Eyes of the Reef
EORMarianas.org

Eyes of the Reef Marianas

Early Warning System for Acute Reef Impacts

Community Training Session

NOAA CORAL REEF

EORMarianas.org

Eyes of the Reef
EORMarianas.org

Why is early detection important?

- We can monitor changes from potentially widespread events
- Helps local response team prioritize immediate action and sites
- Higher chance of recovery for affected coral reefs
- A good way to track reef resilience

Eyes of the Reef
EORMarianas.org

Eyes of the Reef
EORMarianas.org

Community Involvement

- All ocean users
- Trained to spot dangers to reef health
- See impacts and report online!

Early Detection → Rapid Response

Managers can respond more quickly

Database of reports to track changing reef conditions

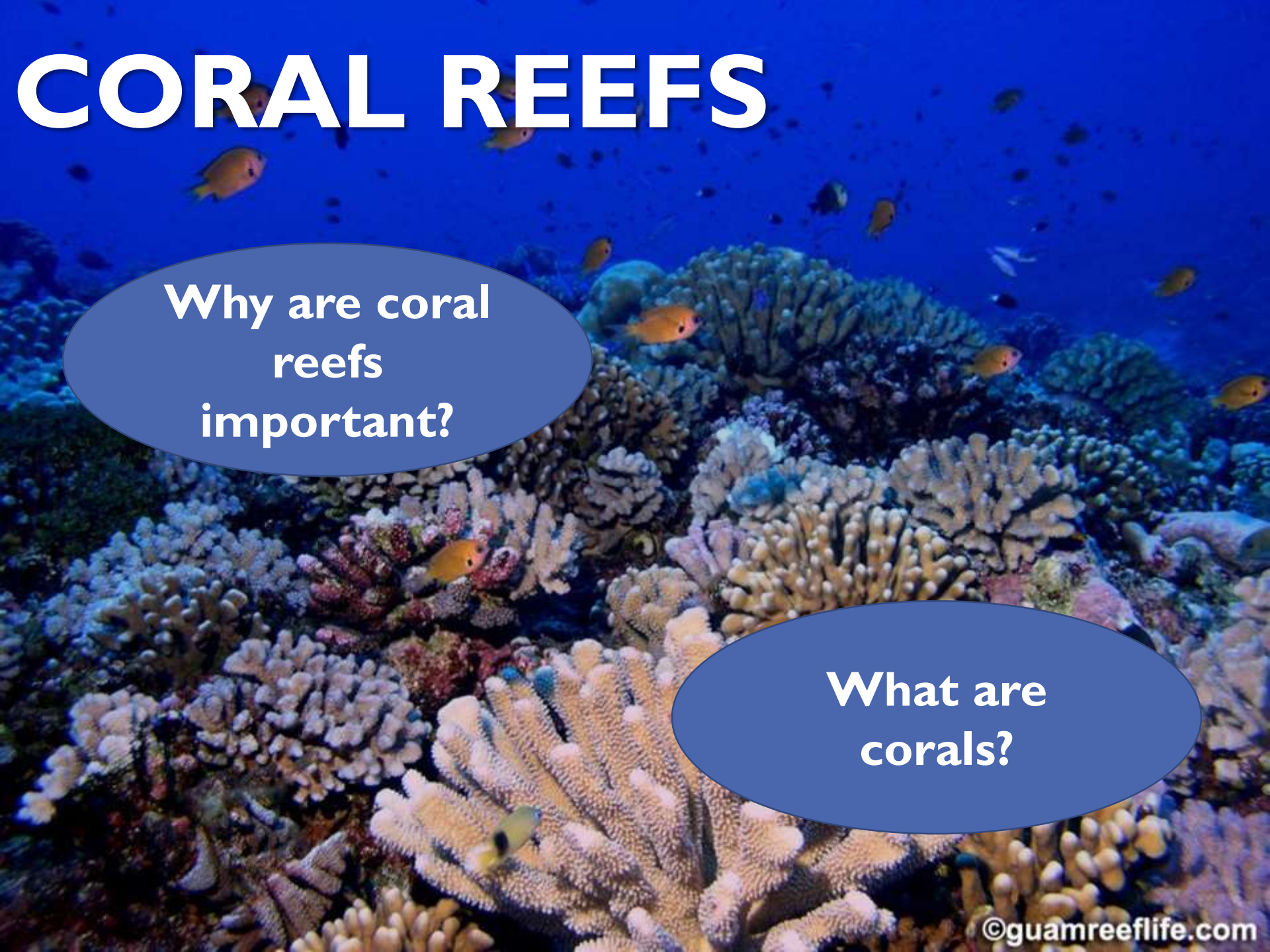
Eyes of the Reef
EORMarianas.org

EOR Training Goals

- Introduction to coral reefs
- Threats to reefs
- How to make a report
- Learn to identify and report:
  - Coral bleaching
  - Coral abnormalities
  - Nuisance species
  - Lesions on echinoderms
  - Marine debris
  - Other impacts

