



## **Coastal Human Actions on Natural Morph-dynamics around RIA of FOZ (NW Spain). Risk Analysis.**

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This work approaches the natural littoral processes and their changes induced by human activities around the Cantabrian RIA of FOZ (Galicia, NW Spain). Ria is a specific Spanish term for referring the estuary figured on the sea flooded mouth of a river valley. Although located in Galicia the RIA of FOZ is a Cantabrian Ria. The “Cantabrian rias” clearly differ from the “Galician rias” in their lower degree of tectonic complexity, in their smaller dimensions and in their more advanced current state of infilling (Diez, 1996). While Galician is a Pacific coast Cantabrian was generated as a mainly Atlantic coast. The sedimentary deposits of the Cantabrian rias are mainly from marine origin, being from fluvial origin (Asensio, 1979) just the finest components. The predominant Cantabrian littoral transport goes eastwards and, as consequence of it, the sedimentary littoral spits closing the mouths in coasts normally grow in the same sense. But there are many cases, like in the Ria of Foz, where the spit progresses in an apparent westwards atypical way. This work shows that it is due to combined wind wave phenomena of refraction, diffraction and reflection, which will be detailed. But the human activities interfere in these natural processes. Different port constructions have been made in the Ria of Foz from 1931 to 1977. Their final effects in the morph-dynamics obligate to introduce one construction for regenerate the spit in 1986. The performance, effectiveness and impact of all these port constructions are studied in detail and what are their influences in natural processes for finally applying this knowledge in risks management.

Keywords: Rias, Littoral processes, Coastal morph-dynamics, Human induced driving, Risk management.