



Morphosedimentary expression of the Giant Pock Mark structure known as the “Gran Burato” (Transitional Zone, Galicia continental margin)

Angel Enrique Lopez (1), Belén Rubio (1), Daniel Rey (1), Kais Mohamed (1), Paula Alvarez (1), Mainer Plaza-Morlote (1), Ana Bernabeu (1), Maria Druet (2), and Virginia Martins (3)

(1) Dept.de Geociencias Marinas, Facultad de Ciencias do Mar, Universidad de Vigo, Spain, (2) Instituto Geológico y Minero de España (IGME), Spain, (3) Faculdade de Geologia, Universidade do Estado do Rio de Janeiro, Brazil

This paper presents the characterization of the sedimentary environment and other sedimentological features of the Transitional Zone of the Galicia continental margin, in the vicinity of the giant pock -mark structure known as the Gran Burato. The area is characterized by marginal platforms and a horst-graben system controlled by NW-SE oriented normal faults. In this zone, three giant pockmark structures, one of them known as the Gran Burato, were reported as associated to large-scale fluid escapes. The study area is located on the Transitional Zone (TZ) of the Galicia passive continental margin, which extends from Cape Finisterre (43o N) in the North to around 40oN in the South. This margin shows a complex structural configuration, which is reflected in the seabed, owing to tectonic movements from Mesozoic rifting phases and Eocene compression (Pyrenean Orogeny). Sedimentological, geochemical and physical properties analysis and ¹⁴C AMS-dating of a 4 m piston core extracted in the vicinity of the Gran Burato complemented by multibeam and TOPAS surveys allowed characterizing of the sedimentary environment in the study area. The interpretation of these data showed that the sedimentary and tectonic evolution of the area controlled by the activity of fluid dynamics.