



NEXTDATA WP - 1.5

Paleoclimatic data from marine sediments



Gravity core systems

Gravity core system



Gravity core system
SW-104





NextData «Grand Challenge»

- (1) La costruzione di un sistema di archivi e portali per la distribuzione dei dati climatici e ambientali da regioni montane;
- *(2) la ricostruzione del clima in Italia negli ultimi millenni, con particolare attenzione per l'ultimo secolo;*
- (3) la produzione di un insieme di disaggregazioni ad alta risoluzione (downscaling) di scenari climatici per l'Italia per i prossimi decenni.

Paleoproxies in marine sediments

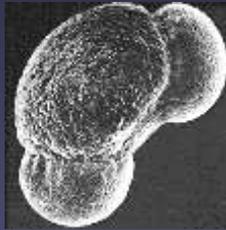
Planktonic foraminifera



Calcareous nannofossils



Pollens



Dinoflagellates



Paleothermometers

SST-stable isotope $\delta^{18}\text{O}$

SST-Mg/Ca

SST-Alkenons

High-resolution Chronology

Radionuclides ^{210}Pb e ^{137}Cs - last 150 years

AMS ^{14}C planktonic foraminifera

Tefrochronology

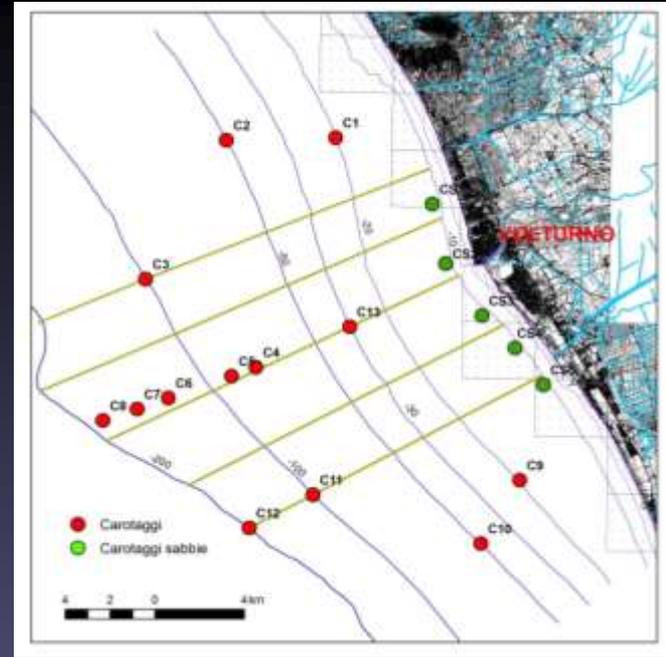
Secular variation of magnetic field



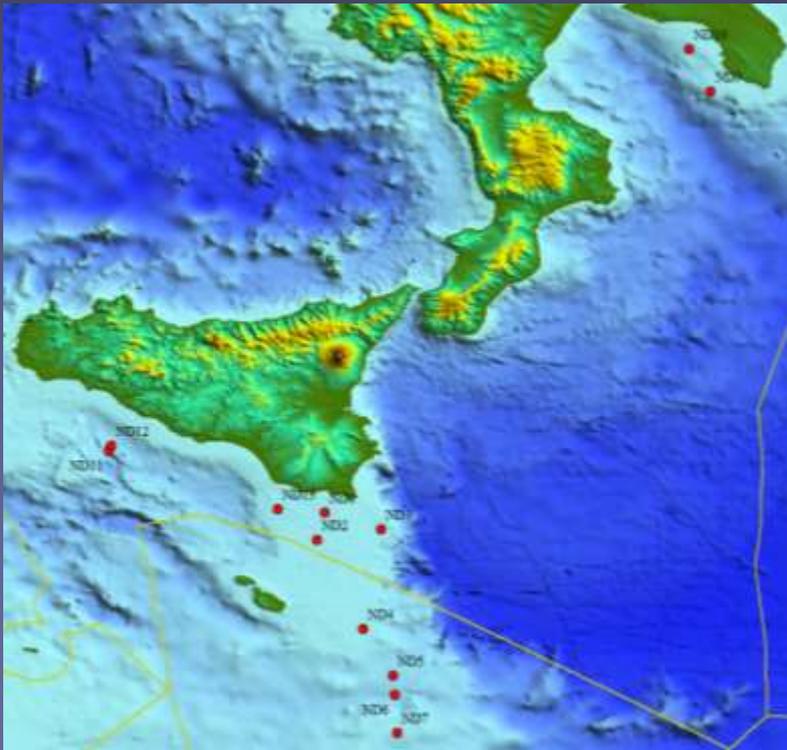
Aree di Interesse di NextData



Salerno Gulf

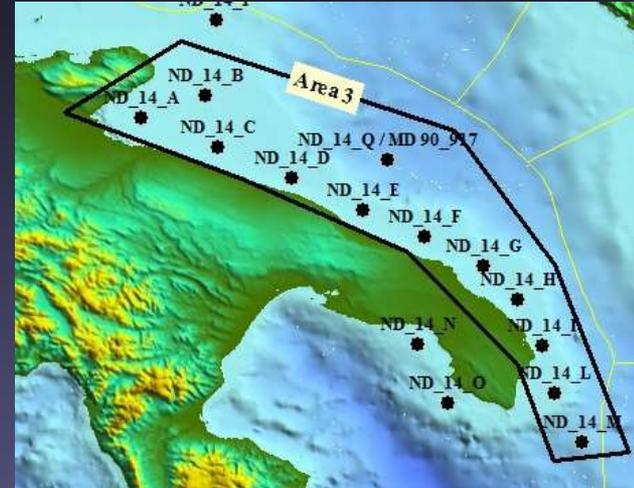
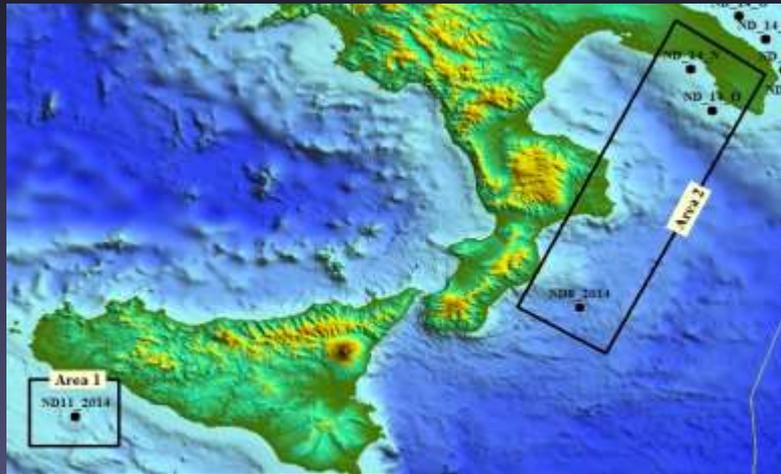