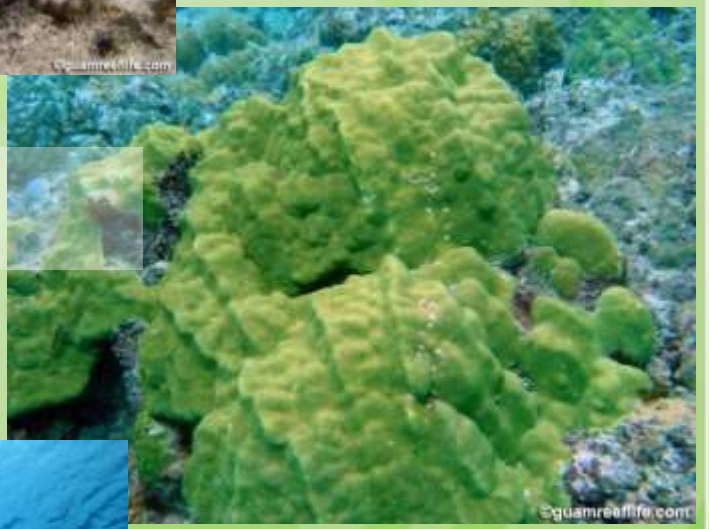
NOAA

CORAL REEFS


Why are coral reefs important?
What are corals?
©guamreeflife.com

Eyes of the Reef
EORMarianas.org

Colonies



Coral Colonies = Wall of Mouths

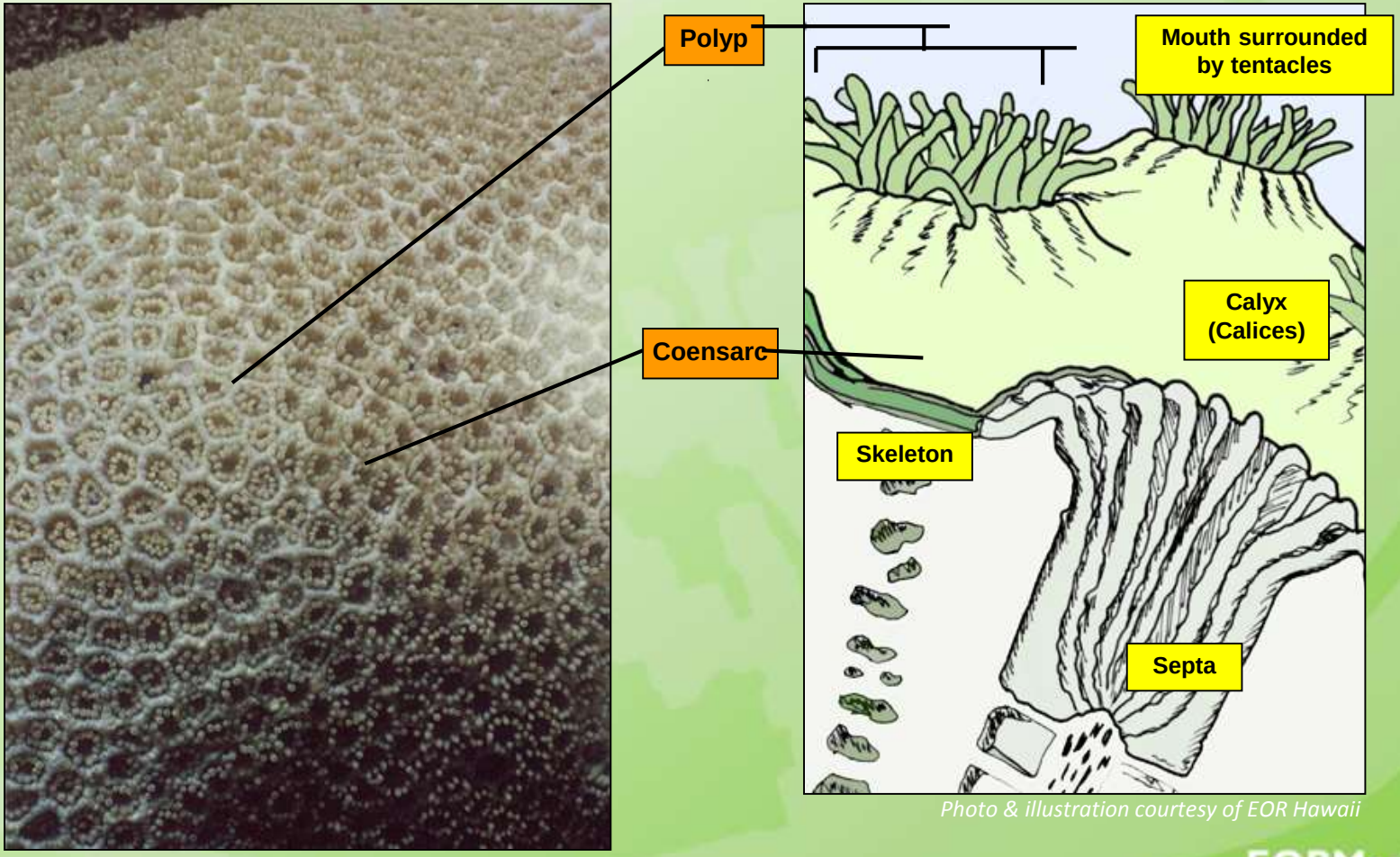
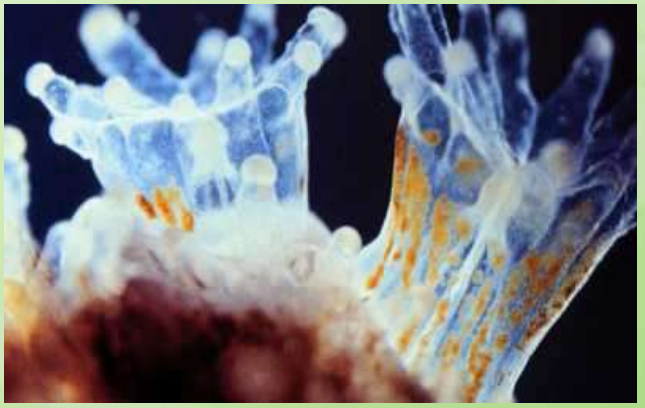


Photo & illustration courtesy of EOR Hawaii

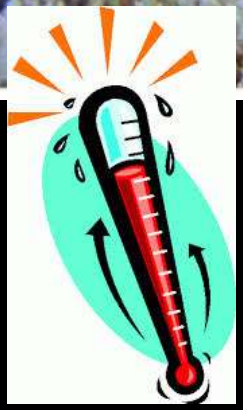
Partnership to survive



Photos courtesy of EOR Hawaii

- Zooxanthellae: microscopic plants that live inside the coral
- "Zoox" get shelter and nutrients
- Corals get food and beautiful colors
- Hard corals, soft corals, fire corals, anemones, and giant clams all have zoox

