

Activity 4

STUDENT RESPONSE PAGE

NAME _____

MEASURING THE LAKES

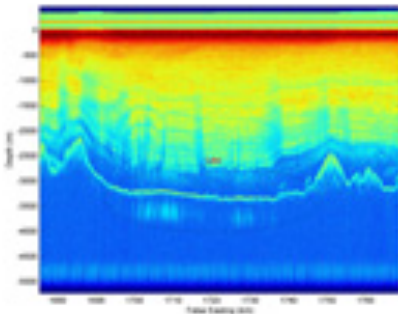
1. WHAT INFORMATION IS NEEDED IN ORDER TO CALCULATE:

A) LENGTH _____

B) AREA _____

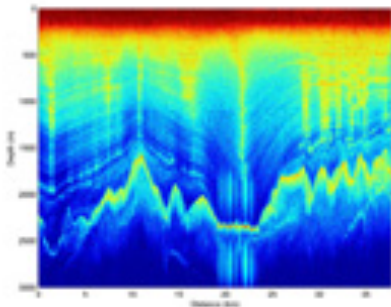
C) VOLUME _____

2. GIVEN THAT THESE ARE SINGLE FLIGHT LINES WHAT INFORMATION CAN YOU CALCULATE FOR THESE LAKES: LENGTH? AREA? VOLUME? EXPLAIN.



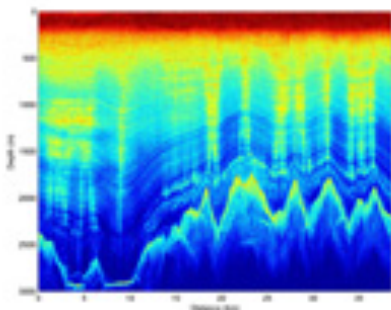
3. IMAGE 1:

A) WHAT 'SIZE' IS THIS LAKE ON THE RADAR IMAGE? (SPECIFY IF YOU ARE CALCULATING LENGTH, AREA OR VOLUME.) WHAT UNITS WILL YOU USE TO RECORD THIS?



4. IMAGE 2:

A) WHAT 'SIZE' IS THIS LAKE ON THE RADAR IMAGE? (SPECIFY IF YOU ARE CALCULATING LENGTH, AREA OR VOLUME.) WHAT UNITS WILL YOU USE TO RECORD THIS?



5. IMAGE 3:

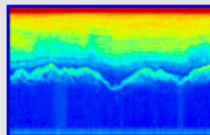
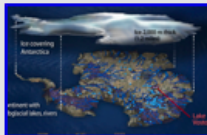
A) THIS IMAGE HAS TWO LAKES. WHAT IS THE 'SIZE' OF EACH (SPECIFY IF YOU ARE CALCULATING LENGTH, AREA OR VOLUME.)? WHAT UNITS WILL YOU USE TO RECORD THIS?

1ST LAKE:

2ND LAKE:

Lamont-Doherty Earth Observatory

For more activities see: <http://www.ldeo.columbia.edu/edu/polareducation/>



Activity 4

6. WHICH OF THE THREE IMAGES (1, 2, OR 3) HAS THE LARGEST LAKE?

7. WHICH OF THE THREE IMAGES (1, 2, OR 3) HAS THE SMALLEST LAKE?

8. WHICH LAKE IS THE FURTHEST UNDER THE ICE?

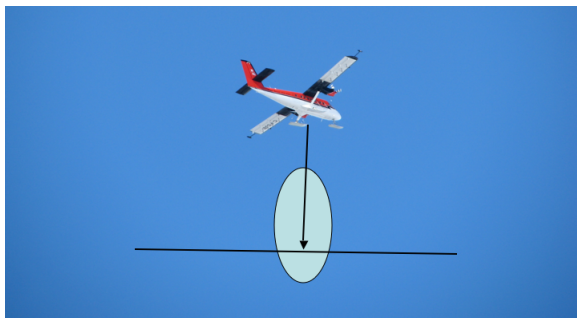
9. WHICH LAKE IS THE CLOSEST TO THE ICE SURFACE?

10. SCIENTISTS HAVE FOUND MANY LAKES UNDER THE ICE IN ANTARCTICA. YOU HAVE JUST LOOKED AT THREE IMAGES AND EACH ONE HAD LAKE(S). WHAT PERCENT OF THE TOTAL NUMBER OF KMS COLLECTED ON THESE FLIGHT LINES IS LAKE?

11. IN ORDER TO HELP YOU GET A BETTER SENSE OF HOW BIG THESE LAKES ARE IT MIGHT HELP TO CONVERT THE FLIGHTLINES INTO MILES. REMEMBER EACH KM IS 0.62 MILES.

CALCULATE THE LENGTH OF EACH OF THE FLIGHTLINES IN MILES:

IMAGE 1 _____ IMAGE 2 _____ IMAGE 3 _____
NOW LOOK AT THE SIZE OF THE LAKES AGAIN. DID THIS HELP?



THINK ABOUT THIS! THE FLIGHT LINES YOU ARE LOOKING AT MIGHT CROSS THE LAKE ALONG THE WIDTH AND NOT THE LENGTH. MAYBE AS WE COLLECT MORE DATA WE WILL LEARN THESE LAKES ARE MUCH LARGER!