Oceanographic Cruise NextData 2012 – Gulf of Gaeta

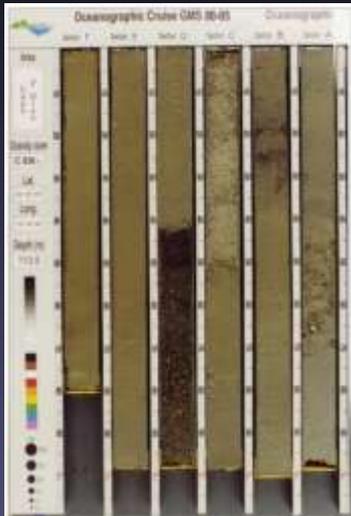


Oceanographic Cruise NextData 2012 – Sicily Channel and Taranto Gulf

Marine cores Oceanographic Cruise NextData 2014 – Gulf of Taranto and Adriatic Sea



Le carote marine



C90 composita
(Golfi di Salerno)



C5 composita
(Golfo di Gaeta)



C6 (Golfo di Gaeta)

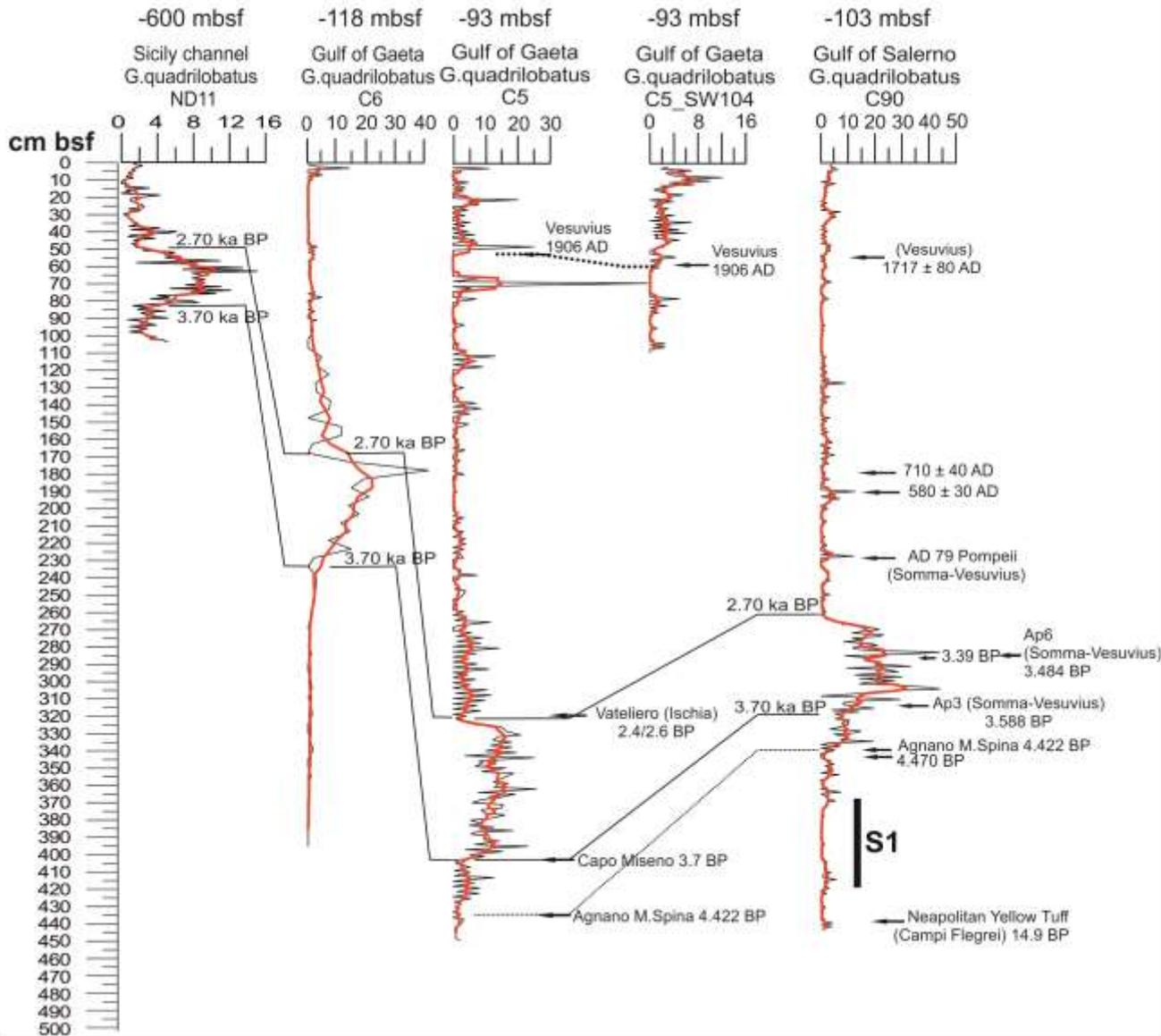


ND 11 (Canale di Sicilia)

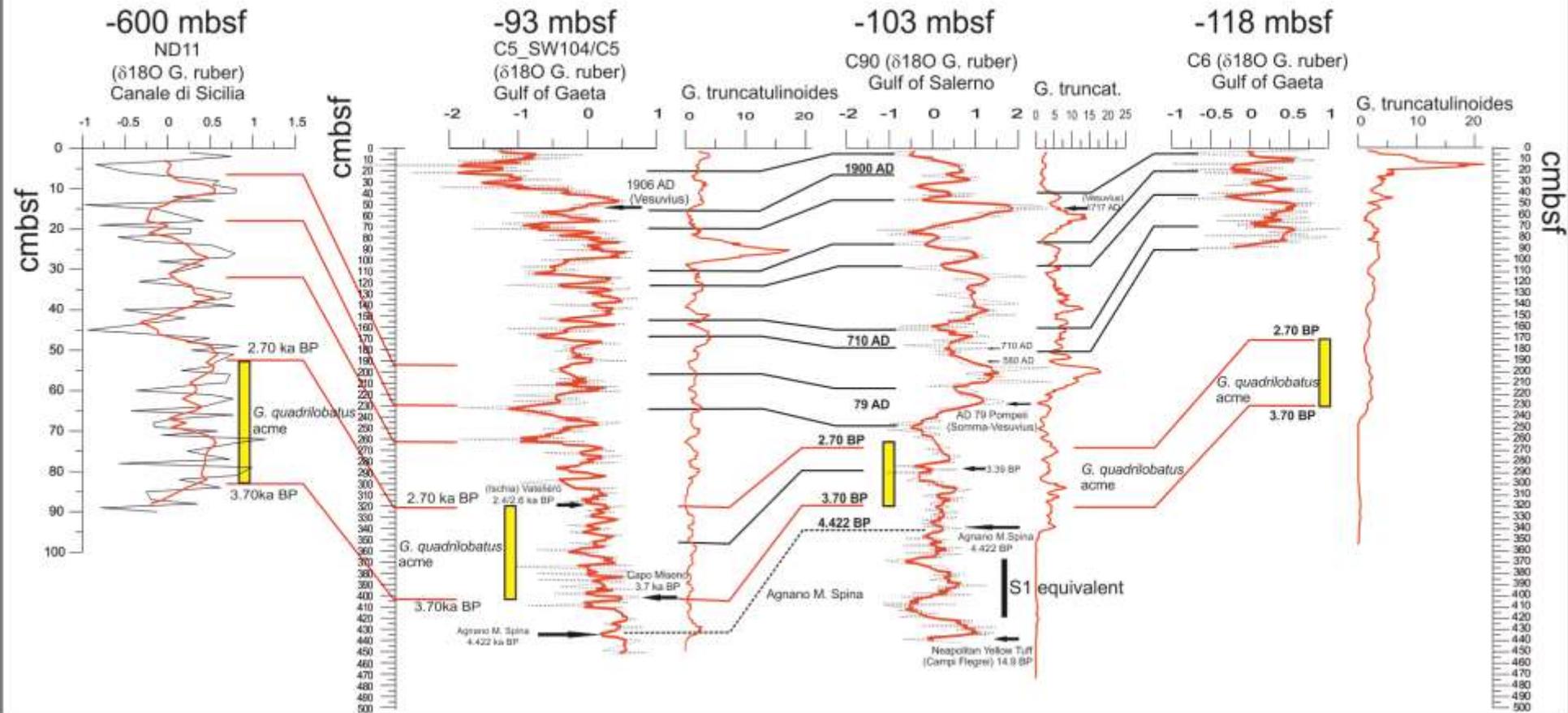
NextData «Grand Challenge»