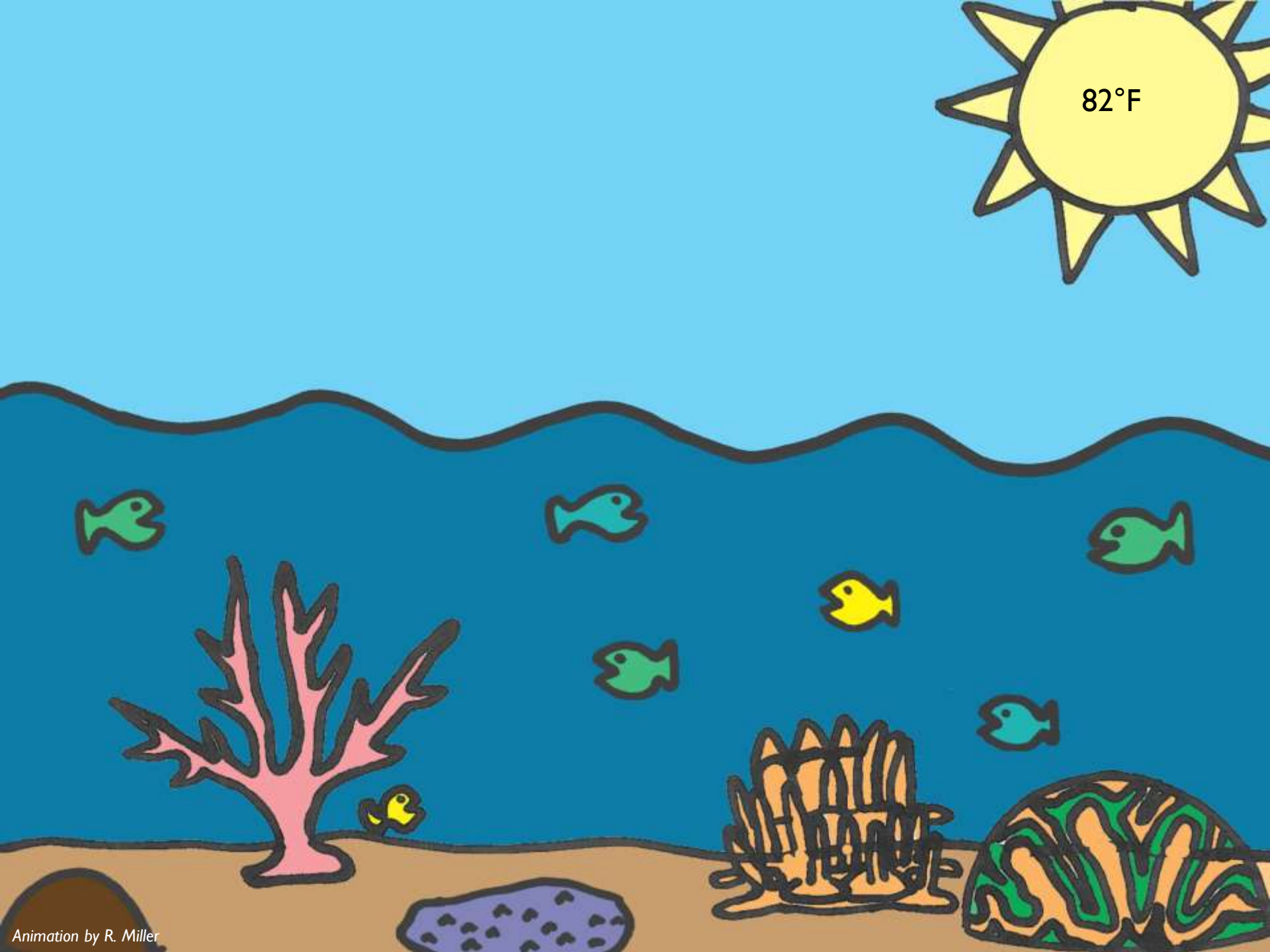
Sensitive to Temperature

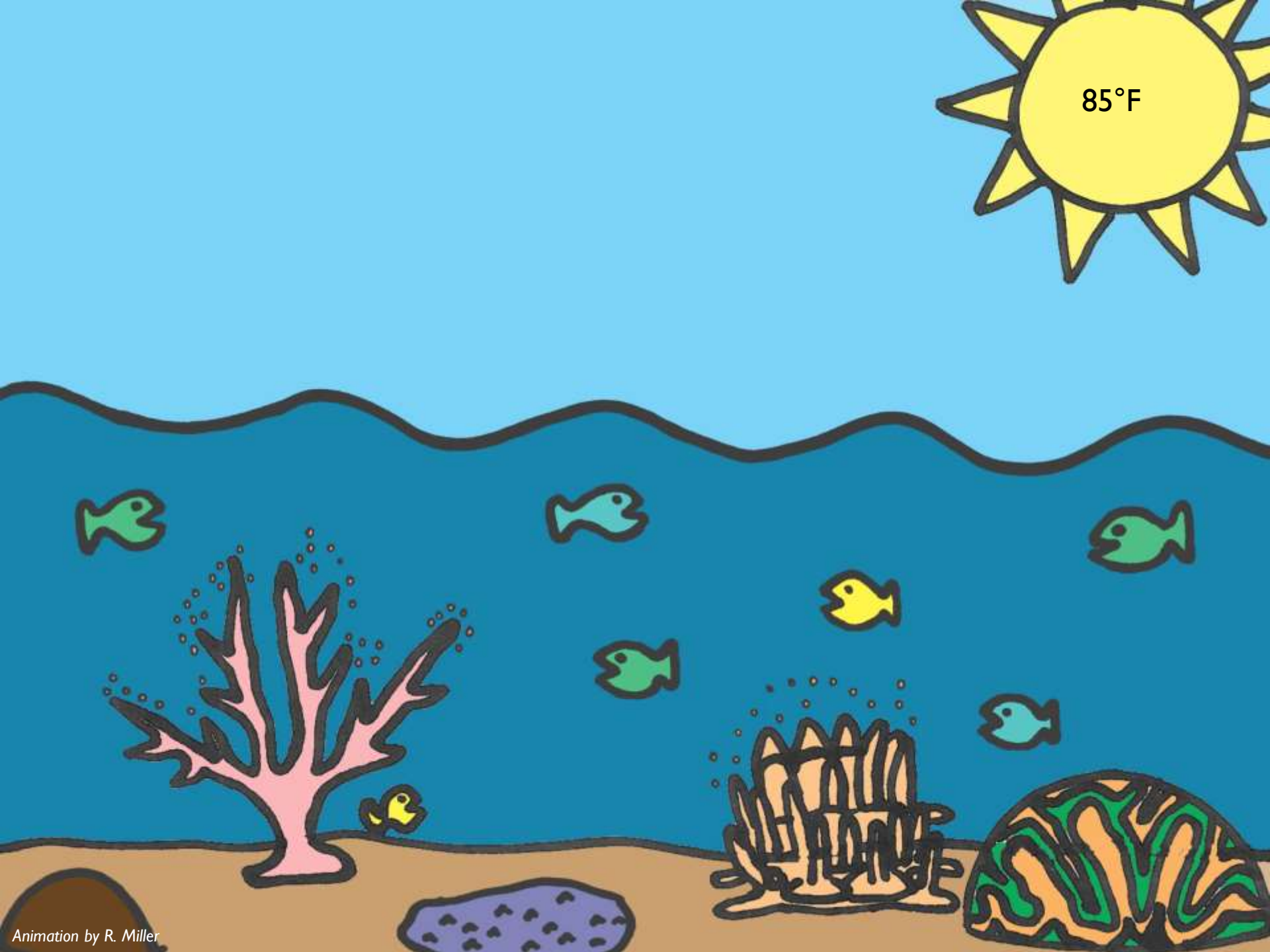


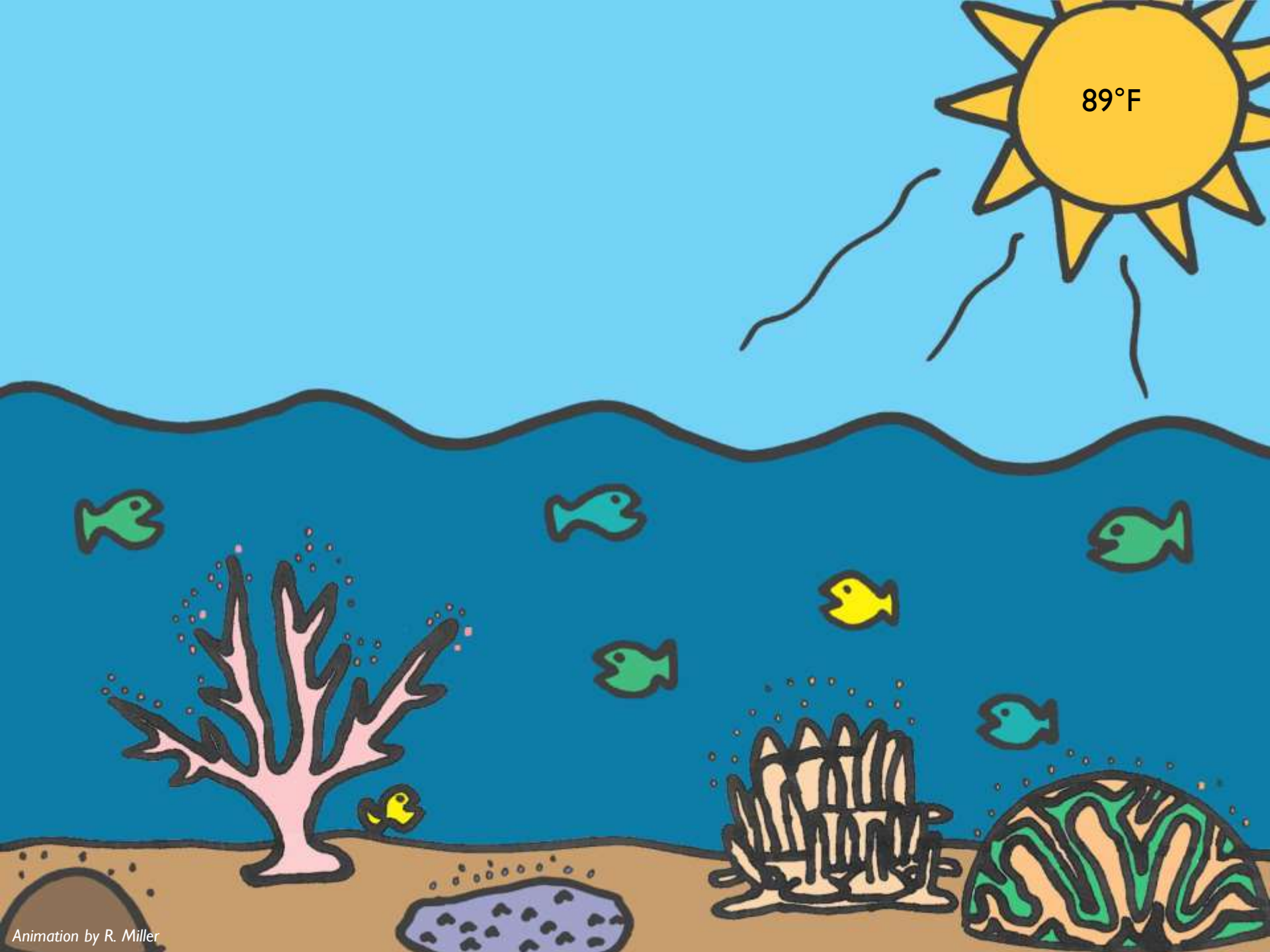
86˚F / 30˚C

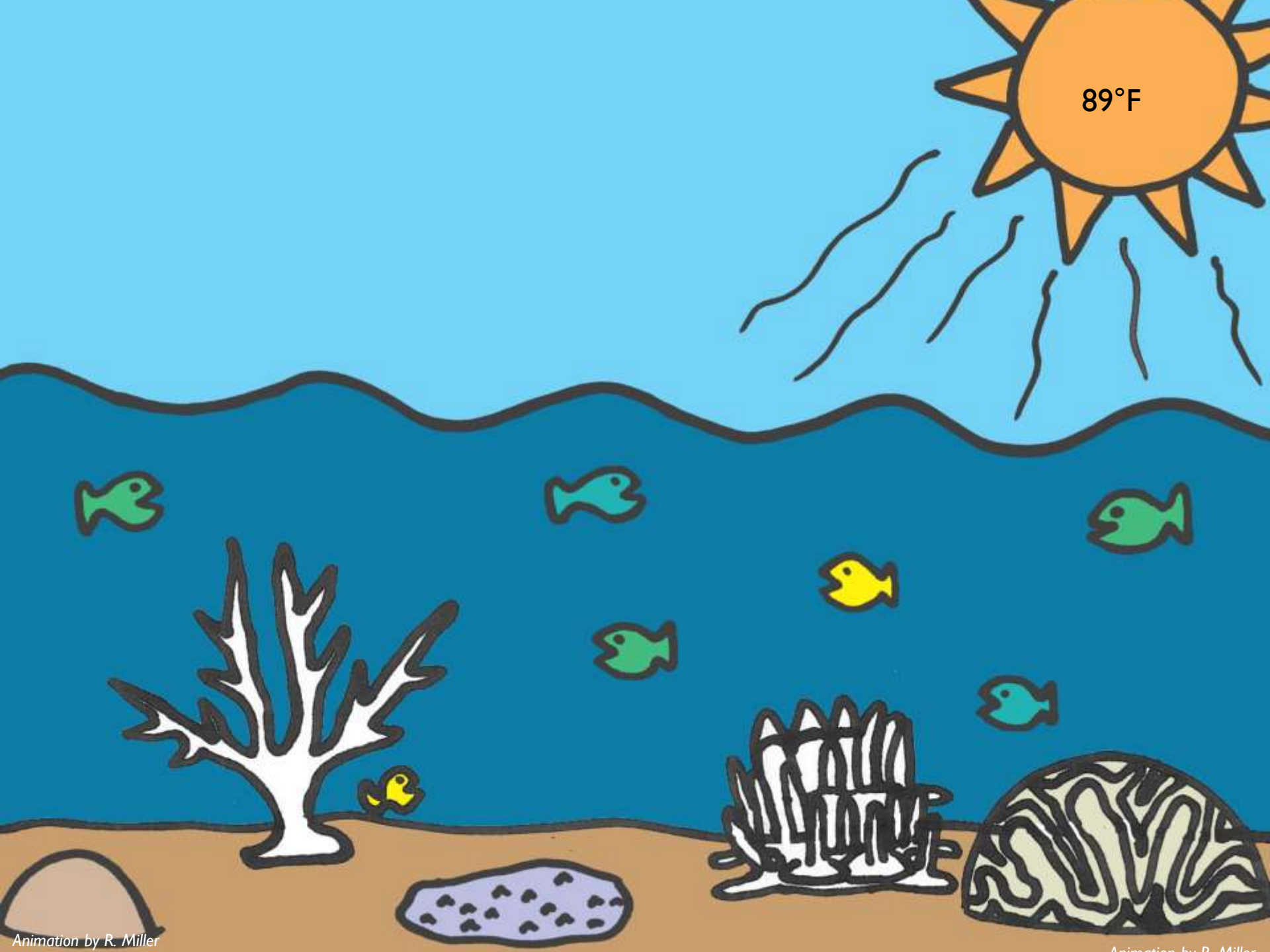
