

# Erosione costiera e cambiamento climatico Capire il passato > guardare al futuro

Conferenza Finale del Progetto MAREGOT Martedì 26 e Venerdì 29 Maggio 2020

125'000 anni di variabilità climatica lungo le coste del Mediterraneo. Problemi aperti e prospettive nel contesto del cambiamento climatico attuale



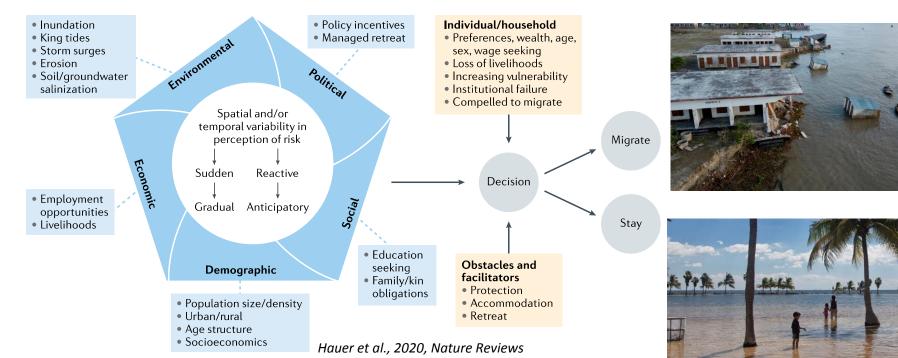
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## Cambiamento climatico e aree costiere

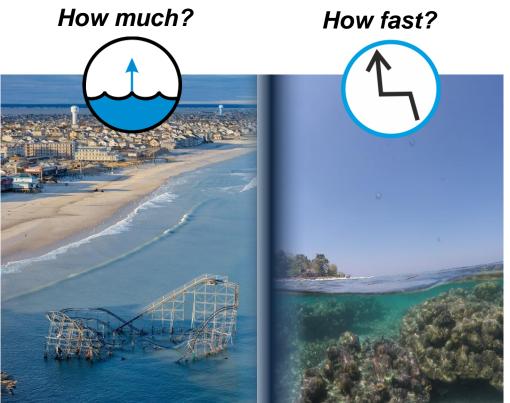






Le domande ambientali chiave per interpretare gli impatti dei cambiamenti climatici sulla costa

