



ACCESS THE TOOL!



SCAN HERE

OBJECTIVE

Generate a climate service tool with information that allows anticipating the effects of climate change on aquaculture, fishing and tourism, assuming different emission scenarios for the next 40 years on the Spanish Mediterranean coast

CONTEXT

The Mediterranean region, particularly the Spanish eastern coast, is a climate change hotspot facing enhanced warming and extreme weather events. This threatens its blue economy, with key sectors such as fishing, aquaculture, and tourism at risk of significant socioeconomic losses.

FISHING

Changes in water temperature, salinity, and ocean currents could alter marine ecosystems, shift fish stock distributions, displace migratory species, and increase fishing costs.

AQUACULTURE

Frequent heavy precipitation could damage cages and cause escapes, while sea water warming might increase pathogens and alter growth rates.

COASTAL TOURISM

Rising temperatures and more frequent heat waves could reduce thermal comfort and decrease the number of tourists.

METHODOLOGY

An integrated approach with a multidisciplinary perspective is used, combining quantitative and qualitative research:

- Quantitative:** Involves processing climate variables derived from regional air-sea coupled simulations from the Med-CORDEX initiative for the controll (1976-2005) and future (2025-2064) periods, assuming the RCP4.5 and RCP8.5 scenarios.
- Qualitative:** Involves external agents from the fishing, aquaculture, and tourism sectors to gather relevant information and ensure the tool meets their needs.

THE TOOL

The tool offers oceanic (sea-surface temperature, salinity, currents) and atmospheric (maximum 2-m air temperature, relative humidity, cumulative precipitation) climate data, including temperature extremes and heavy precipitation, for various climate change scenarios and periods. The user must select from the provided options.

USER CHOICES

Climate information ?

Sea surface temperature

Sea surface salinity

Marine currents

Relative air humidity

Maximum air temperature

Cumulative daily precipitation

Heavy precipitation

Days with summer conditions

Atmospheric heat waves

Marine heat waves

Scenario ?

RCP45

RCP45

RCP85

Time Period ?

2025-2034

2025-2034

2035-2044

2045-2054

2055-2064

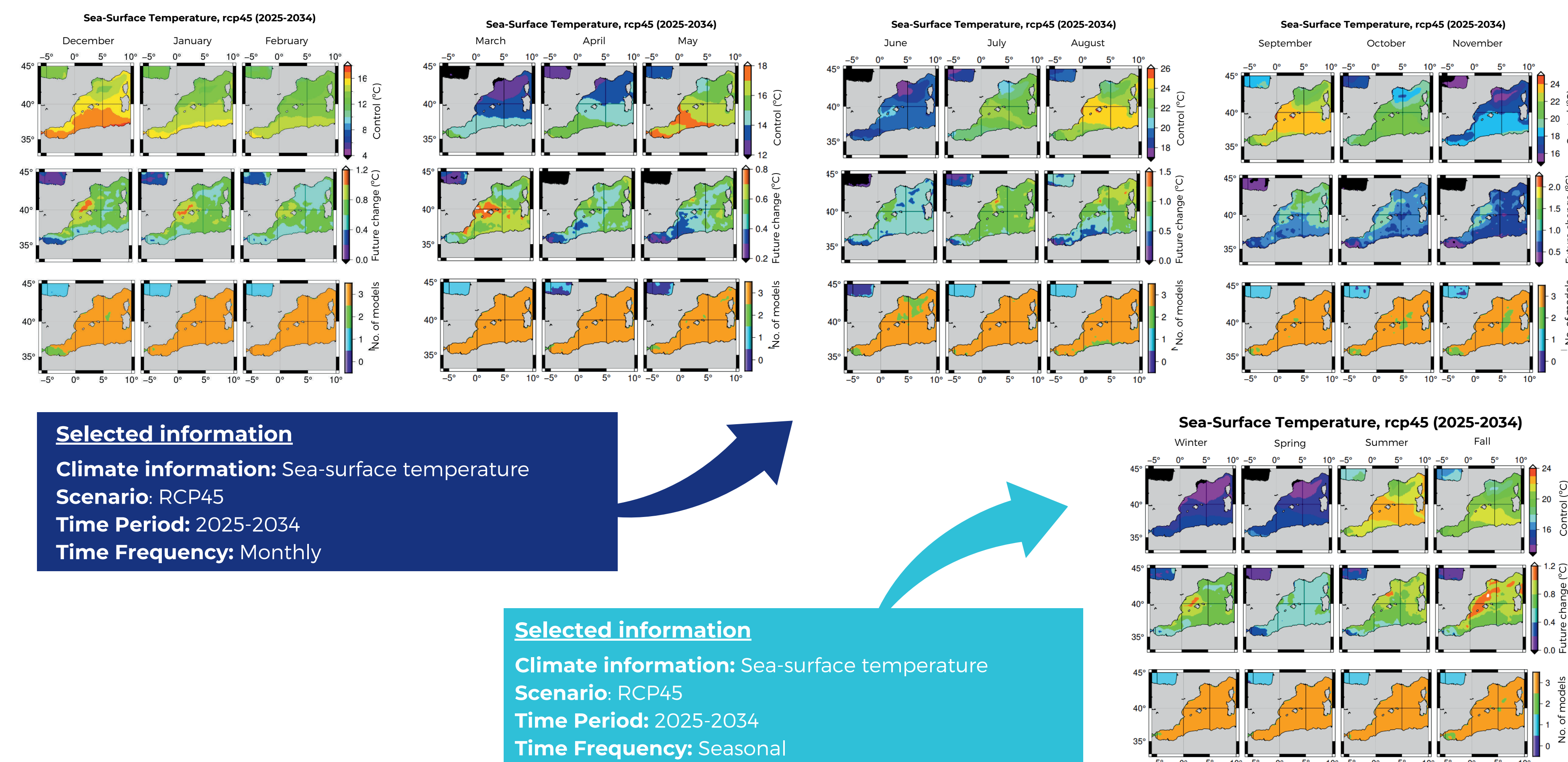
Time Frequency ?