- *(2) la ricostruzione del clima in Italia negli ultimi millenni, con particolare attenzione per l'ultimo secolo*

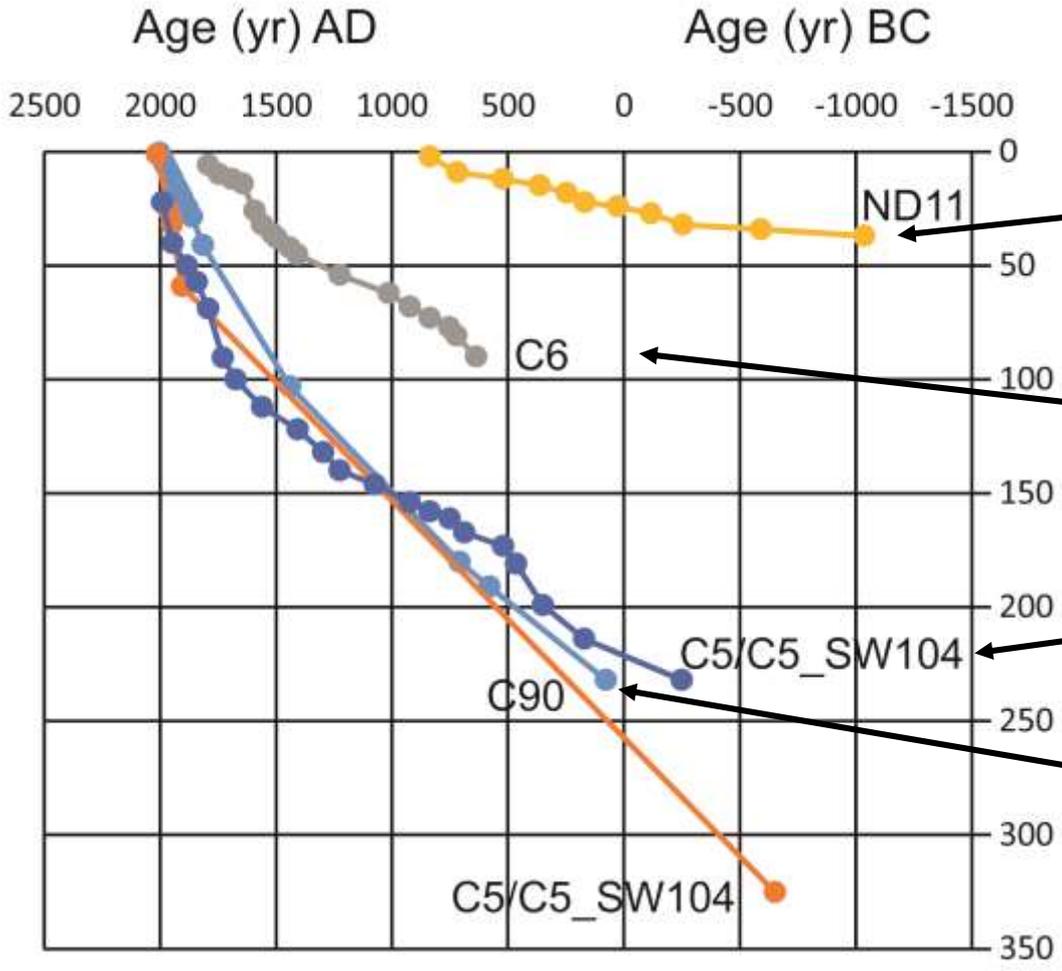
Correlazione tra le carote



Correlazione tra le carote (Golfo di Gaeta, Golfo di Salerno, Canale di Sicilia) su base isotopica



Tassi di sedimentazione (Golfo di Gaeta-Golfo di Salerno-Canale di Sicilia)



Mean Sediment.Rate

2,5cm/100yr (ND11)