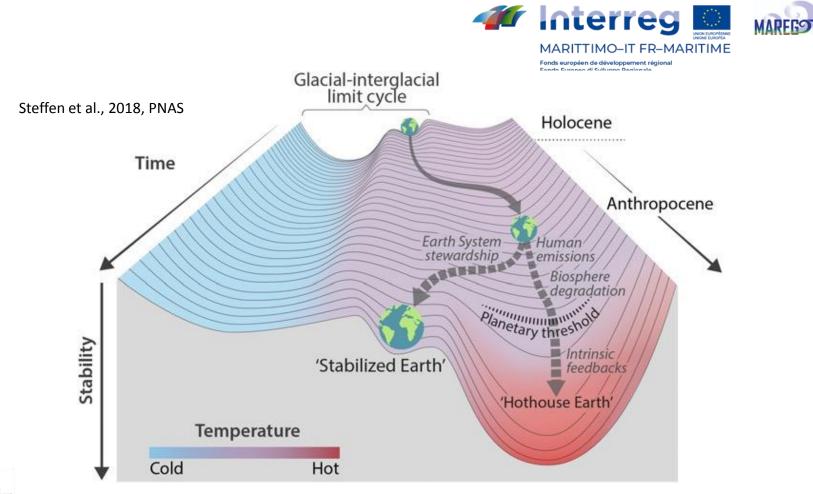






# Rovere, 20

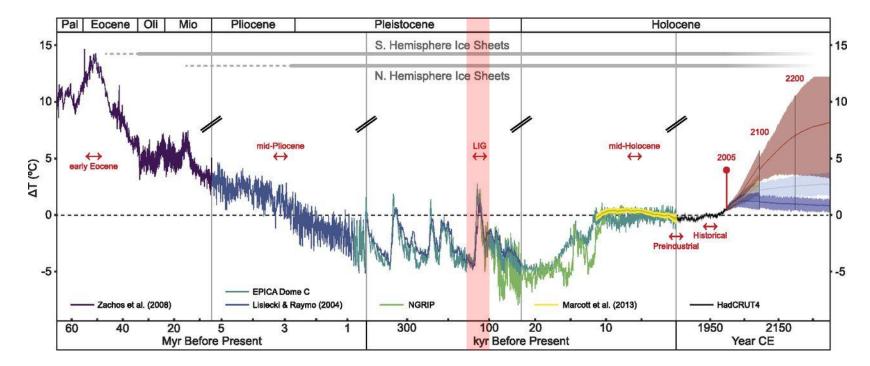
Rovere, 2020: Sea level and extreme waves in a past warmer world. ERC Warmcoast







Burke et al., 2018 PNAS



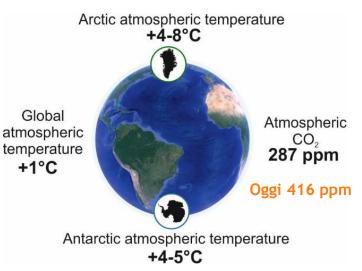








## → (ca. +8.0 m)

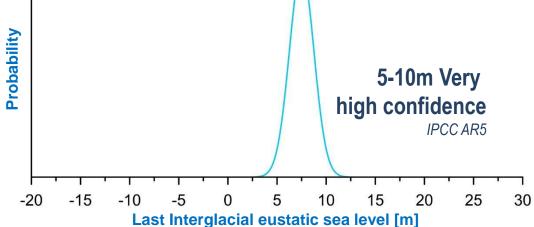


Rovere, 2020: Sea level and extreme waves in a past warmer world. ERC Warmcoast

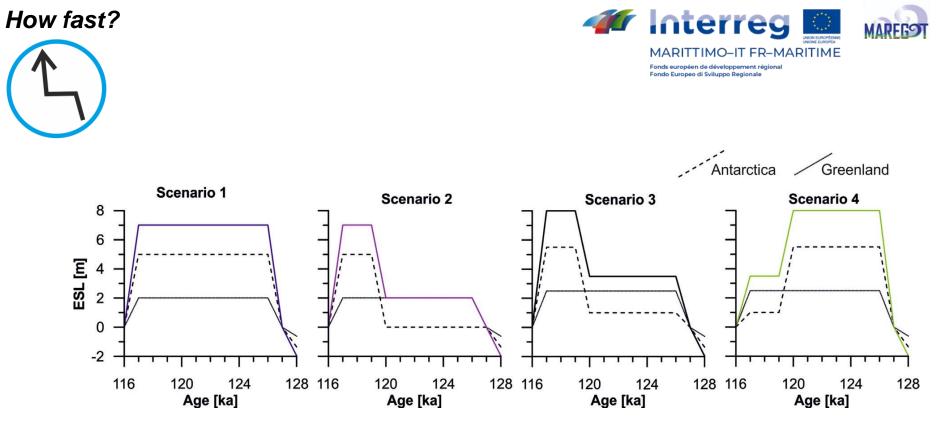


How much?





Abbiamo attualmente un quadro piuttosto chiaro di quali siano stati i picchi del livello del mare nell'ultimo interglaciale in molte zone del mondo

