal and tropical areas.

Distribution of species data indicating less sampling (green squares) in deep and mid-oceans.

Map of ocean bathymetry used to calculate the sea surface and sea bed area, volume, mean and maximum depth, slope and standard deviations of depth and slope for all the seas, oceans and countries Exclusive Economic Zones.

Graph shows that 75% of the ocean area and 90% of its volume is between 3,000 – 6,000 m depth, and mean slope is highest below 7,000m.

Locations of over 68,700 seamounts >1,000 m high (yellow) and over 1 million sea hills >300 m high (not shown) predicted compared to known seamounts (in red).

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