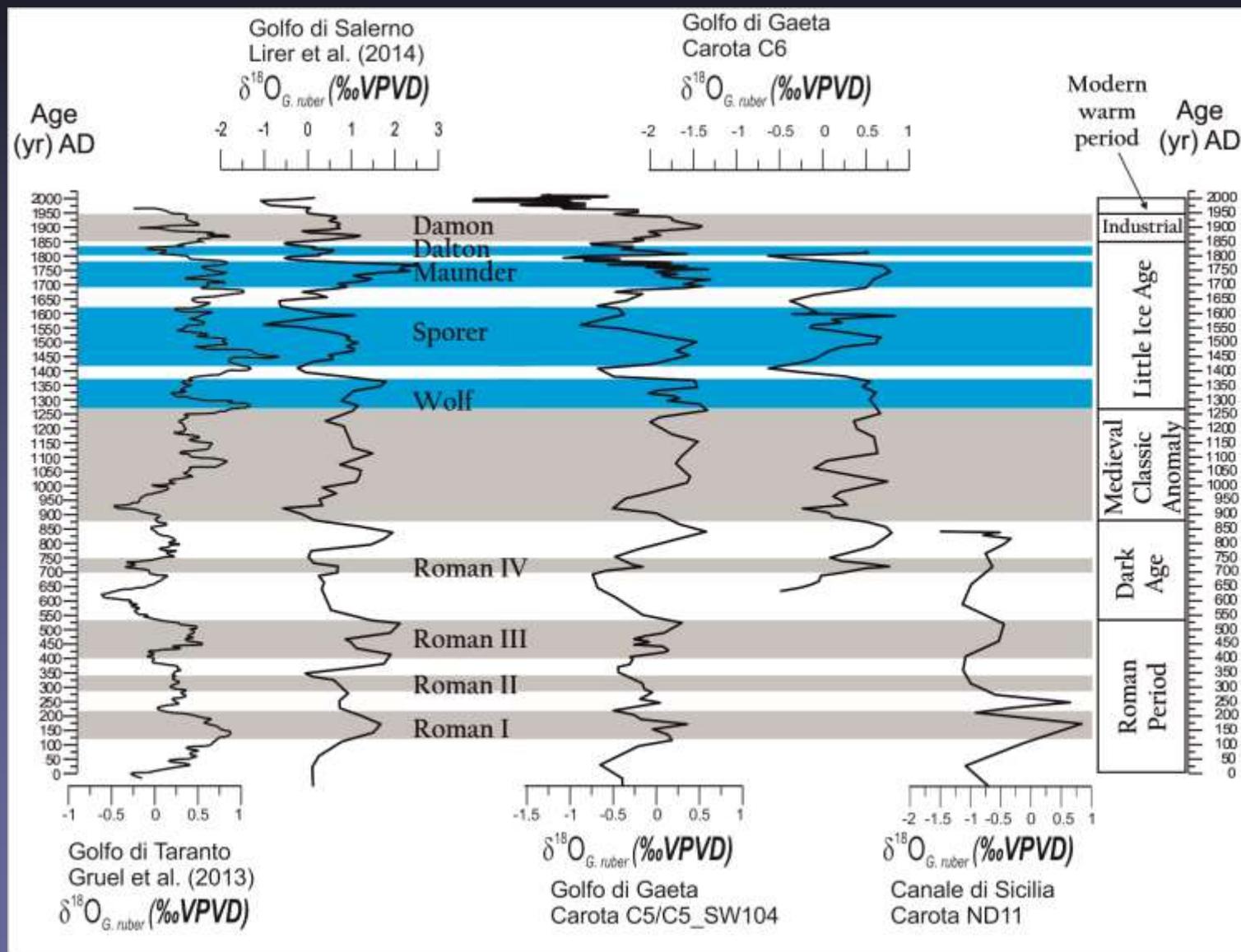
9cm/100yr (C6)

13cm/100yr
(C5/C5_SW104)

18cm/100yr (C90)

Eventi climatici ultimi 2000 anni

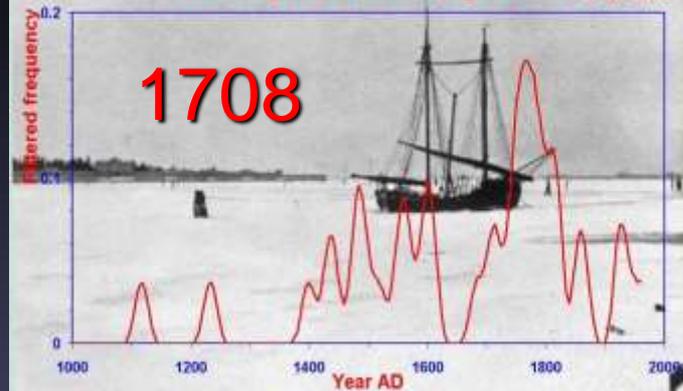
(Golfo di Taranto-Golfo di Gaeta-Golfo di Salerno-Canale di Sicilia)



