

# The Case of the Arctic's Missing Ice

## Article-Based Observation, Q

**Directions:** After reading the article "[The case of the Arctic's missing ice](#)," answer the questions below. Questions are organized by story section with summary questions at the end.

### Introduction

1. What was unusual about the Bering Sea in the winter of 2017–2018? Why are scientists concerned?

### Open waters

2. Describe the typical pattern of winter sea ice formation in the Bering Sea. What factors contributed to a different scenario in the winter of 2017–2018?

3. What does Peggy, or mooring M2, do? What unexpected data did Peggy collect in the summer of 2018?

4. According to the graph titled "Deep warming" on Page 23 of the article, how did Peggy's data from the summer of 2018 compare with previous years? Based on the caption and the text of the "Open waters" section, what explains the summer 2018 data?

### Arctic in transition

5. What effects has sustained warming already had on the Arctic ecosystem? Be sure to frame your answer in terms of a "cascade of changes," the terminology used in the opening of the article.

## **The heat is on**

**6. What factors affect the timing, location and size of phytoplankton blooms in the Arctic? Provide an example from the article.**

**7. Phytoplankton make up the base of the Arctic food web and animals depend on the food, but sometimes the blooms are problematic. Why?**

## **Summary questions**

**8. Do you think the relatively iceless Arctic winter was a one-time fluke or is it likely to happen again? Cite evidence from the article to explain your answer.**

**9. What questions do researchers still hope to answer about the interplay of ice, temperature and life in the Arctic?**