Photos by D. Burdick

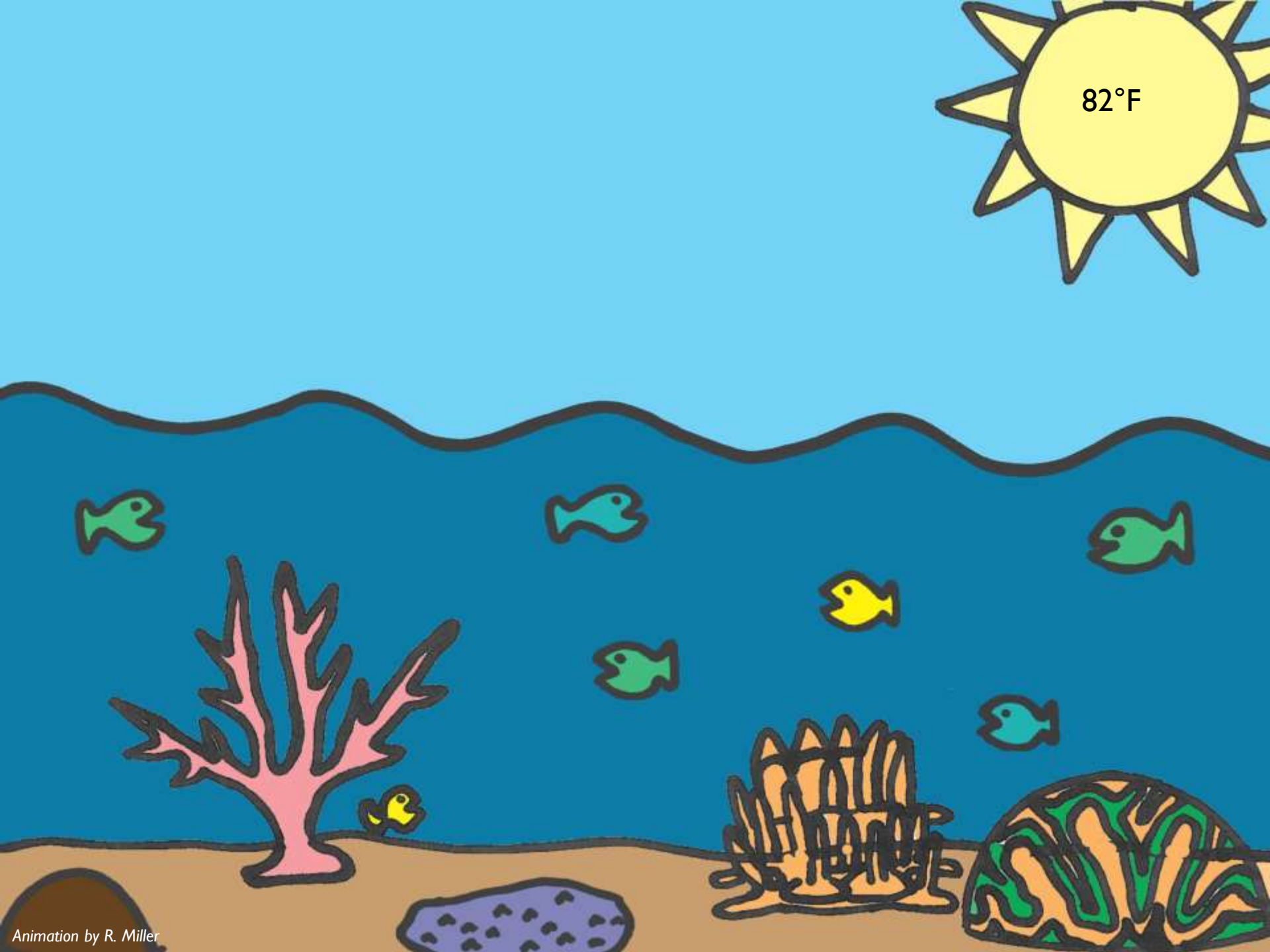
Coral Bleaching

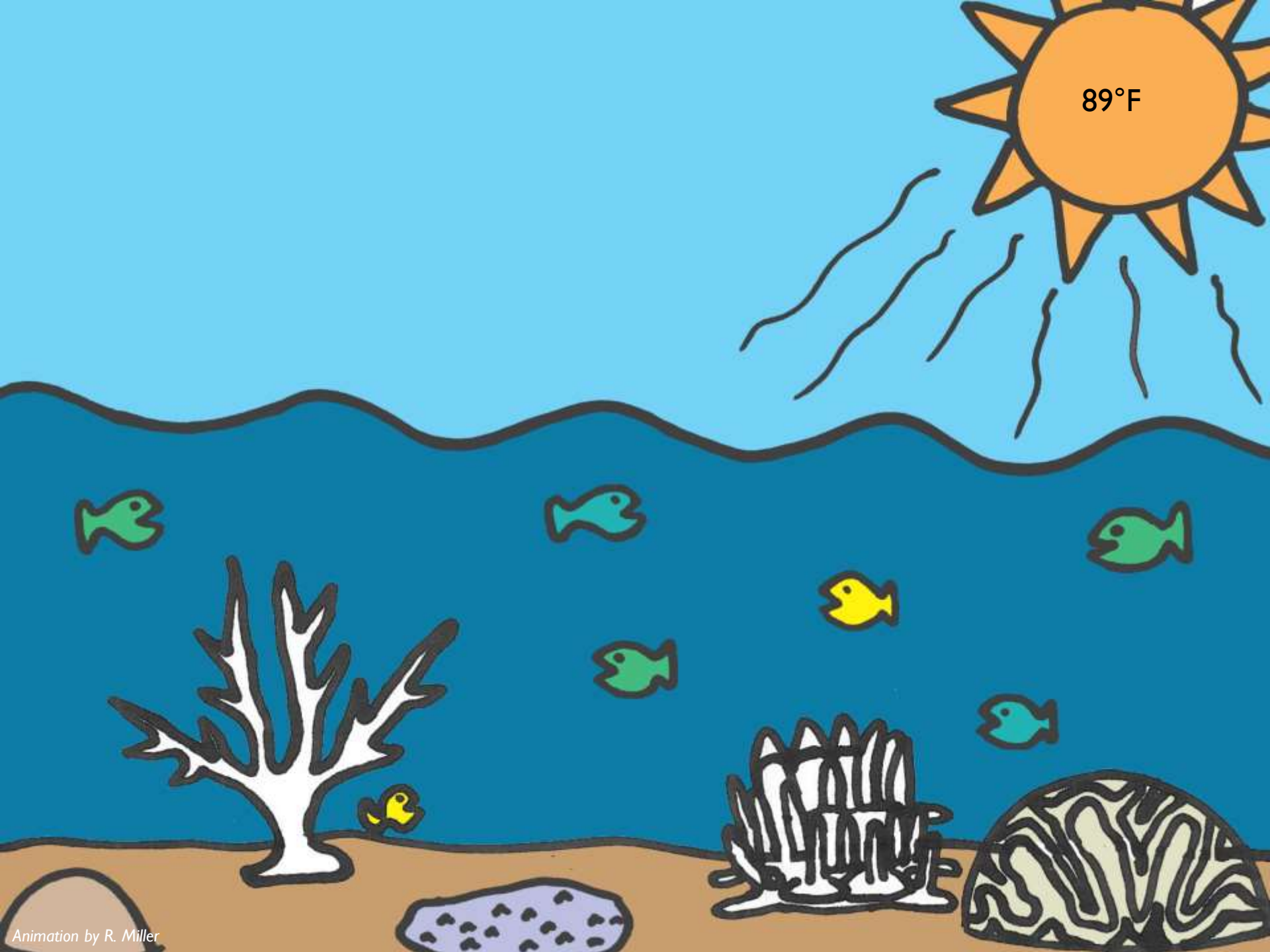

82°F
Animation by R. Miller

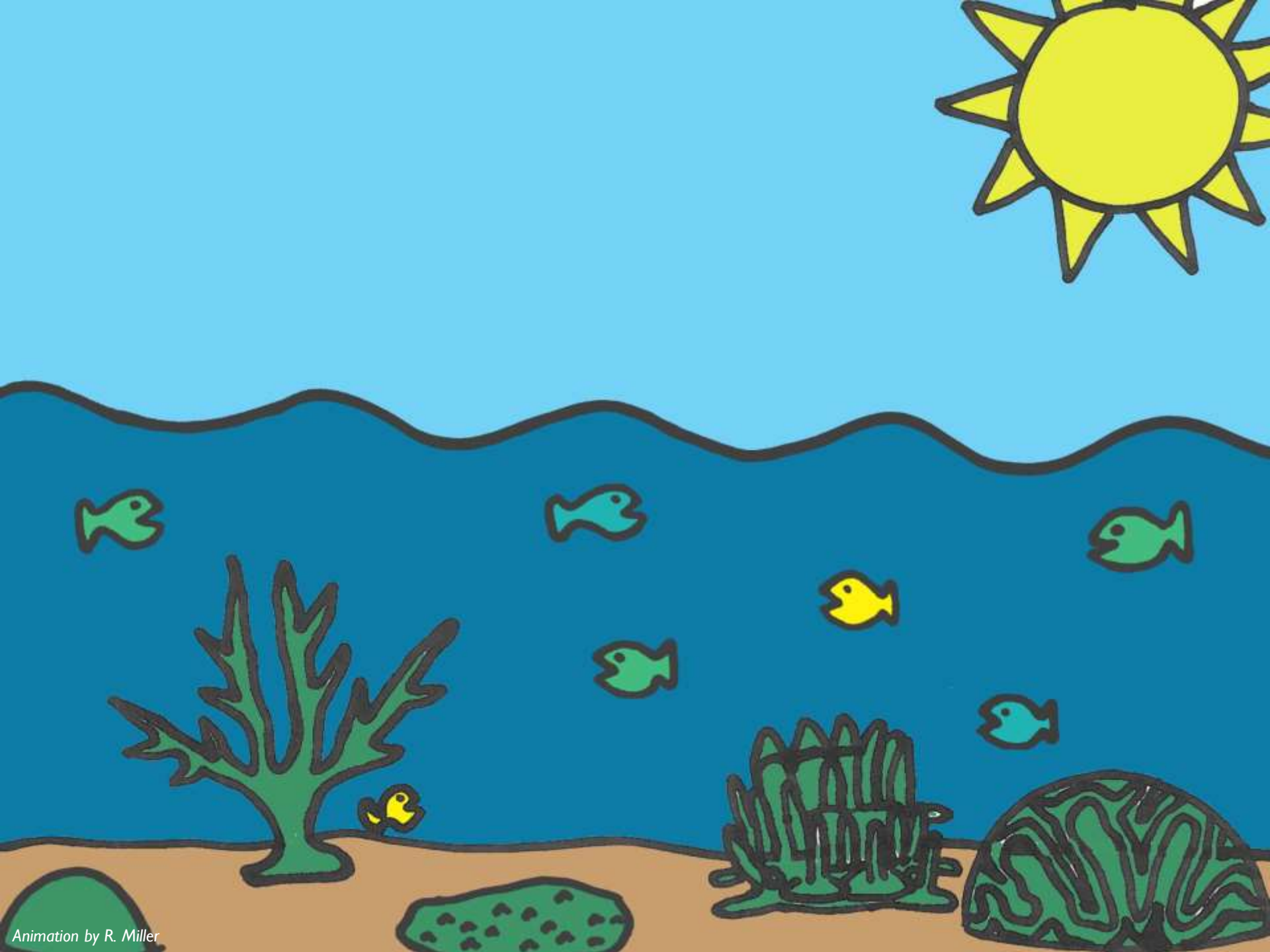

85°F
Animation by R. Miller