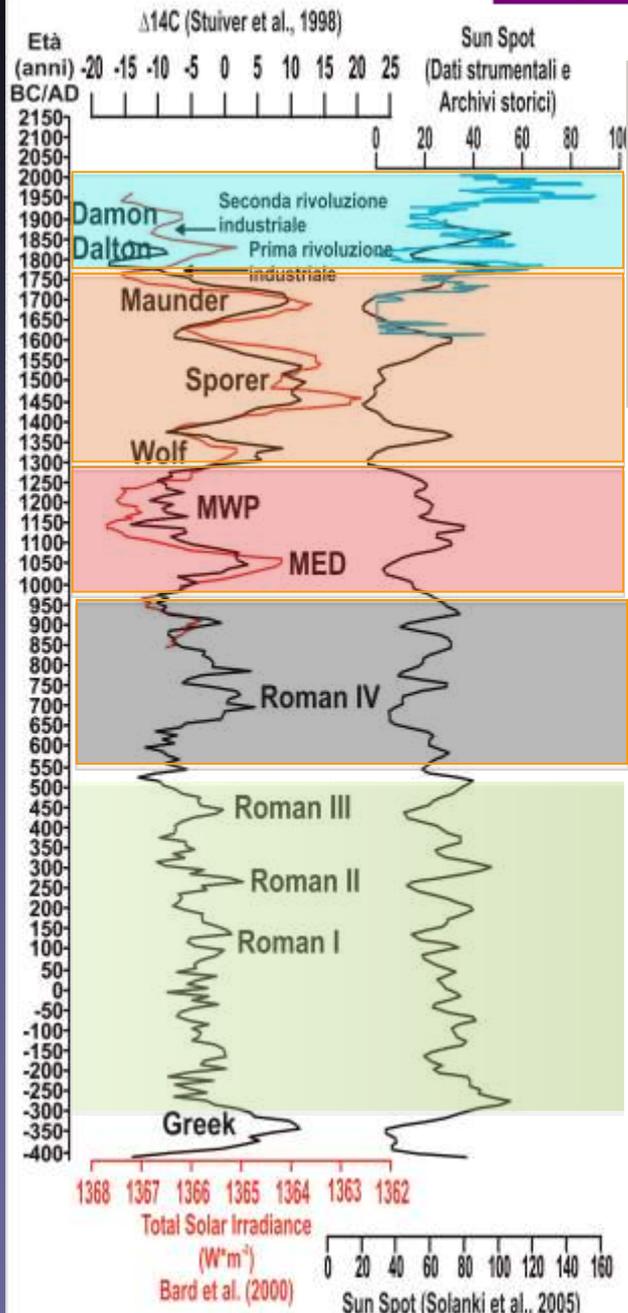
Gli ultimi 2000 anni

Freezing of the Venice Lagoon CNR-ISAC

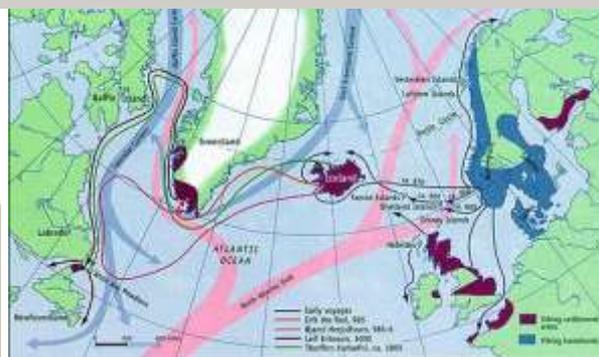
1708



Hondius, 1677



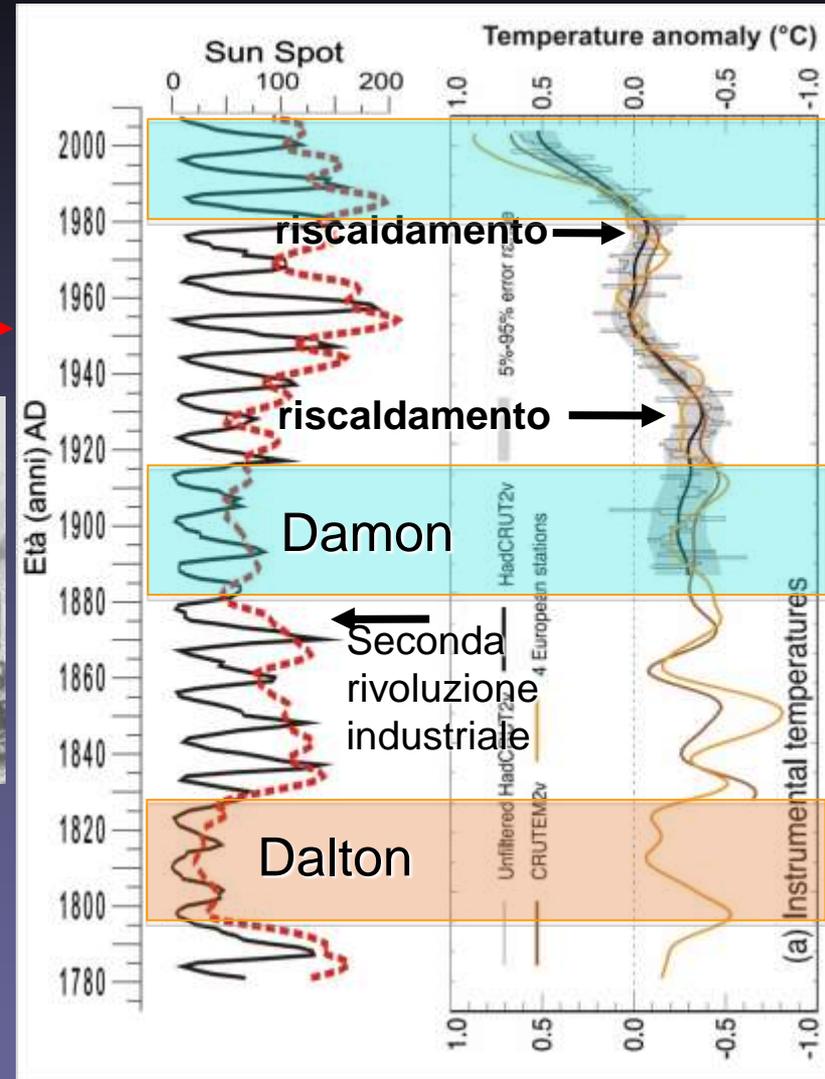
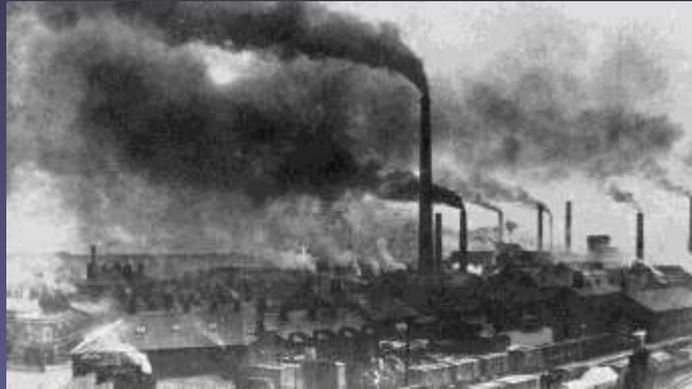
Fabris, 1773



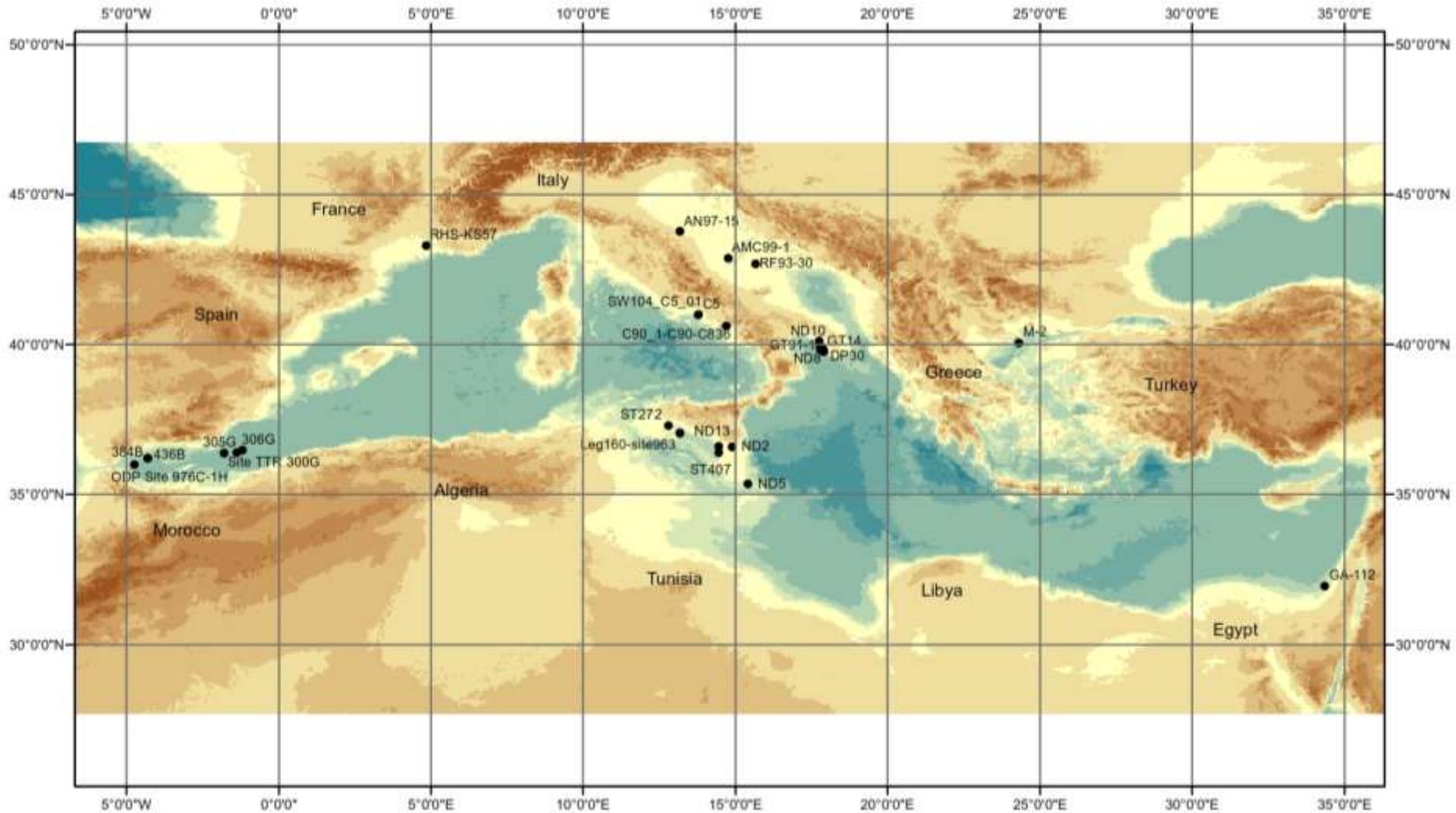
Gli ultimi 200 anni- cosa sappiamo scala globale

