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Submarine erosion on the Cantabrian continental margin and Biscay abyssal plain (Atlantic N Iberian)

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High resolution geophysical data allowed us mapping of the seabed and near-surface features in the Spanish (from Gijón to Bilbao) and French Cantabrian continental margins, and the adjacent Biscay abyssal plain in the framework of the MARCONI project. These data evidence submarine erosion is the dominant sedimentary process which has sculpted the main morphological features. On the continental shelf, erosion has conditioned the lack of recent sedimentation outcropping Cretaceous and Miocene deposits. The interplay between Alpine uplifting and the multiple Pliocene-Quaternary cycles of sea-level falls and lowstand stages favoured their subaereal/submarine erosion. The continental slope is characterized by a predominance of mass-wasting and bottom current erosion. The mass-wasting processes involves a great variety of types ranging from slides, slump debris, mass-flows, mass-transport (mixed features of slumping and mass-flows), and turbidity currents. The bottom current has originated the formation of a contouritic drift associated to an erosive moat. The Biscay abyssal plain also shows a great variety of erosive morpho-sedimentary features, as turbidity channels, Cap Ferret leveed-channel, scours of channel-lobe transition, mass-movements, and erosive surfaces.