Weather & Climate Data In Action

NCEI data is being used to help protect some of the planet's most diverse ecosystems.

110,000 square miles

All of the world's shallow water coral reefs can fit inside the state of Nevada...

...yet they contain...

25% of the planet's marine biodiversity

75% of coral reefs worldwide are under threat

1°C-2°C increase in baseline ocean temperature is enough to cause mass coral bleaching

1/3 of coral species are at risk of extinction

High resolution satellite sea surface temperature data from NCEI's Pathfinder Climate Data Record (CDR) and NESDIS global 5km dataset, identifies coral reefs at risk of bleaching.

Pathfinder CDR contains 30 years of recorded sea surface temperature data

The difference between the 30-year record of sea surface temperature and the daily sea surface temperature is calculated

Coral Reef Watch relies on this difference to identify areas of coral bleaching and provides future bleaching outlooks

This helps coral reef managers plan and prioritize

Coral Reef Watch allows for monitoring of over 95% of the planet's coral reefs.
Conserving coral reefs is important for economic prosperity, shoreline protection and food security.

$30 billion net annual benefit from coral reefs to the global economy

400 times more likely to find the next pharmaceutical drug in the ocean than on land

Coral reefs help protect coasts from storm surge and flooding

$20 thousand per meter: The approximate cost of building tropical breakwaters

$13 hundred per meter: The approximate cost of restoring a coral reef

500 million people worldwide depend on coral reefs for food

28 million person days of recreational activities were enjoyed on reefs in Florida in just one year

1/4 coral reefs provide habitat to a quarter of fish caught in developing countries

Created by: ACCLIMATISE building climate resilience