89°F
Animation by R. Miller


89°F
Animation by R. Miller

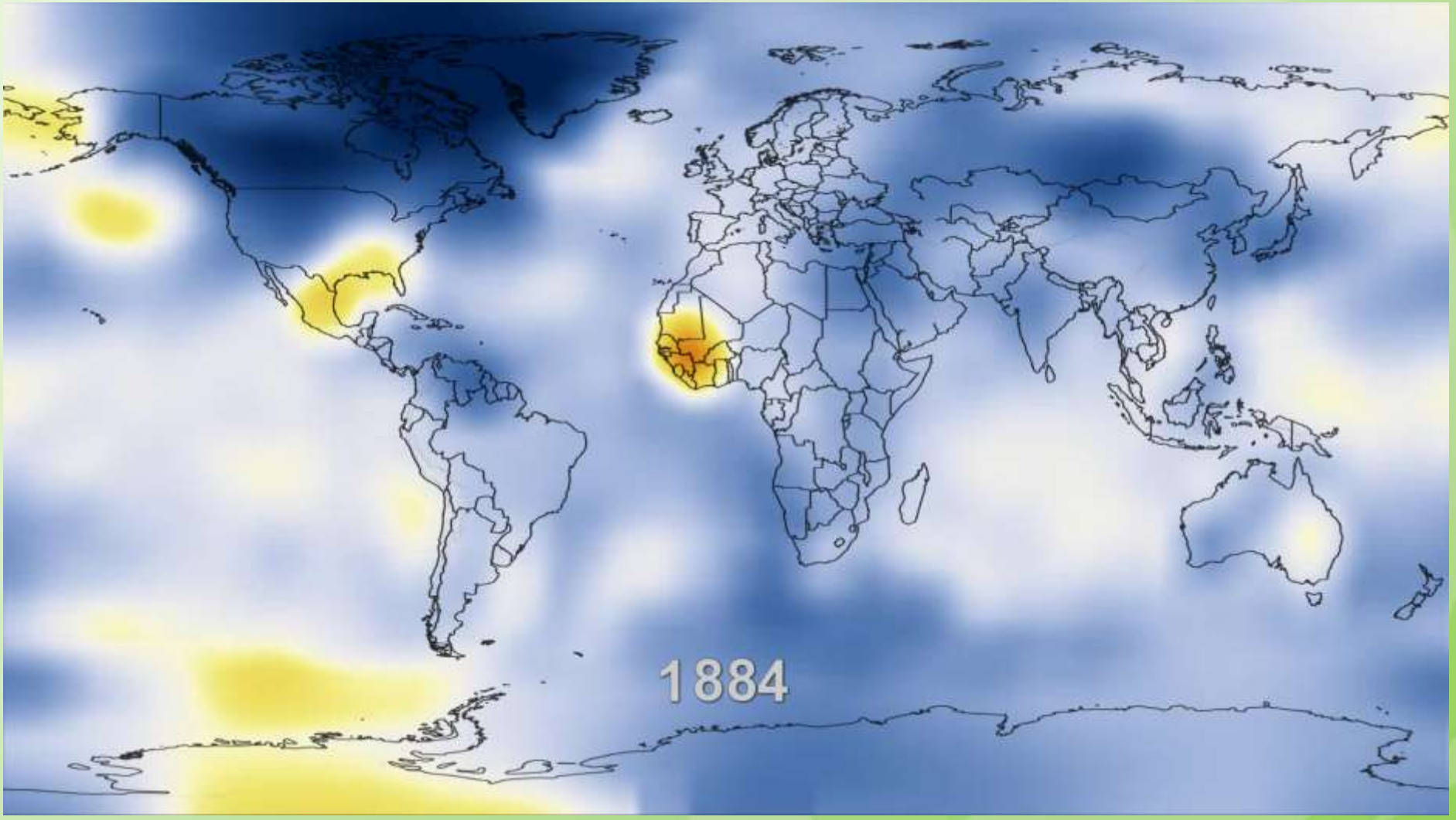

82°F
Animation by R. Miller


89°F
Animation by R. Miller


Animation by R. Miller


Animation by R. Miller

Surface Temperature through Time and Space.



Data source: NASA Goddard Institute for Space Studies

Visualization credit: NASA Goddard's Scientific Visualization Studio

What Is Climate Change?

