

PIONEERING RESEARCH ON BALEARIC ISLANDS “RISSAGUES”

Agusti Jansa*, Climent Ramis

University of the Balearic Islands, Palma de Mallorca, Spain

* agusti.jansa@gmail.com

ABSTRACT

“Rissagues” is the local name of large amplitude seiches in the Balearics, particularly in the Ciutadella (Menorca) harbour. The phenomenon is, of course, known since immemorial times, but nothing was described before 1979 regarding its origin, although people talked about “rissaga sky” or “rissaga weather”. A direct antecedent of our work, done at the end of the 1970’s and during the 1980’s, was the paper published by Fontserè (1934), on the simultaneity between large amplitude seiches in Barcelona harbour and local quick pressure oscillations. Analogous relationship was found by us in the late 1970’s, after some cases in Ciutadella. An initial description about the meteorological origin of the “rissaga” of Ciutadella was published in a book chapter (Jansa and Jansa 1979). Looking in detail to an important new event, occurred in 1981, permitted the association between “rissaga”, quick pressure oscillations, gravity waves and a particular large scale three dimensional meteorological pattern as well as a specific vertical structure of temperature and wind. Our classic work describing this is Ramis and Jansa (1983). The mentioned association permitted the establishment of an experimental “rissaga” forecasting service at the national meteorological service (then named “Instituto Nacional de Meteorología”). The forecasting service was established after a catastrophic event occurred on 1984, with an estimated tide height of around three meters. The rissaga of 1984 provided additional and new information: the main “rissaga” oscillation was roughly simultaneous with the arrival to Ciutadella of a singular pressure jump associated to an atmospheric convective system. In a paper on this event, Jansa (1986), highlighted the probable existence of the amplification (by Proudman resonance) of the marine response to the atmospheric forcing before the final resonant amplification in the harbour.