Riscaldamento globale

Antropocene



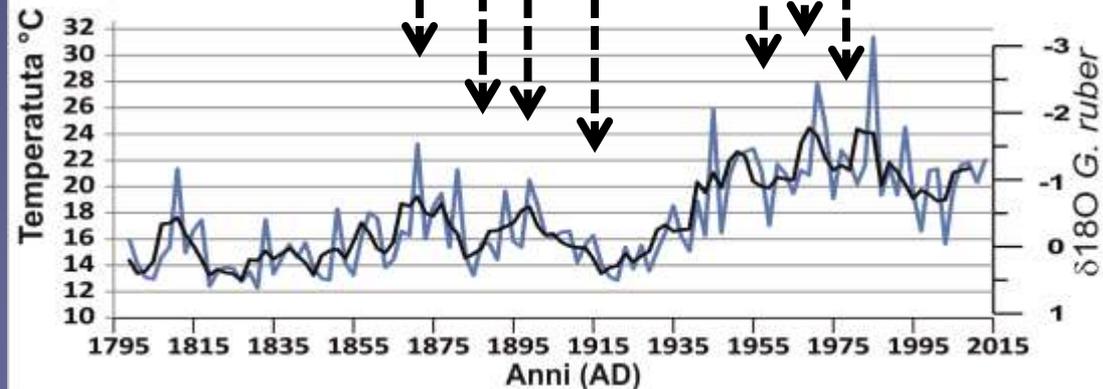
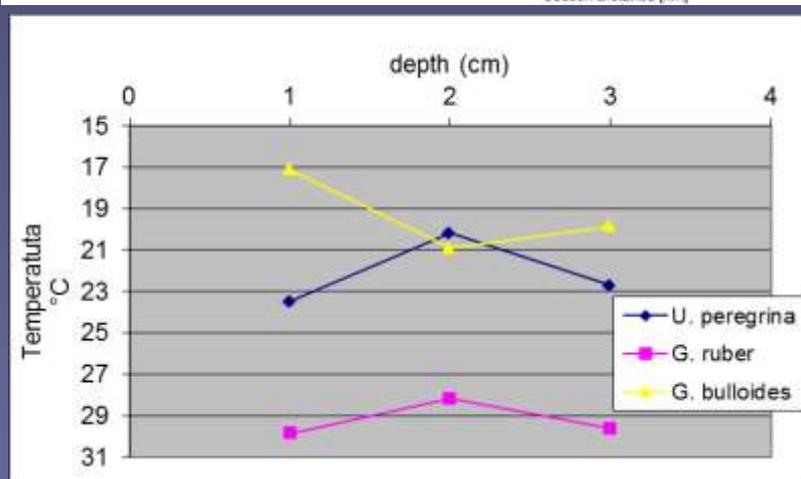
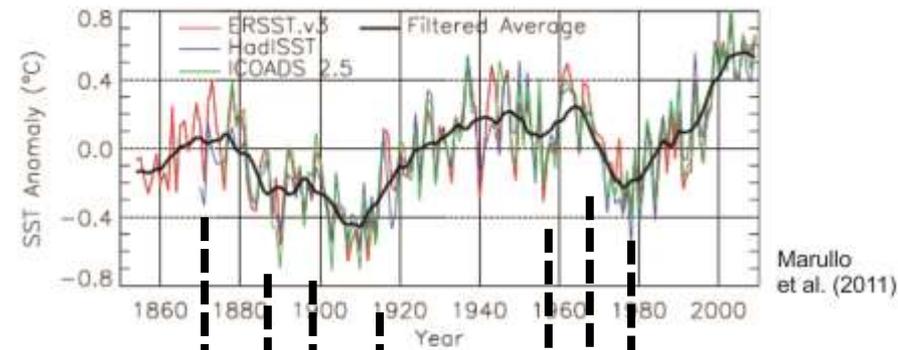
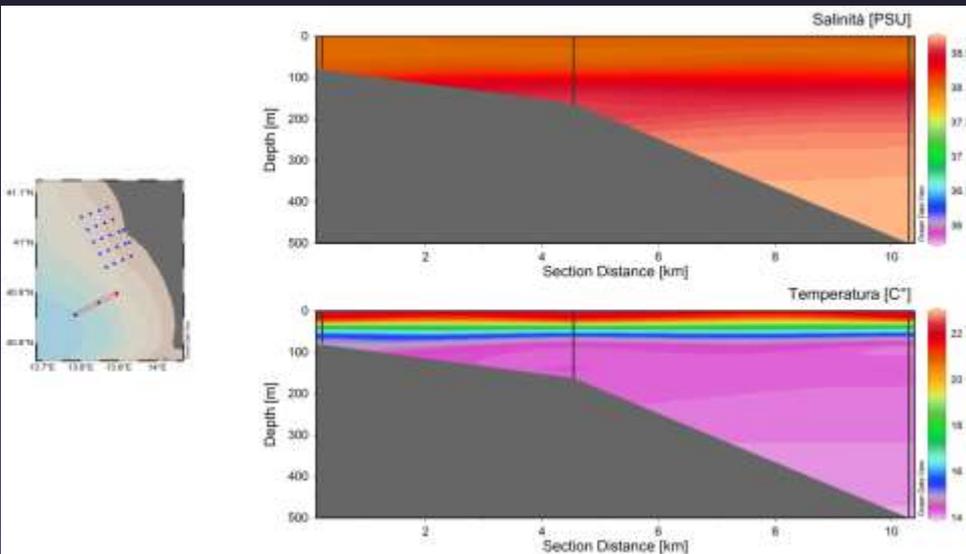
The study area