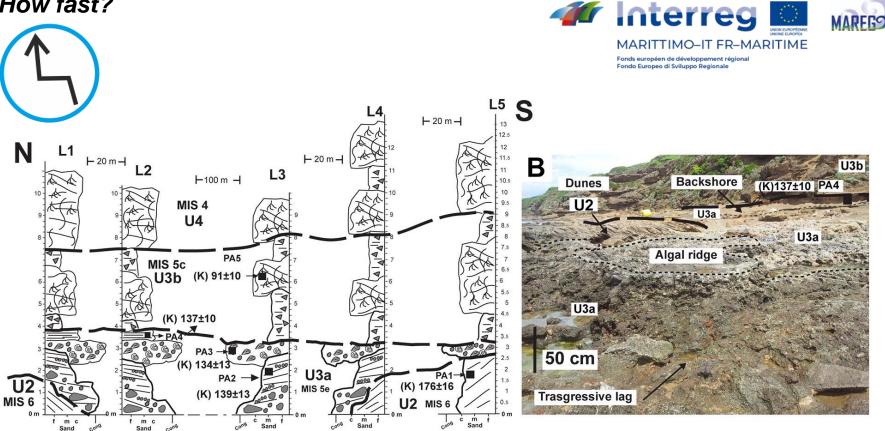


Stocchi, Vacchi et al., 2018, Quat. Sc. Rev.



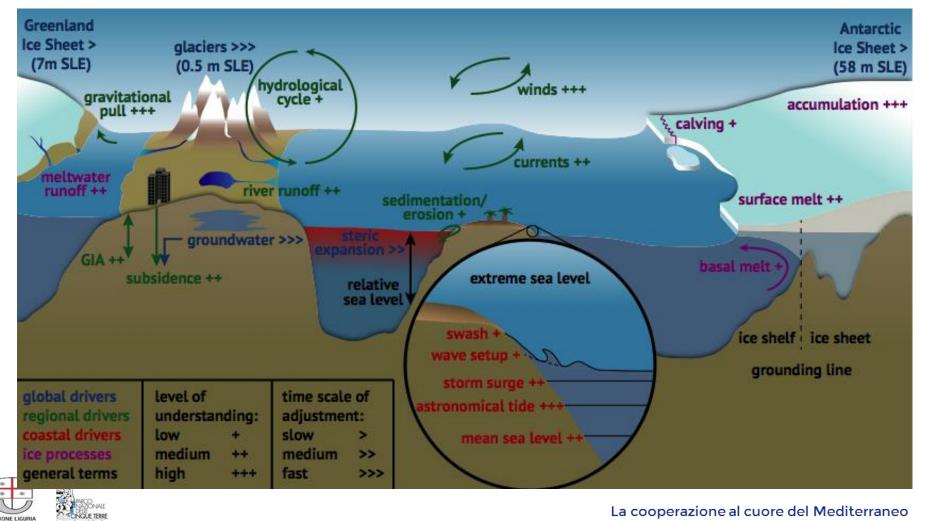
La cooperazione al cuore del Mediterraneo