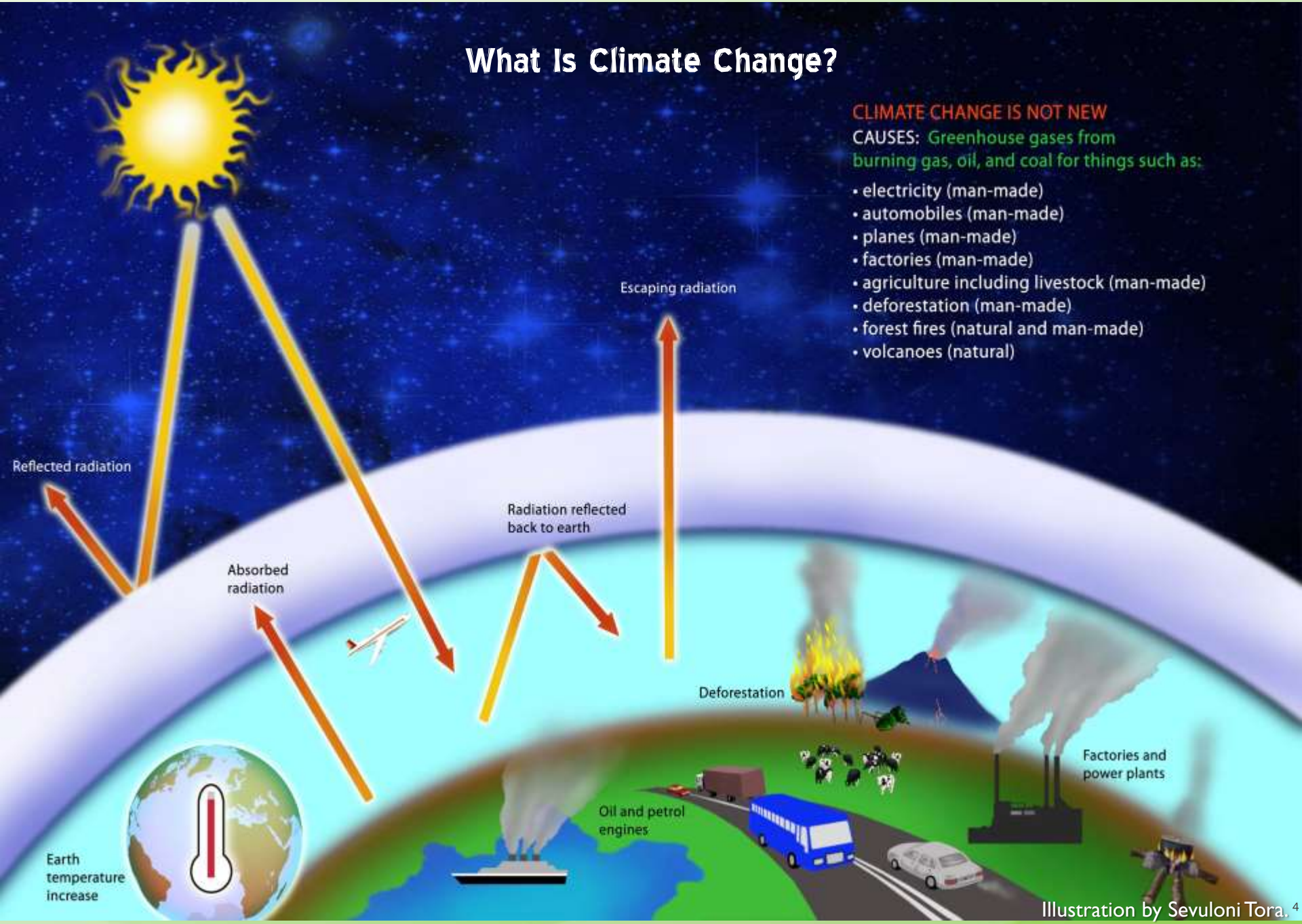
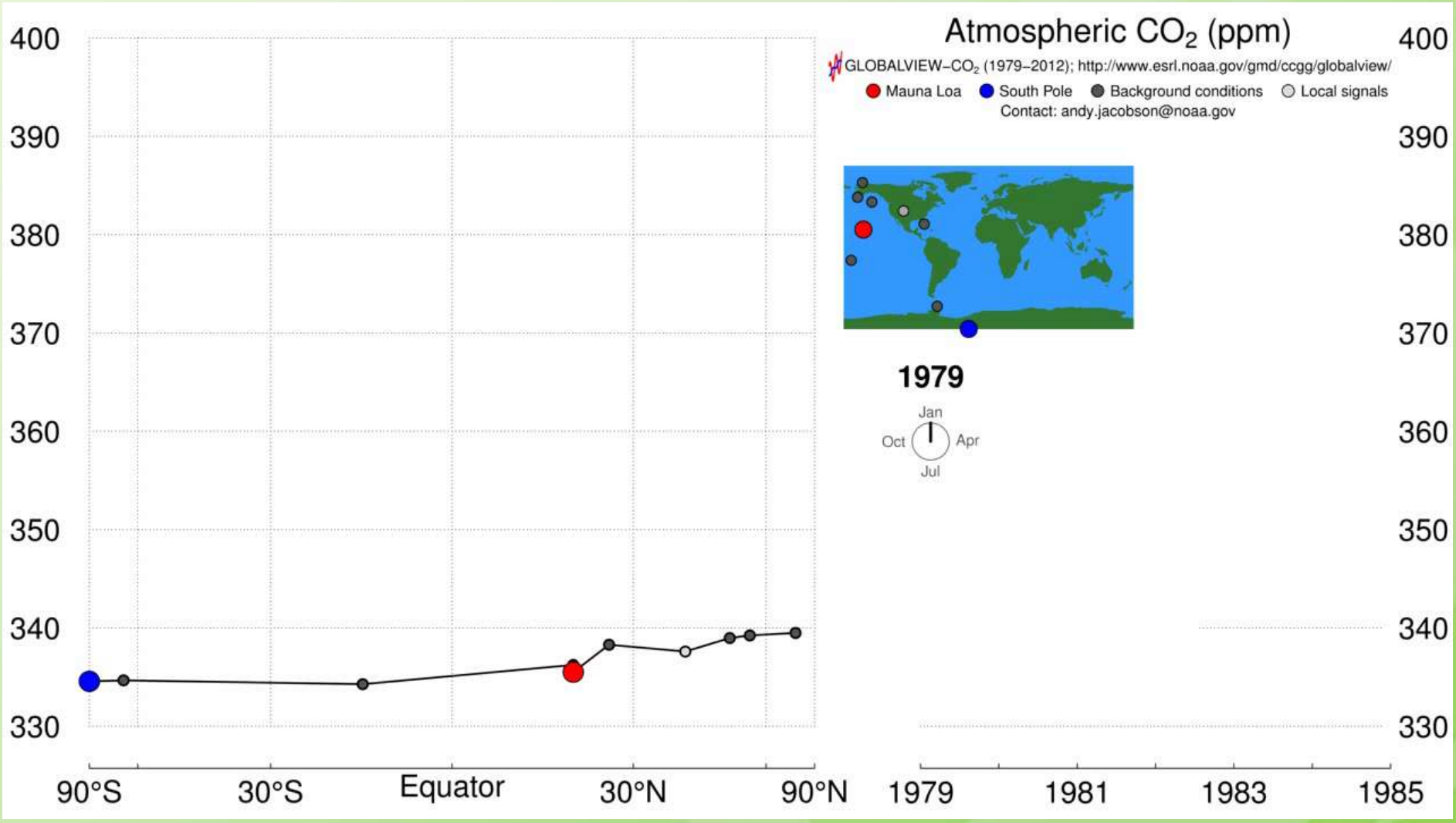


Illustration by Sevuloni Tora.

Time history of atmospheric carbon dioxide from 800,000 years ago until January, 2012.



Data source: NOAA ESRL

Eyes of the Reef

What Changes Can We Expect to See in the Region?

