

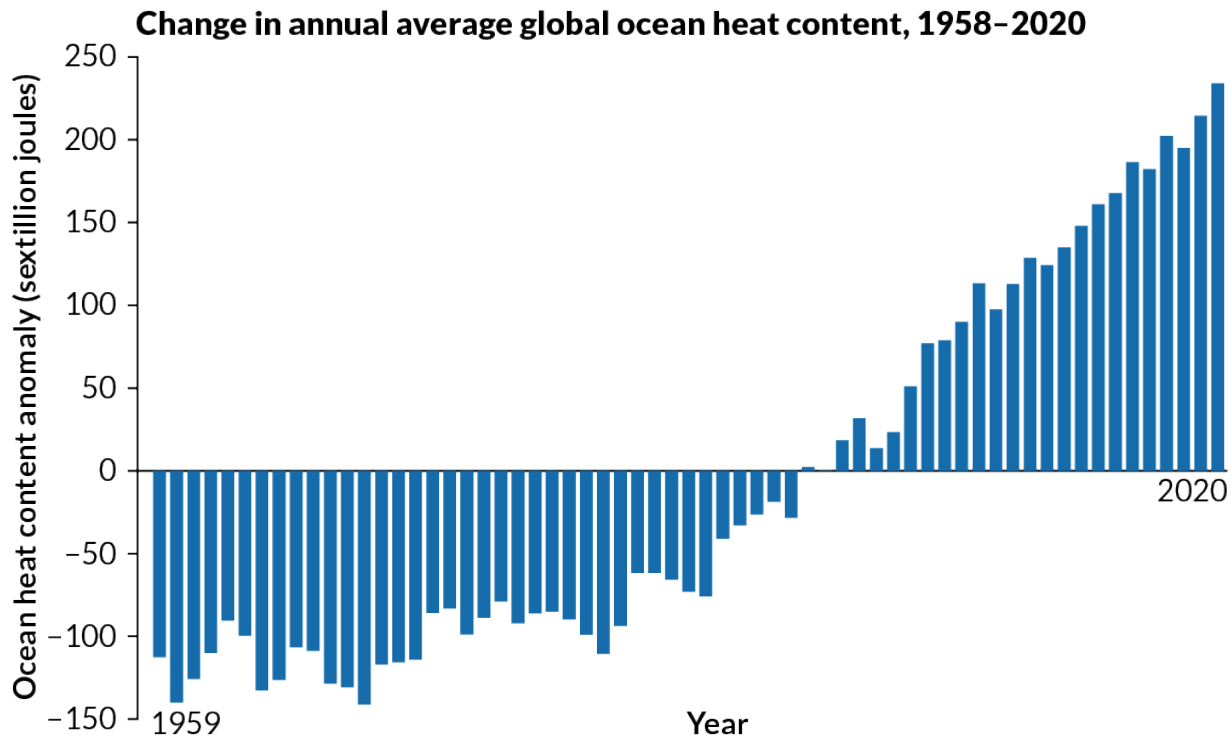
**Student Comprehension Worksheet**

**Directions:** Read the online *Science News* article "[Earth's oceans are storing record-breaking amounts of heat](#)," and answer the following questions. A version of the story, "Earth's oceans broke heat records in 2020," appears in the February 13, 2021 issue of *Science News*.

1. What is the main finding described in the *Science News* article?
2. Why is tracking ocean temperature important?
3. Where did the ocean temperature data that the researchers used come from?
4. How much heat energy did the upper oceans store in 2020 compared with the annual average from 1981 to 2010?
5. How does that amount compare with data from 2019? Why did the researchers come up with two estimates?
6. About how many kettles of water could be boiled by the jump in heat energy storage from 2019 to 2020, according to the researchers? Why is there a range given in the article?
7. Why do you think climate scientist Michael Mann compares the ocean heat records to the film *Groundhog Day*? You can look up the film if you are not familiar with it.

### Dive into data

Answer the following questions after examining the graph below. The graph appears in a version of the story, "Earth's oceans broke heat records in 2020," in the February 13, 2021 issue of *Science News*.



SOURCE: L. CHENG ET AL/ADVANCES IN ATMOSPHERIC SCIENCES 2021

1. What does the graph show? Define the x- and y-axes and their units.

2. Around what year did the oceans begin to store more heat than the baseline average? How much more heat did the oceans store that year?

3. State the general trend of the data shown in the graph, including the general trend in the rate of change in heat content.