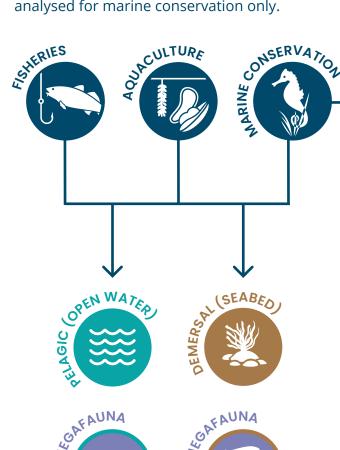
Climate change is already affecting species and habitats in UK seas. These effects are set to markedly increase if greenhouse gas emissions continue to rise and accelerate global warming. Given this urgency, more specific guidance and support is needed to enable planners and other marine managers to implement climate-smart solutions.

This infographic illustrates the projected impacts of climate change on the marine conservation, fisheries, and aquaculture sectors in the UK Exclusive Economic Zone (EEZ), by showing where, and for how long, environmental conditions remain favourable for these sectors over this century.

The effects of climate change on fisheries, **aguaculture** and **marine conservation** were explored for pelagic (open water) and demersal (seabed) environments. Megafauna were analysed for marine conservation only.



The summary report and full report can be found <u>here</u>.

State of the art **climate** modelling was used to simulate two emissions scenarios:

moderate

emissions scenario

warming emissions

Each area of the UK EEZ was then categorised according to whether they would become 'Climate Change Hotspots' or 'Climate Change Refugia'.

Climate Change **Hotspots**

= areas where climate-related pressures drive the natural ecosystem into a different state (a negative effect).

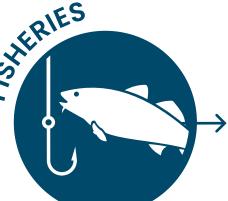
Climate Change Refugia

= areas that exhibit long-term climate change resilience (remaining similar to present day).

Conclusions:

- Spatially explicit strategies are now needed to address the effects of climate change though marine planning and other spatial management mechanisms across the UK nations and regions.
- Identified marine Climate Change Refugia could be used as part of those strategies, focused on sites that exhibit natural climate change resilience. The location of identified marine Climate Change Hotspots may be used, in turn, to inform the development of spatially explicit climate change adaptation strategies.
- Impacts may arrive earlier and be more widespread under high emissions. Strong curbs to greenhouse gas emissions represent the best hope for UK marine ecosystems, and a sustainable blue economy.





WANTON

MSPACE

MCCIP Marine Climate Change

Impacts Partnership

Curated by Mindfully Wired Communications

Identified widespread long-term Climate **Change Refugia** could support pelagic fisheries under a moderate emissions scenario. but are **greatly** reduced under high emissions.

Under both

emerge

EEZ and may

reduce the

of currently

Under a moderate

emissions scenario,

Climate Change

expected to be

widespread, but

are substantially

reduced by the next

decade under high

Refugia are



Climate change impacts are expected to be widespread by mid-century under both emissions scenarios. Management measures may support more resilient target **species** (e.g. hake and saithe)



emission scenarios, Climate Change Hotspots would throughout the UK growing potential farmed species in coming decades.

Under both emissions scenarios, localised Climate Change Refugia could support sector expansion for aquaculture.



Climate Change **Hotspots** are expected to existing climate change



emissions.

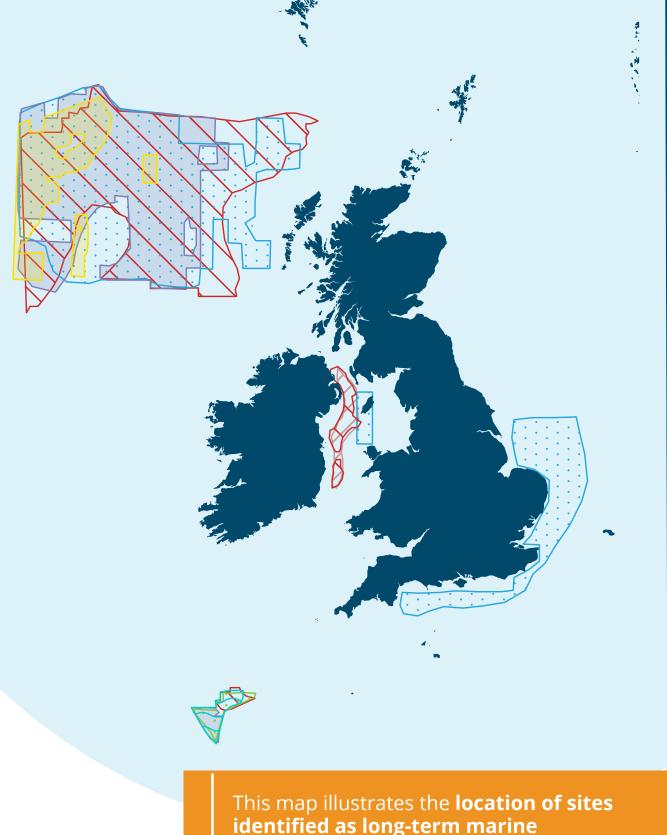
Under both emissions scenarios, Climate Change Hotspots are widespread as early as the **2030s**.

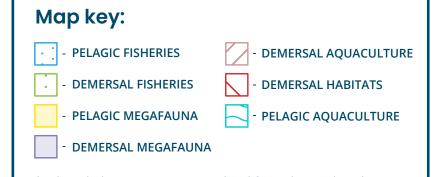


encompass many conservation sites but some long-term refuges could be dentified. Other uses of the marine environment may exacerbate climate effects.



emissions scenario Climate Change Refugia are **expected to be** widespread, but are **substantially** reduced under high emissions.





Climate Change Refugia.

*Pelagic habitats were not visualised from this analysis because there were no long-term Climate Change Refugia when both emissions scenarios were assessed together.