



# Hot Times in Alaska

*Activity 3: Grades 5-8 and 9-12*

## **Frontiers Pop- Quiz**

1. Guillemot birds depend on what fish to feed their young?
  - a. Arctic cod
  - b. Swordfish
  - c. Atlantic salmon
  - d. Alaskan king crab
  
2. On average, how many degrees Fahrenheit has Alaska warmed up over the last 150 years?
  - a. 14
  - b. 4
  - c. 40
  - d. 32
  
3. What do Paul Claus and Anthony Arendt measure when they fly over the glaciers?
  
4. By Valentine and Keith Echelmayer have found that glaciers are receding by almost 2 meters per year. True or false?
  
5. What are melting glaciers causing to rise?
  - a. Water temperature
  - b. Sea level
  - c. Air temperature
  - d. Glacier height
  
6. When permafrost--and the organic matter it contains--thaws, what gas will be released into the atmosphere?

7. By comparing aerial photographs from the last 50 years with photos from today, Brian Riordan has learned that Alaska's \_\_\_\_\_ are shrinking.

8. Which of these factors is NOT a reason that many of Alaska's trees are suffering?

- a. Drought
- b. Insects
- c. Root rot
- d. Heavy snowfall

9. Later, colder springs in Alaska are affecting the ability of the arctic ground squirrel to mate successfully. True or false?

10. Which of the following is NOT a negative effect of the increasing shrubbery in the Alaskan tundra?

- a. Shrubs trap snow, which insulates the land, making it warmer
- b. Shrubs make the land darker, so it absorbs more heat
- c. Shrubs keep other vegetation from growing, and animals starve
- d. Shrubs make the land darker, so it reflects less light



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**(Glacier height)**
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**(True)**
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  - b. Sea level**
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  - d. Glacier height
6. When permafrost--and the organic matter it contains--thaws, what gas will be released into the atmosphere?  
**(Carbon dioxide)**

7. By comparing aerial photographs from the last 50 years with photos from today, Brian Riordan has learned that Alaska's \_\_\_\_\_ are shrinking.  
**(Lakes)**

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**(True)**

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