



**CAWTHRON**  
The power of science®

## **Seaweeek 2019**

### #8 Seas Warming

### Level 3/4 Teacher Information

Key Message: oceans absorb heat from climate change

**By the end of this lesson the students will be able to-**

1. Understand the effects of rising ocean temperatures
2. Discuss the reasons for rising ocean temperatures
3. Understand how co2 gets into the ocean and the effects (acidification)

NZ Curriculum-

#### **Science- Planet Earth and Beyond- Interacting systems**

Describe how natural features are changed and resources affected by natural events and human activities.

**Nature of Science-** Participating and contributing

Explore various aspects of an issue and make decisions about possible actions

Activities

Balloon candle

<https://www.jpl.nasa.gov/edu/teach/activity/global-warming-demonstration/>

Climate evidence

<https://climate.nasa.gov/evidence/>

[http://www.cisanctuary.org/ocean-acidification/hands\\_on\\_activities.php](http://www.cisanctuary.org/ocean-acidification/hands_on_activities.php)

Just 1°C of ocean warming can upend marine ecosystems

Humans add carbon dioxide to the atmosphere by burning fossil fuels (driving cars, creating electricity), deforestation, and in many other ways. The ocean then absorbs some of what gets emitted into the atmosphere, sometimes we say that the ocean acts as a “sink” for carbon dioxide. This changes the chemical make up of the ocean’s water. The ocean finds a new equilibrium with the added carbon dioxide and it is a more acidic/less basic ocean.

Demo

[http://www.cisanctuary.org/ocean-acidification/PDFs-WorkshopPage/Hands\\_on\\_activities/OA\\_dry\\_ice\\_demo.pdf](http://www.cisanctuary.org/ocean-acidification/PDFs-WorkshopPage/Hands_on_activities/OA_dry_ice_demo.pdf)