



## **On the evolution of Chilia distributary in Danube delta**

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Accelerated sea-level rise and anthropogenic stresses on large delta-forming rivers have led to intense pressure on deltas around the world. To address issues of maintenance and restoration natural deltaic processes need to be understood in detail. The evolution of Danube delta was studied by numerous researchers in the last century and a vast majority of these studies were driven by development concerns for navigation, resource exploration, agriculture, and fisheries. In an ongoing study on paleoenvironmental aspects of the Danube delta, we collected a series of sediment cores (1 to 6 m long) along the Chilia distributary. Sedimentological, paleontological, and geochemical analyses combined with AMS radiocarbon on in situ articulated mollusks lead us to suggest that the delta lobes that the Chilia arm built are much younger than previously thought. Furthermore, we can now ascertain that Chilia I lobe grew as a lacustrine delta, whereas Chilia II developed as a bayhead delta with a lagoon. In contrast, the modern Chilia III lobe has been building in the open Black Sea since the 18th Century.