Sechi et al., 2020 Sed.Geo



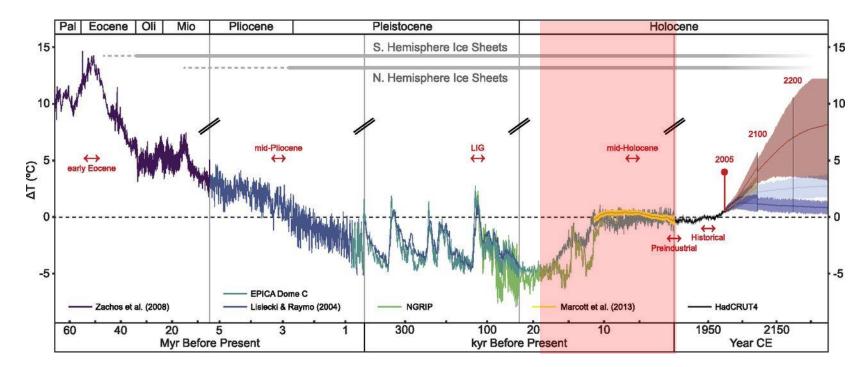


#### La cooperazione al cuore del Mediterraneo

REGIONE LIGURIA

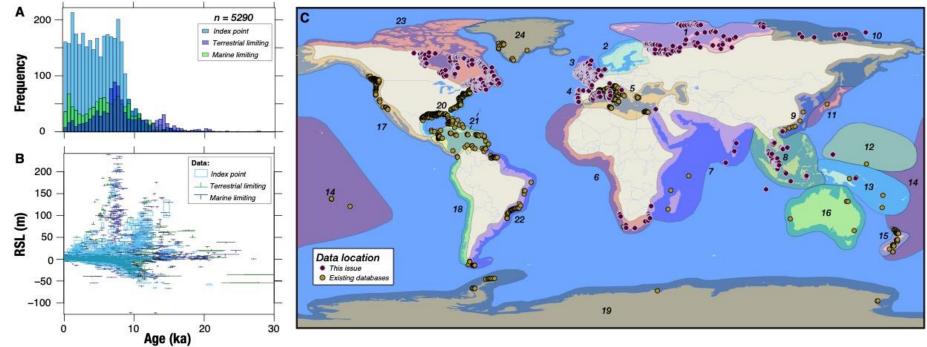


Burke et al., 2018 PNAS









N.S. Khan, B.P. Horton, S.E. Engelhart, A. Rovere, M. Vacchi, E. Ashe, T.E. Törnqvist, A. Dutton, M.P. Hijma, I. Shennan Inception of a global atlas of sea levels since the Last Glacial Maximum, Quat. Sci. Rev. 2019

Holsea project: INQUA CMP



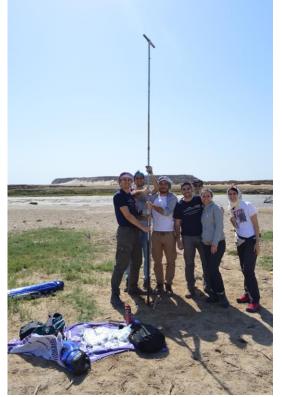
Un'ampia gamma di indicatori paleoambientali che possono darci informazioni sull'evoluzione del livello del mare







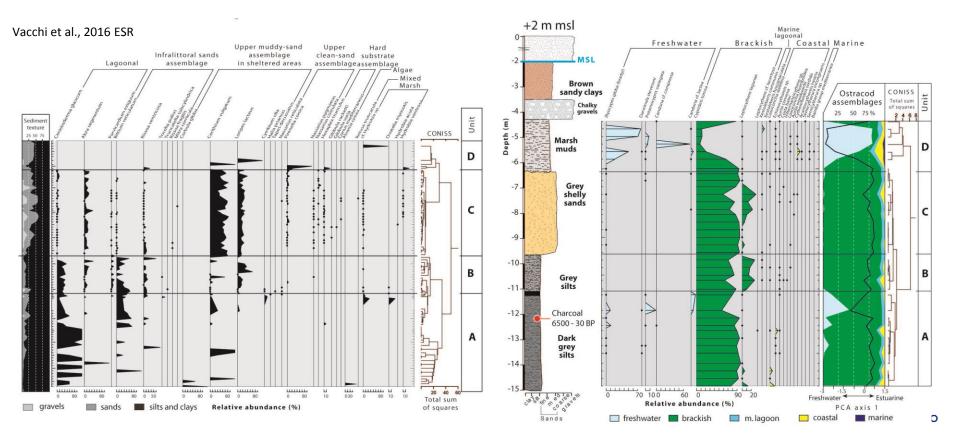






# Ricostruzioni dei paleo-ambienti costieri utilizzando associazioni fossili di micro e macro fauna (e pollini se possibile)

bile)





