

Our Oceans Are Changing

SEA SURFACE TEMPERATURE PROJECTION



Sea surface temperature is projected to increase.

Newfoundland

Mid-Century (°C) End of Century (°C)



+1.9



+4.7

Labrador

Mid-Century (°C) End of Century (°C)



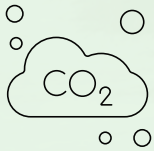
+1.3



+4.0

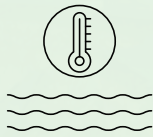
The Sea Surface Temperatures are projected under a high emissions scenario (SSP5-8.5 ensemble 50th percentile) for the mid century (2041-2060) and the end of the century (2081-2100).

HOW?



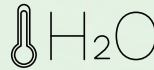
Ocean Acidification:

Increased levels of carbon dioxide in the ocean causes the pH of the water to decrease.



Decreased Oxygen:

Warmer ocean temperatures reduce the oxygen availability.



Warmer Waters:

Increasing levels of greenhouse gases are being absorbed by the ocean and warming the water.



Less Sea Ice:

As sea ice melts, more solar energy is absorbed at the surface causing temperatures to further increase.

POTENTIAL IMPACTS



Ocean acidification harms organisms with shells, many of which are economically & culturally significant.



Less sea ice can mean fewer ferry delays and new shipping routes, but negatives for locals and Indigenous communities, who rely on the ice.



More turbulent weather affects fishing vessels operations and economics. The potential exists for the fishing sector to expand further north.



Increased species migration, invasive species (e.g. sunfish and sharks), and accelerated sea ice melt delay phytoplankton blooms and the spawning of commercial targeted species.



Changes in ocean temperatures and processes result in serious socio-economic and mental health impacts for populations with deep connections to the sea, such as Indigenous and fishing communities.