

Climate at a Glance: Coral Reefs

Bullet Point Summary:

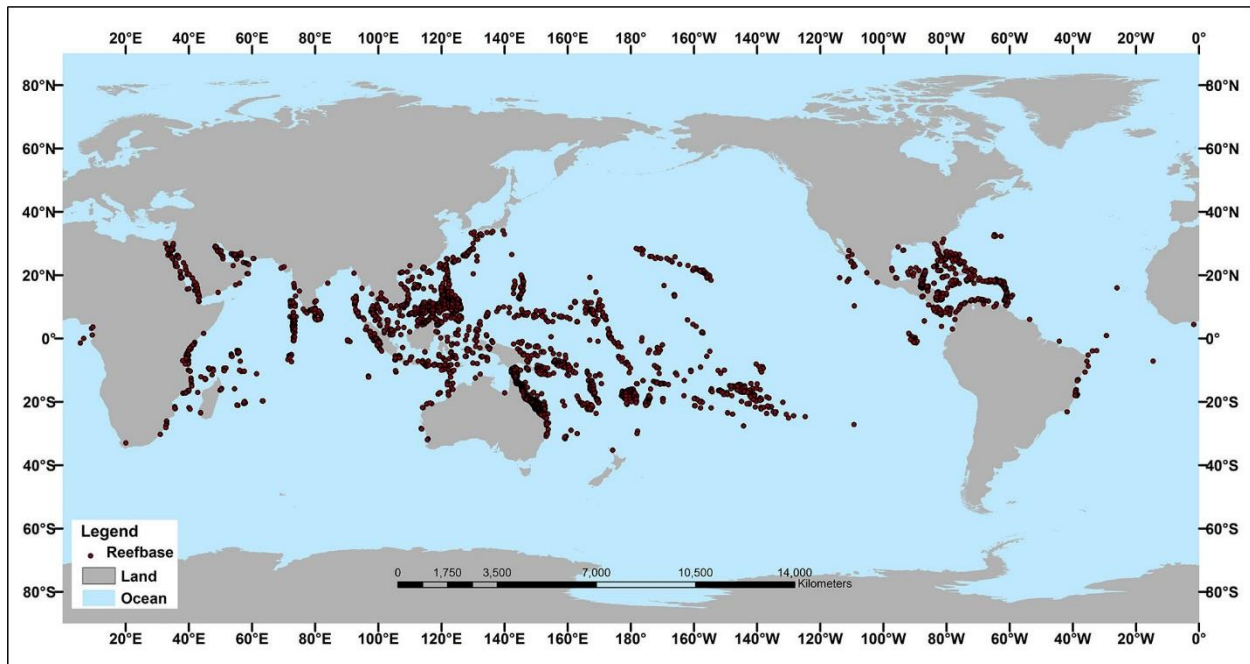
- **Coral thrive in warm water, not cold water.**
- **Recent warming** has allowed coral to **expand their range poleward**, while still thriving near the equator.
- **Coral** has existed continuously for the past [40 million years](#), **surviving temperatures** and carbon dioxide levels **significantly higher than what is occurring today**.
- The primary causes of coral bleaching include [oxybenzone](#) (a chemical found in sunscreen), sediment runoff from nearby coastal lands, and [cold temperatures](#) like those recorded in 2010 off the Florida coast.

Short Summary: Coral require warm water, not cold water, to live. Coral [cannot live outside of tropical or subtropical waters](#). (See Figure 1.) As Earth continues to modestly warm, coral [are extending their range toward the poles](#) while still thriving at and near the equator. [The primary reasons for bleaching events](#) include sediment pollution from nearby coastal lands, chemicals found in sunscreen, and cold temperature events. Coral have existed continuously [for the past 40 million years](#). Coral survived and thrived when temperatures were [significantly warmer than they are today](#).

Temperature Swings: Short-term strong heatwaves or cold snaps can cause bleaching events, but such events have occurred long before recent warming. Moreover, studies show [coral can and do adapt](#) to the gradual long-term pace of global warming. History shows that cold snaps can harm coral much worse than warm spells. In 2010, colder ocean temperatures off the coast of Florida [killed more coral](#) than any warm-water event, killing more than 40 percent of reef-building corals.

A poster child for coral alarmism is the Great Barrier Reef. The Great Barrier Reef is 20 million years old, and it has survived significantly warmer temperatures than today. Although the [Australian Institute of Marine Science](#) documented that approximately 22 percent of the reef experienced recent bleaching (not 93 percent, as reported in alarmist media stories), 75 percent of the bleached portion of the Reef is expected to make a full recovery. Poor water quality resulting from nearby coastal development [is the main culprit](#) for bleached reef areas that do not recover. Evidence shows much of the bleached coral in the Great Barrier Reef are [recovering](#).

Figure 1: Coral Reef Locations



Coral continue to require warm water and thrive in the warmest of Earth's waters. Source: NOAA Ocean Service Education, https://oceanservice.noaa.gov/education/kits/corals/media/supp_coral05a.html. Quote from the source: "The majority of reef building corals are found within tropical and subtropical waters. These typically occur between 30^o north and 30^o south latitudes. The red dots on this map show the location of major stony coral reefs of the world."

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