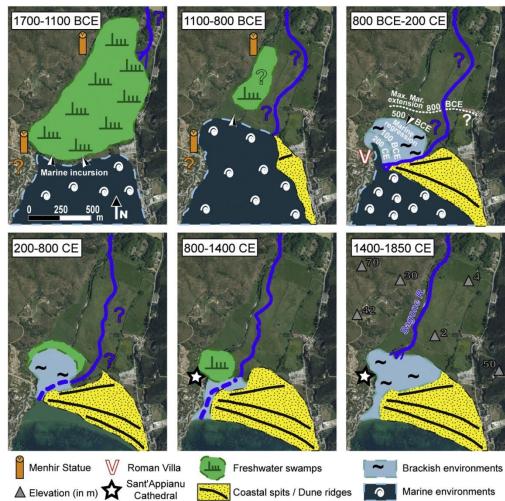


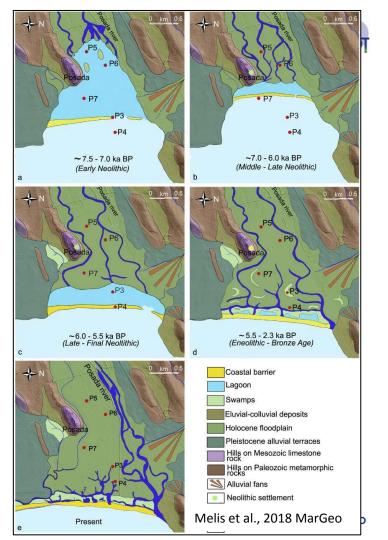
Modificazioni del paleo-paesaggio costiero legate alla risalita del livello del mare

Karkani et al., 2017 Mar.Geo

one al cuore del Mediterraneo

#### Ghilardi et al., 2017 JASRep



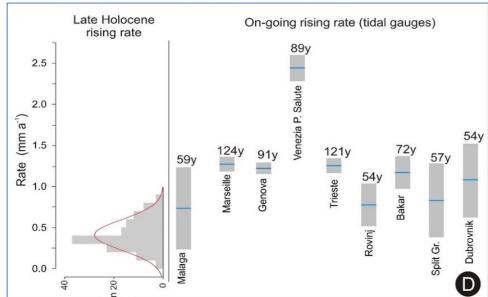


85 scientists from 20 countries of the Network of Mediterranean Experts on Climate and Environmental Change (MedECC) present:

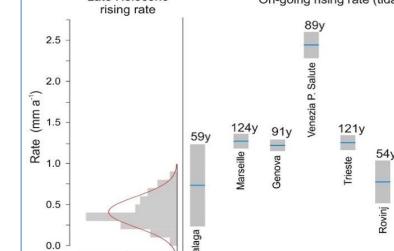
#### SCIENTIFIC ASSESSMENT REPORT ABOUT ATE AND ENVIRONMENTAL CHANGE IN THE MEDITERRANEAN



## Previsioni future?



Vacchi et al., 2016 ESR



### WATER RESOURCES O

Within 20 years, 250+ million people will be classified as 'water-poor'

FOOD SECURITY O Food demand is set to

increase as yields of crops,

90% of commercial fish stocks are already overfished, with the average

to shrink by up to half by 2050

maximum body weight of fish expected

fish and livestock decline

st

Fresh water availability is to decrease by up to 15% among the largest decreases in the world

#### SEA LEVEL O

Sea level rises may exceed 1 metre by 2100, impacting 1/3 OF THE REGION'S population

Half of the 20 global cities set to suffer most from sea level rises by 2050 are in the Mediterranean

#### ECOSYSTEMS O

The Mediterranean basin is ONE OF THE MOST PROMINENT hotspots of climate and environmental change

700+ non-indigenous animal species recorded due to warmer conditions

Increasing water acidification causes mass deaths of marine species

Mega fires have destroyed record areas of forest due to climate change

#### O HEALTH AND Increase in frequency, intensity and duration of HEAT WAVES imply significant health risks for vulnerable populations.

Increasing frequency in droughts since the 1950s has played a significant role in the current regional crisis

The Mediterranean

**REGION IS WARMING** 

than the global average

by 2040 with current policies

Paris Agreement's target of 1.5°C

SECURITY

especially in cities

20% faster

Regional temperature

increase of

Conflicts concerning limited natural resources may increase large-scale human migrations







# Grazie per l'attenzione! *E grazie a tutti i collaboratori*



