

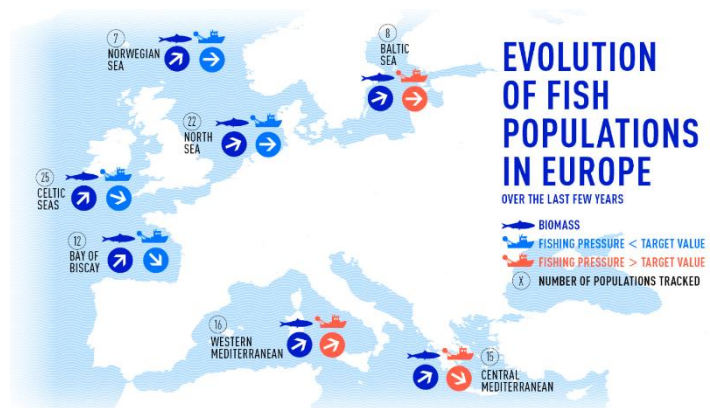
## Status of fish populations in Europe

# Some improvement, threatened by climate change

During the French presidency of the European Union Council, Ifremer partners with the Fisheries, Seas and Coasts Department of the Institut Agro, the Flanders Research Institute for Agriculture, Fisheries and Food (ILVO), and the Irish Marine Institute to evaluate the status of fish populations in Europe in 2022. Overfishing may be on the decline, but improvement is uneven from region to region and the European objective of 100% sustainable fishing by 2020 has not been reached. Furthermore, climate change is inevitably affecting fish: their distribution has changed, their food is scarcer and their growth is impaired. Climate change presents a number of challenges for resource management and preservation, which is why scientists are committed to finding solutions.

### OVERFISHING IS DECLINING IN EUROPE BUT PROGRESS IS UNEVEN FROM REGION TO REGION

The 2022 report from the Scientific, Technical and Economic Committee for Fisheries (STECF) on the health status of fish in Europe confirms the trends observed in the Atlantic over the past 20 years: overfishing is falling. **However, not all regions are experiencing the same situation.** And so, despite this progress, **the Common Fisheries Policy's goal for 100% sustainable fishing by 2020 has still not been met.**






Fishing pressure exceeds the target level in the Mediterranean  
(source: Report CFP Monitoring / STECF 2022)

#### Press contacts

Océane Vilminot  
+ 33 (0)7 84 90 83 16  
ifremer@coriolink.com

Arthur de Pas  
+ 33 (0)6 49 32 13 83  
presse@ifremer.fr

wwz.ifremer.fr

 Ifremer\_fr  
 ifremer.fr  
 ifremer\_officiel

#### Northeast Atlantic: less than 30% of populations are overexploited

In the northeast Atlantic area, 72% of fish populations are not overexploited. **Fish biomass has been increasing continuously since 2007** and was **33% greater in 2020** than at the beginning of the 2000s for the best-tracked populations; it was more than 50% greater for other populations subject to less tracking.

#### Mediterranean: 86% of populations are overexploited

In the "European" Mediterranean, the situation remains critical. **Despite faint signs of improvement in recent years, fishing pressure remains too high**, close to double the target value advised for management under the Maximum Sustainable Yield principle. In total, 29 of the 34 fish populations evaluated in the report are still considered **overexploited (86%)**. **Many other species remain poorly tracked and understood.**

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## POPULATIONS DISRUPTED BY CLIMATE CHANGE

Climate change has direct effects on marine biodiversity: it changes species distribution, reduces their available food and stunts their growth.

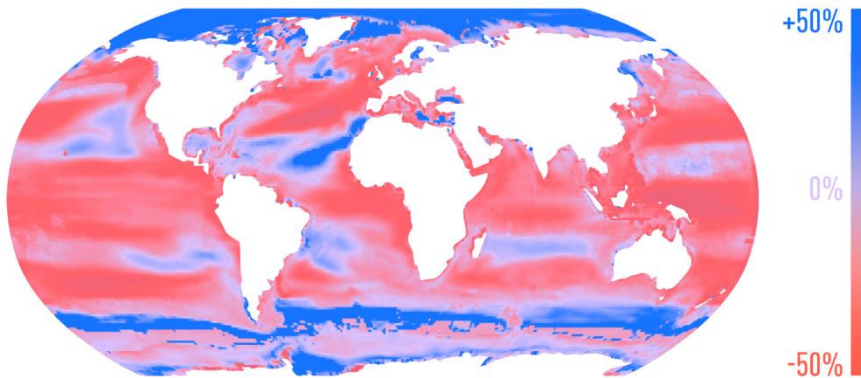
Each year, the ocean absorbs between 30% and 40% of the CO<sub>2</sub> that human activity releases into the atmosphere. **This excess CO<sub>2</sub> causes ocean acidification**, which weakens the water's concentration of calcium carbonate. Calcium carbonate is essential for plankton, corals, mollusks and many other calcifying marine organisms that use it to build their shells or internal skeletons.

### CLIMATE CHANGE & MARINE RESOURCES BY 2100

TITTENSOR ET AL, NATURE CLIMATE CHANGE 2021

ACCORDING TO THE IPCC SCENARIO WITH NO DECREASE IN CO<sub>2</sub> EMISSIONS

### CHANGE IN BIOMASS



Marine animal biomass could drop by 30% to 40% in some areas  
(source: Tittensor et al, Nature Climate Change 2021)

**CO<sub>2</sub> emissions also increase water temperature**, limiting mixing of shallow and deeper ocean layers, which reduces available oxygen in the water and decreases plankton abundance. Plankton form the base of the marine food chain; less plankton means less food and smaller individual fish.

Using climate models created by the IPCC, scientists have established that by the end of the century, marine animal biomass could have decreased by 20% on average.

## SCIENTISTS ARE COMMITTED TO PROTECTING RESOURCES

To address these challenges, researchers are constantly working to improve their methods in order to better understand and reduce fisheries' impacts on the whole ecosystem. This is called an ecosystem-based approach. For example, fisheries scientists no longer restrict themselves to evaluating species in isolation. They now take into account the ecological relationships between species as well. With this more integrated approach, scientists can propose management scenarios that better account for all ecosystem changes, not just the direct consequences of fishing. Scientists are also working on more technological aspects of fisheries management, like the development of more precise fishing methods. One idea is smart trawl nets that combine cameras and artificial intelligence to open and close depending on the species targeted.

With many changes ongoing and yet to come, fostering more resilient ecosystems is a top priority. Good fisheries management is crucial for limiting negative effects on fished populations and thus increasing their resistance.




Learn more at [www.ifremer.fr/en/howarefishdoingineurope](http://www.ifremer.fr/en/howarefishdoingineurope)

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