

Geomorphology and palaeoenvironment of the Narbonne plain (France): The evolution of the deltaic landscape from the Neolithic period to the present

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The Aude river delta and adjoining wetlands are located near Narbonne (France). This area provides a prime example of relations between the evolution of coastal landscapes and anthropic - environmental interactions over millennia. During the last glacial maximum period, the Narbonne valley was deeply incised by fluvial erosion in response to the fall of relative sea level: the Neogene substratum is already more than -15 m NGF and forms, in the central part of the valley, a channel whose altitude decreases to below -25 m NGF (Ambert 1993, Verdeil 1970). With the following transgression and high-stand, the valley was drowned then progressively filled by estuarine and marine sediments. The Holocene bay-head delta has prograded seaward in this estuarine valley until the modification of the Aude river course towards its present north mouth. During Antiquity, anthropogenic transformations of this deltaic area are clearly attested. The harbor of Narbonne, a roman colony founded in 118 BC, is one of the most industrious regions during this period. The archaeological remains (docks, seawalls, warehouses, and fish-tanks) located along the lagoon raise the recurrent question of the coastlines' evolution in the Mediterranean area, with a high sediment supply and a sea-level rise context. The objective of this talk is to identify precisely the geomorphological transformations of the Narbonne shorelines and of the lower Aude valley during the Holocene period. With this aim, 8 cores were extracted in the deltaic plain. The sediment facies analysis, micropalaeontological data and the radiocarbon dating techniques allow us to reconstruct the paleogeography of the valley since 8000 cal. BP. This study, along with the archaeologists' data, provides important information to better understand the environmental context of the roman city foundation and its harbor system. This research is supported by the Labex Archimède Programme ("Investissement d'Avenir" ANR-11-LABX-0032-01) and the program "les ports antiques de Narbonne" (coord. C. Sanchez), both led by the UMR 5140 "Archéologie des Sociétés Méditerranéennes", Montpellier-Lattes.