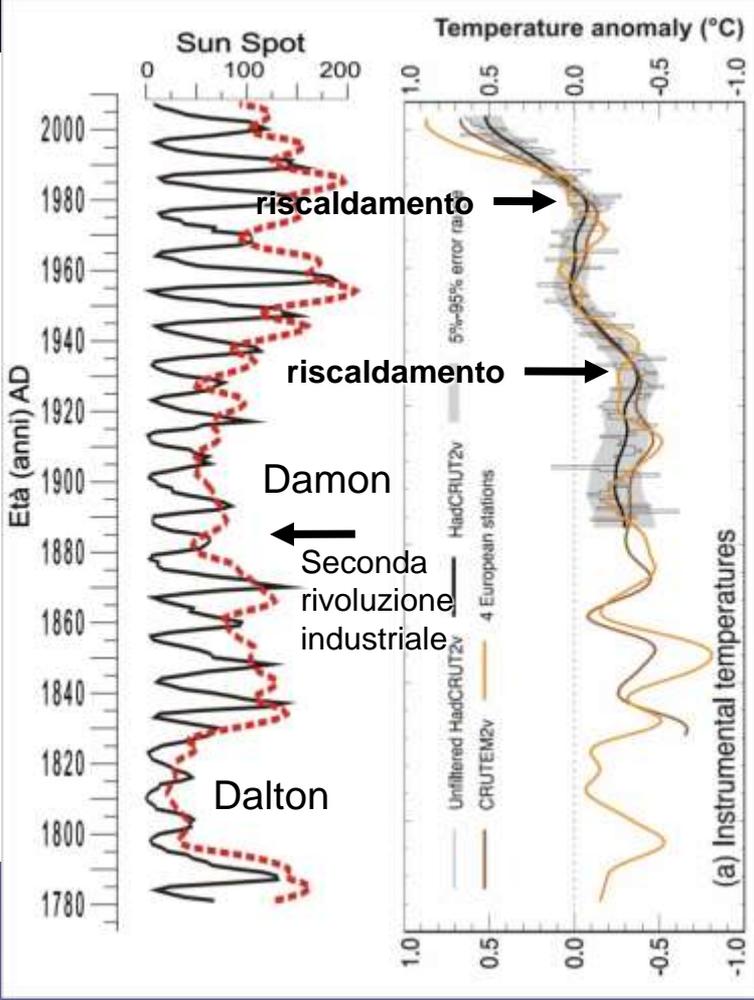
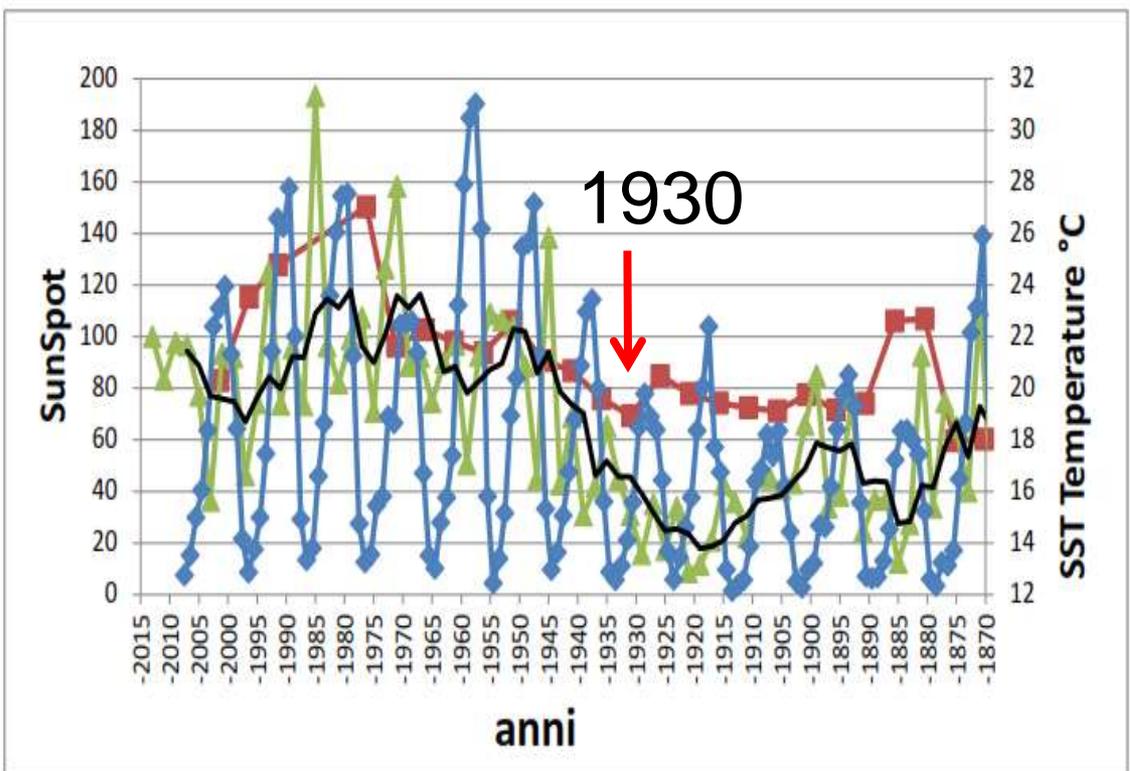
Gulf of Gaeta Core C5_SW104

SST reconstructed from $\delta^{18}\text{O}$ *Globigerinoides ruber*

Temperature & Salinity
October 2013
from -80 a – 500 mbsf



Comparison between SST from Salerno and Gaeta gulfs and Sun Spot numbers and Sun Spot numbers

