HS2.13 - DECADAL FLOOD RISK CHANGES

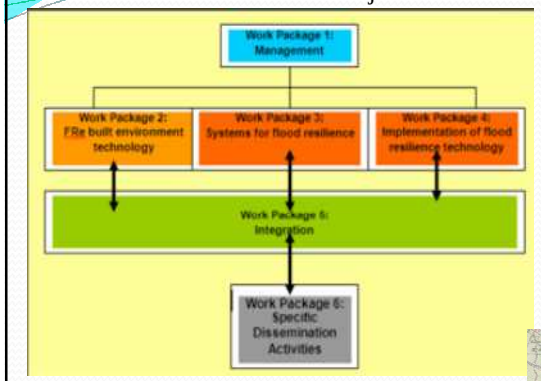
EGU 2013 *COASTAL FLOODS AND DECADAL CHANGES: THE CLIMATE FACTOR*

J.J. Diez Gonzalez [(1)], J.M. Silvestre[(2)]

[(1)] Universidad Politécnica de Madrid – Spain. (jjdiez@caminos.upm.es;) – (2) (jmsilvestre@gmail.com)

COST ACTION E0901 FLOOD FREQ CONFERENCE"ADVANCED METHODS FOR FLOOD ESTIMATION IN A VARIABLE AND CHANGING ENVIRONMENT

SMARTeST Project

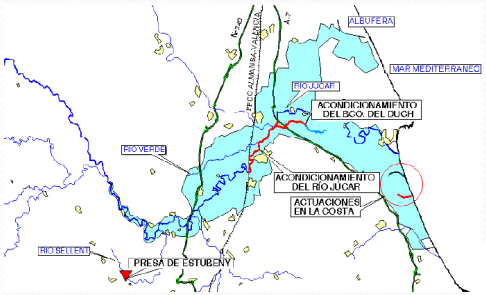


A MORE COMPREHENSIVE APPROACH

- INTRODUCTION: IMPROVING FLOOD ESTIMATION
- WHY/HOW IMPROVING F. F. ESTIMATION
- STATISTIC ANALISYS
- THE QUESTION OF STATIONARIETY
- HYDROLOGY, CLIMATE AND THE "THERMAL MACHINE".
- RISK (RESILIENCE) MANAGEMENT TARGETS

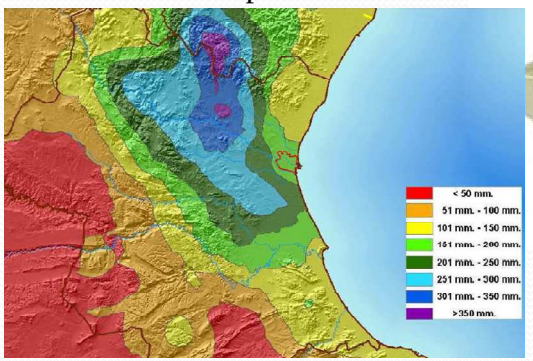
Deeper knowledge: More Field Work & Model contrast

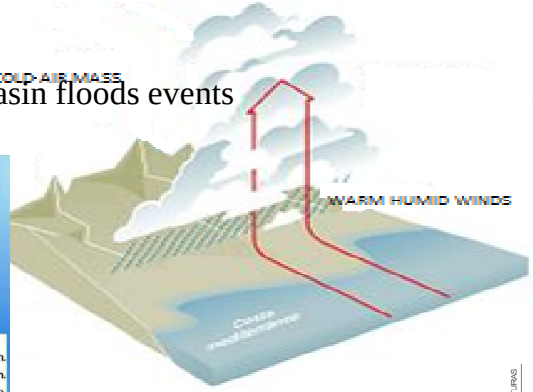
Longer Series and Wider Spatial Scales of Data



Turia/Jucar River basin floods events

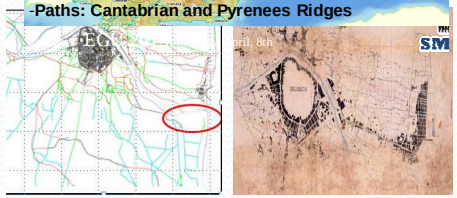
The Cold Drop Phenomenon

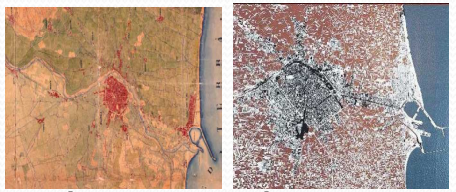




Decadal perceptions must be considered modulated by obvious larger climate cycles and trends

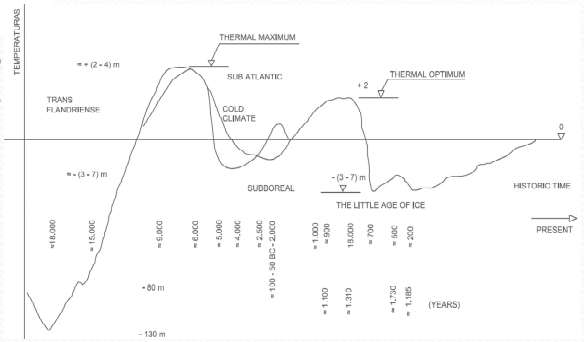
1088, 1321,1328, 1340, 1358, 1406, 1427, 1475, 1476, 1487,1517, 1540, 1546, 1555, 1557, 1577, 1581, **1589**,1590, 1610, 1651, 1672, 1731, 1737, 1766, 1770,**1776**, 1783, **1793**, 1845, 1860, 1864, 1870, **1897,1949, 1957, 1982** and 2000

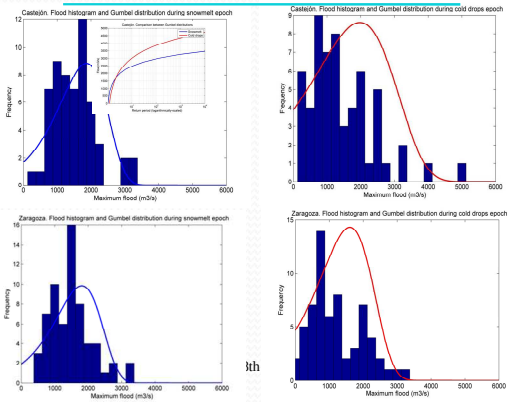




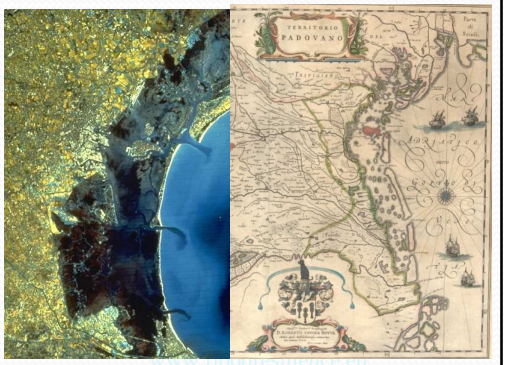
Valencia 1883 Valencia y Grao. 1930

evolution of sea level/climate





CONCLUSIONS

- Coastal and Inland Floods may obey to different genesis with different sources, paths and boundary conditions, the last mainly related to the basis levels.
- Most of flood events are deeply characterized by maritime climate conditions, hence to observe the hydrologic phenomena in a holistic way.
- Statistical approach requires previous accurate sampling based on identification and separation of populations of the events.
- Much greater historic and holistic analysis must be developed in this field for more accurate results

coastal subsidence – Manhattan/Venice