Increases in:

Coral bleaching

Coral disease

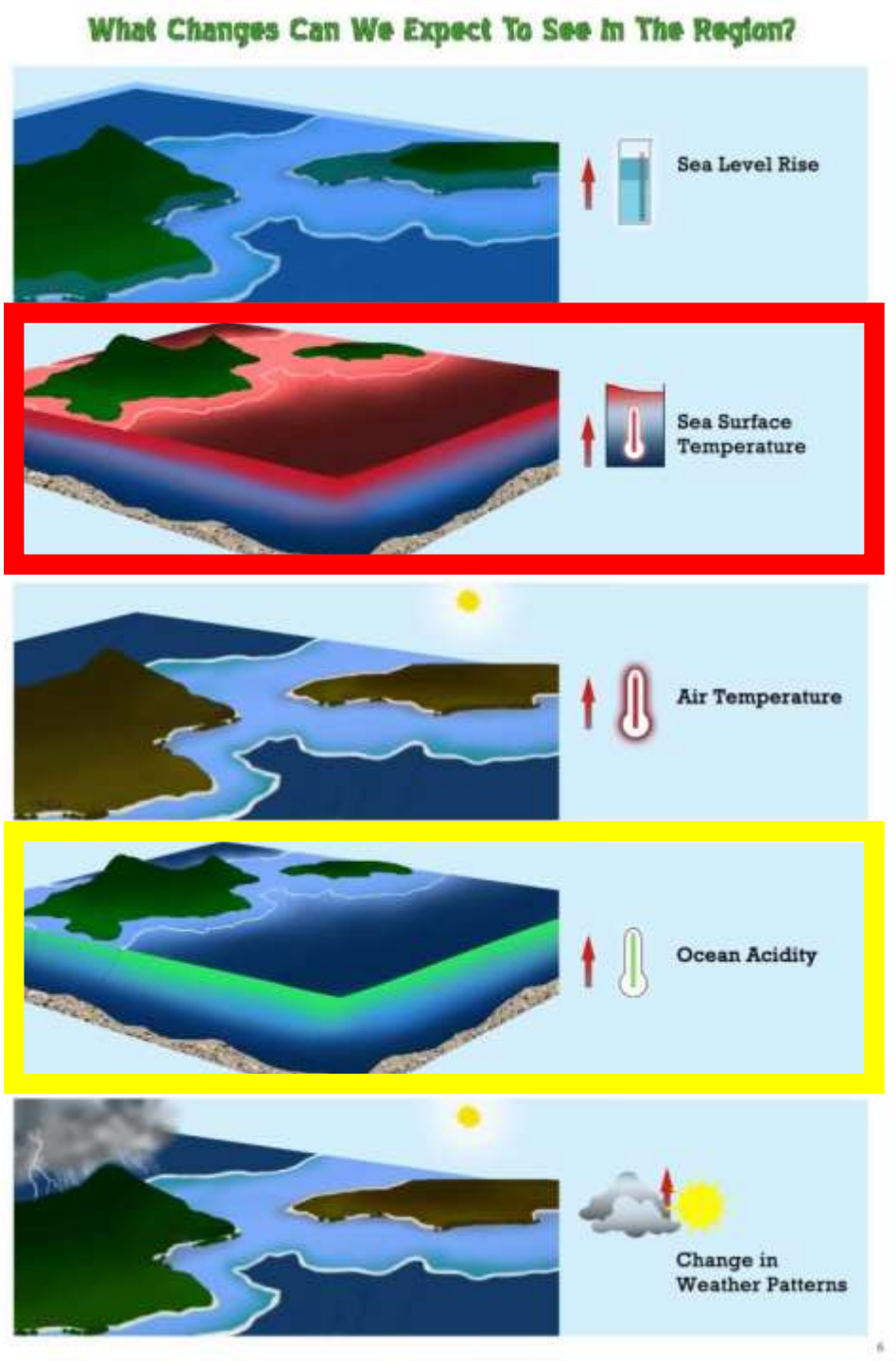
Ocean acidification

Decreased coral growth and recruitment

Changes in fisheries

More coastal erosion

Illustration by Sevuloni Tora



Bleaching Events in Guam

1997

2005

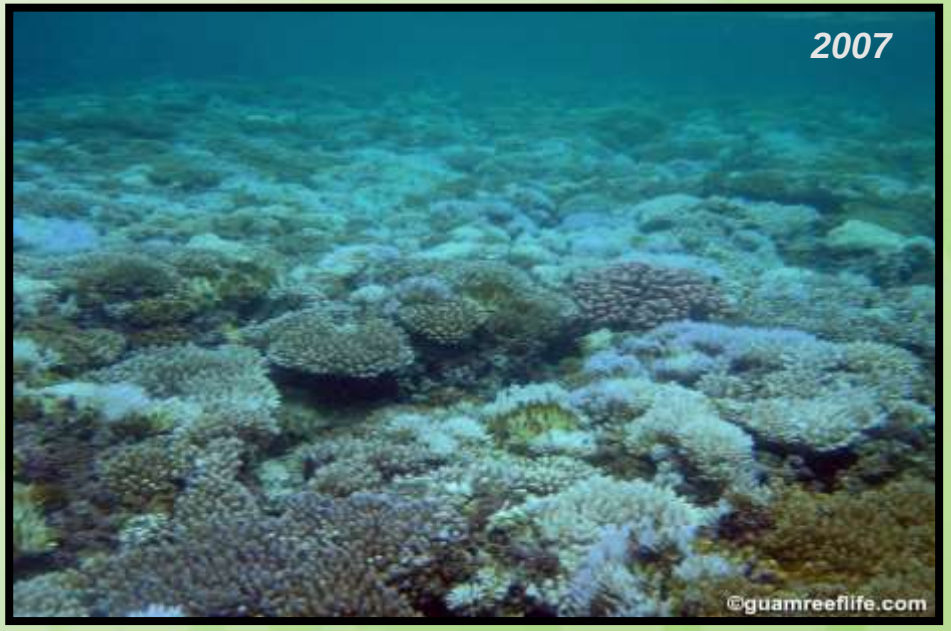
2007

2013

2014

2016

2017



Eyes of the Reef
EORMarianas.org

Make a report online
EORMarianas.org

Eyes of the Reef
EORMarianas.org

A. OBSERVER INFORMATION

Name *

Email

Phone

Activity

What activity were you doing when you observed the reef i

- [ ] Scuba diving
- [ ] Snorkeling
- [ ] Swimming or wading
- [ ] Fishing
- [ ] Kayaking or paddling
- [ ] Paddle boarding
- [ ] Other:

B. OBSERVATION INFORMATION

Date of observation

Include approximate time if available

Month | Day | 2016 | Hr : Min | AM

Island *

- [ ] Guam
- [ ] Saipan
- [ ] Rota
- [ ] Tinian

Location of observation

Beach name, reef/dive site, or closest landmark (e.g. Gab Gab, Family Beach, Tumon Bay in front of Outrigger)

GPS coordinates (if available)

Type of report *

What type of reef impact are you reporting?

Eyes of the Reef
EORMarianas.org

These are the reef impacts you can report…

Type of report *

What type of reef impact are you reporting?

- Coral Bleaching
- Coral Abnormality
- Crown of Thorns Sea Star
- Nuisance Species
- Echinoderm Disease
- Marine Debris
- Other type not listed

This form was created inside of National Oceanic and Atmospheric Administra

Eyes of the Reef
EORMarianas.org

Review each module so you can report reef impacts to EOR Marianas.