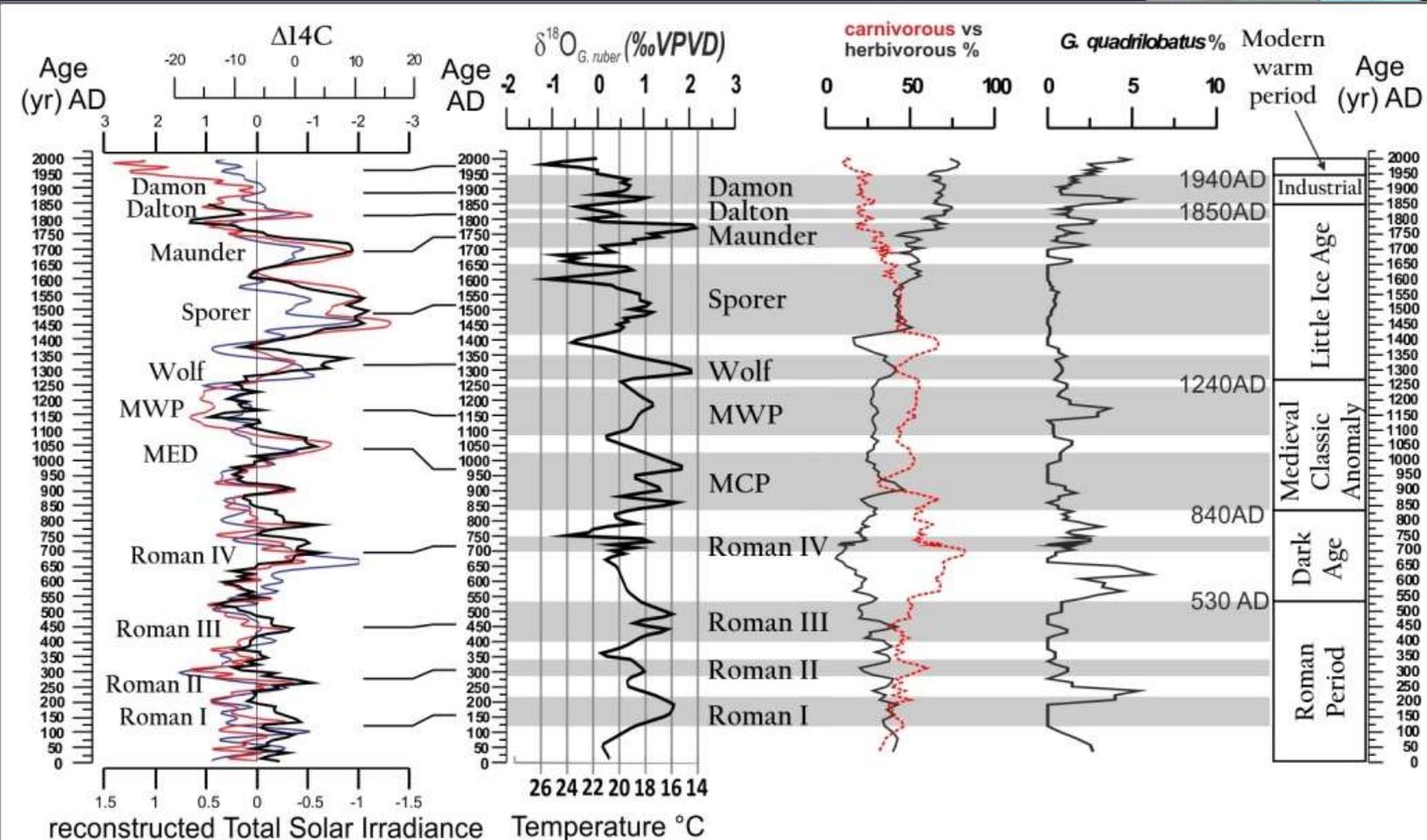


Blu - Sun spot
 Red - SST Gulf of Salerno
 Green - SST Gulf of Gaeta, Black moving average

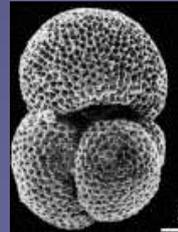
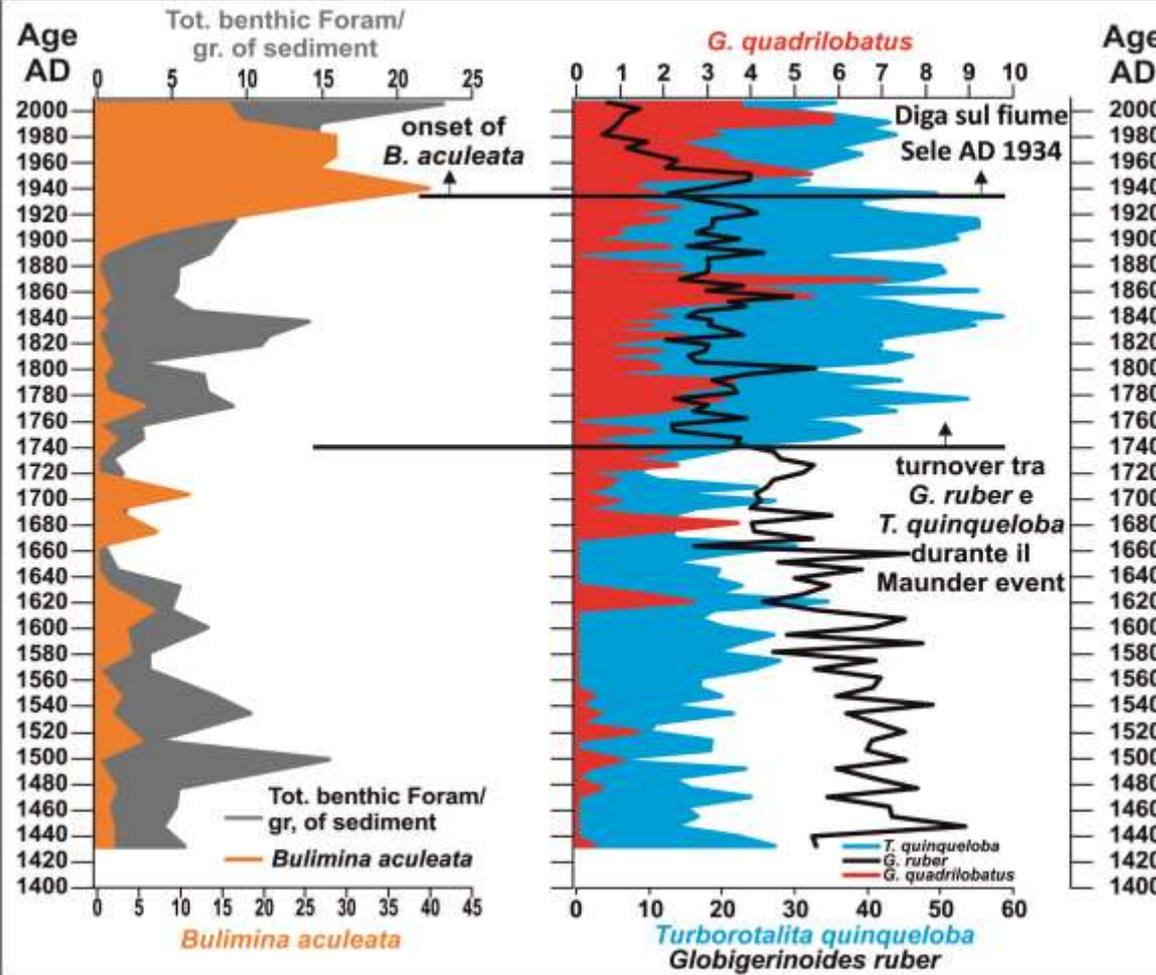
Tirreno meridionale - Golfo di Salerno - ultimi 2000 anni



Lirer et al. (accettato per la stampa)



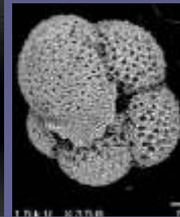
Gulf of Salerno last 600 anni



G. quadrilobatus



G. ruber



T. quinqueloba

Golfo di Gaeta Tirreno centrale -SW_104-Core C5



Foraminiferi
planctonici



Polline



Nannofossili
Calcarei

