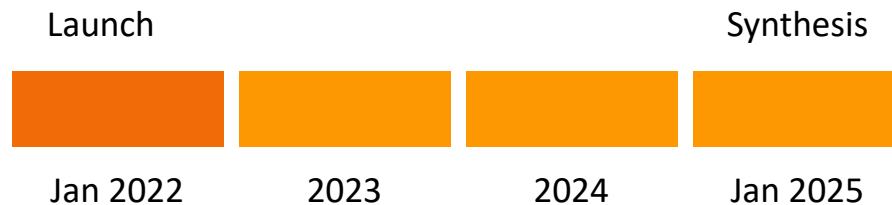




Disentangling climate and pre-industrial human impacts on marine ecosystems



Find us on <https://pastglobalchanges.org/science/wg/q-mare/intro>

and on twitter @Q_MAREwg



Q-MARE objectives and goals

- 1) How did climate and humans affect marine ecosystems in the pre-industrial Holocene and in the Pleistocene?
 - a. Disentangle climate impacts that affect multiple species from human impacts that are more selective to exploited species
 - b. Review studies on geographic areas under considerable and prolonged past human activities (Mediterranean, Caribbean)
 - c. Investigate other key areas (South and North Atlantic)
 - d. Apply to access additional material and datasets

„Changes caused by humans are the signal and natural variability constitutes the noise that obscures the human footprint” (Jackson 2001)



Q-MARE objectives and goals

- 2) When did humans start having a significant impact on the marine environment?
 - a. How can we combine historical, archeological and paleontological data?
 - b. Review pivotal studies in light of new evidence

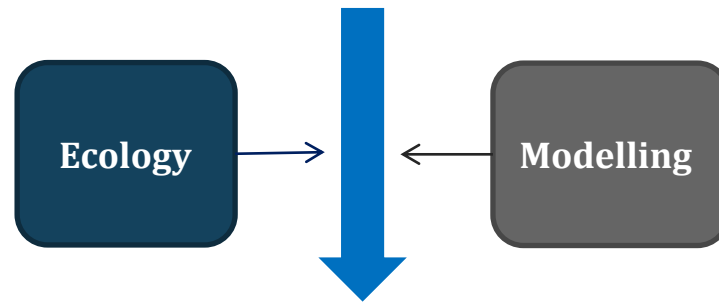
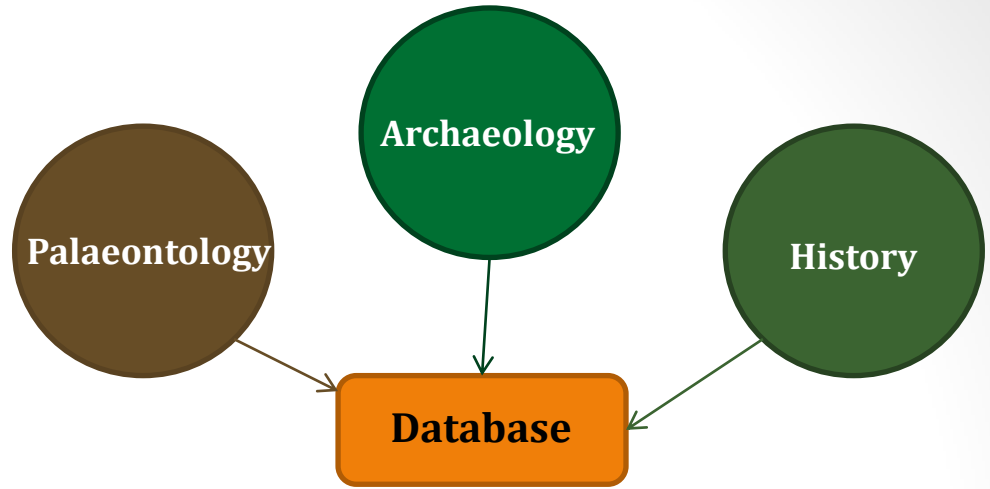
Defining what is “pristine” in different parts of the world requires tapping into different types of records and evidence, and looking at vastly different timescales.



Q-MARE objectives and goals

- 3) How can data from different sources be used to model marine ecosystems and how can this knowledge help to inform and assess environmental conservation targets?
 - a. Identify methodological issues in combining knowledge from different disciplines
 - b. Provide clear guidelines for accessing, processing, analyzing data derived from the different data sources and integrating them into dynamic ecosystem models





Q-MARE structure



Q-MARE timeline

