Episode: **Climate Change in the Carolinas**

EXPLORING NORTH CAROLINA

USEFUL VOCABULARY

carbon dioxide
climate change
Ice Age
ice core sampling
glacier
greenhouse gases

CHAPTER 1 (1:55–3:57)

1. Why is North Carolina expected to experience an "intermediate" level of climate change?

2. Current warming in our climate is expected to raise temperatures in North Carolina by _____ degrees and ocean levels by approximately _____ inches.

3. According to the video, what two major factors will affect our climate in the decades and centuries to come?

CHAPTER 2 (3:58–10:53)

4. What is the difference between a glacial episode and an interglacial episode?

5. We have been in the current interglacial period for approximately _____ years.

6. During the last glacial episode, where was the glacial ice closest to North Carolina?

7. If ice sheets did not actually cover North Carolina, how did the glacial episode affect North Carolina's geography?

8. What evidence do we have that Earth's warming and cooling cycles affected North Carolina geography?

View of Earth photograph courtesy of NASA.

CHAPTER 3 (10:54–11:59)

9. Ice core sampling gives us detailed records of which two climate factors from the past?

10. Graphs of temperature change and atmospheric carbon dioxide correlate fairly closely until about 1780. What started in the 1780s, and how did it affect the amount of carbon dioxide in the atmosphere?

CHAPTER 4 (12:00–19:24)

11. Why do scientists use the analogy of a greenhouse to describe the current warming trend in our atmosphere?

12. What have scientists at Duke University been studying in the FACE experiment?

13. Name some direct effects of increased CO_2 levels on the surrounding forests in the FACE study?

14. How are the effects of climate change most evident in the Arctic?

CHAPTER 5 (19:26–25:45)

15. What are some of the changes that scientists expect to see in North Carolina as a result of climate change?

16. What do we need to do as individuals and as a society to reduce the potential impact of climate change?