Seasonal

Seasonal

Monthly

RESULTS EXAMPLES



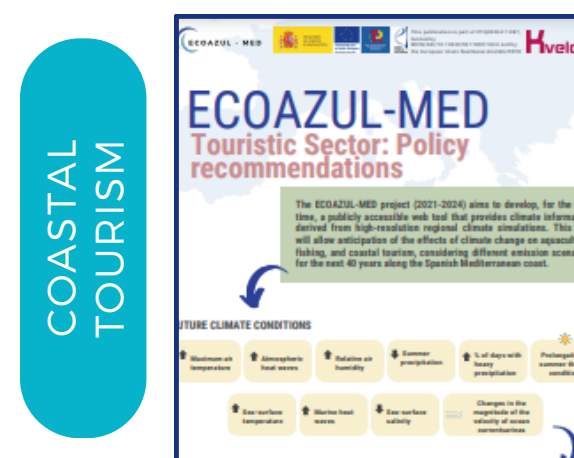
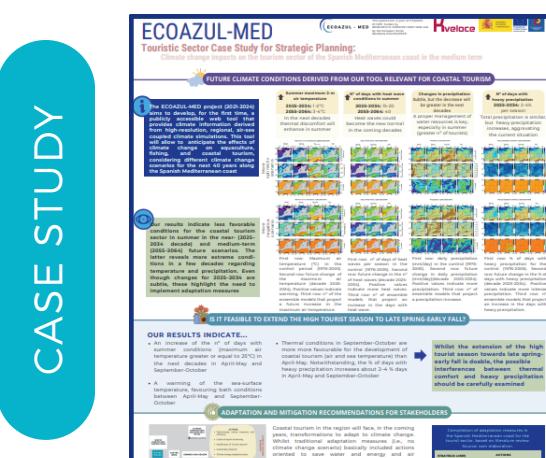
TECHNICAL SUPPORT FOR USERS

SEE VIDEOTUTORIAL

SEE USER MANUAL



HOW TO INTERPRET THE RESULTS



CASE OF STUDY

Summer maximum 2-m air temperature

Subtle changes in precipitation

Nº of days with heat wave conditions

Nº of days with heavy precipitation

Less favorable conditions for the coastal tourism sector in summer
 Changes for 2025-2034 are subtle, but highlight the need to implement adaptation measures

IS IT FEASIBLE TO EXTEND THE HIGH TOURIST SEASON TO LATE SPRING-EARLY FALL?

It may be doable, but the possible interferences between thermal comfort and heavy precipitation should be carefully examined.

We propose a tourist calendar change in the Spanish Mediterranean coast:

- Extension of the high summer season towards April-May, September-October
- Maintenance of the Easter holidays
- Establishment of a winter tourist season because of anticyclonic conditions

