

The changing ocean: lesson 3 of 3

Bleaching, change and hope

What a changing ocean
means for reefs, and what
still works

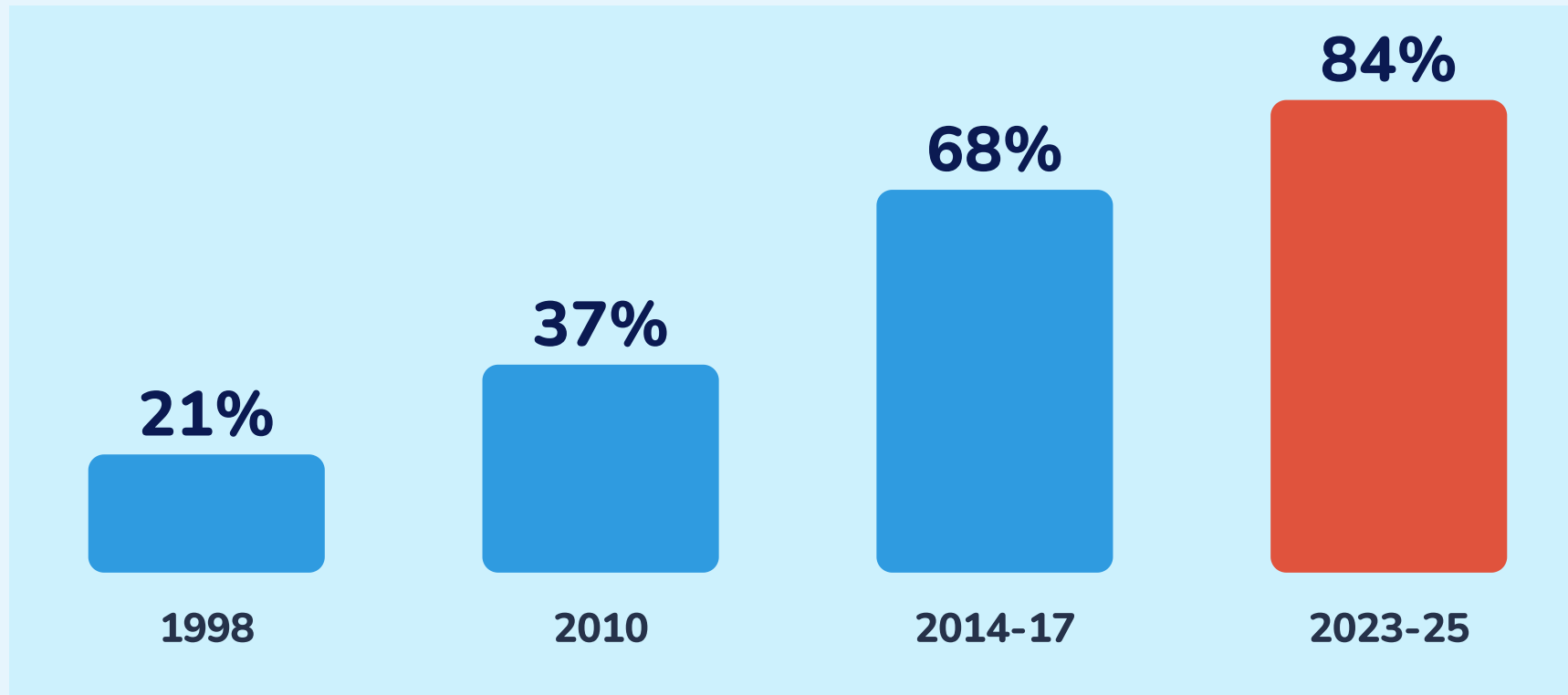


MCP's coral nursery. Photo: MCP



Four global bleaching events

Share of the world's reef area hit by bleaching-level heat stress in each global event.



How we know: NOAA Coral Reef Watch and GCRMN, 2026



What the next degree means

70 to 90%

further decline of coral reefs projected at 1.5°C of global warming

over 99%

projected loss at 2°C

The difference between 1.5°C and 2°C is the difference between damaged reefs and almost none.

How we know: IPCC Special Report on Global Warming of 1.5°C, 2018



But not all reefs are the same

Even in the worst heat, not every reef bleached, and some bleached corals recovered.

Reefs that are free from overfishing, pollution and mud recover faster after heat stress. Local action can buy reefs time.



What works



Cut emissions

The only way to stop warming and acidification at their source.



Protect reefs locally

No-take zones, healthy fish populations and clean water help reefs recover.



Restore and monitor

Coral nurseries and regular surveys, like MCP's, show what is changing.



Structured debate

1. The question: is local reef protection worth it if climate change is global?
2. In pairs, one side argues yes and the other no. Use evidence from all three lessons.
3. Swap sides and argue the other case.
4. Drop your roles. As a pair, write the answer you both believe, with your best evidence.

Evidence to use

Bleaching events and DHW

The 1.5°C and 2°C projections

Reefs that recover faster

Apo Island



Talk about it

What did you change your mind about in the debate?

Which action would you most like your school or town to take?

How would you explain ocean change to a younger student, in one minute?

Well done! You have finished The changing ocean lessons.



Photos and sources

Photos: coral nursery, survey divers and Apo Island by MCP. All illustrations drawn for this lesson by Marine Conservation Philippines.

Sources:

- NOAA NESDIS (2026). Fourth global bleaching event likely ended.
- GCRMN (2026). Bleaching event update.
- IPCC (2018). Special Report on Global Warming of 1.5°C.

Full links are in the teacher reading. Free to use and share for education. Made by Marine Conservation Philippines. More free lessons: marineconservationphilippines.org/resources/teachers-resources/

