Names_____

Section (9am or 12pm)

GG101 Dynamic Earth: In-class activity 2

Using the attached maps, please answer all questions. Turn in before you leave class today.

1) What is the location of the Hawaiian Hotspot today?

2) How long ago was Kauai over the location of the Hawaiian Hotspot?

3) What is the distance between the current location of the Hawaiian Hotspot and Kauai (be as precise as possible, include units)?

4) What direction is the Pacific Plate currently moving across the Hawaiian Hotspot?

5) How fast is the Pacific Plate currently moving across the Hawaiian Hotspot (give answer in cm/year)?

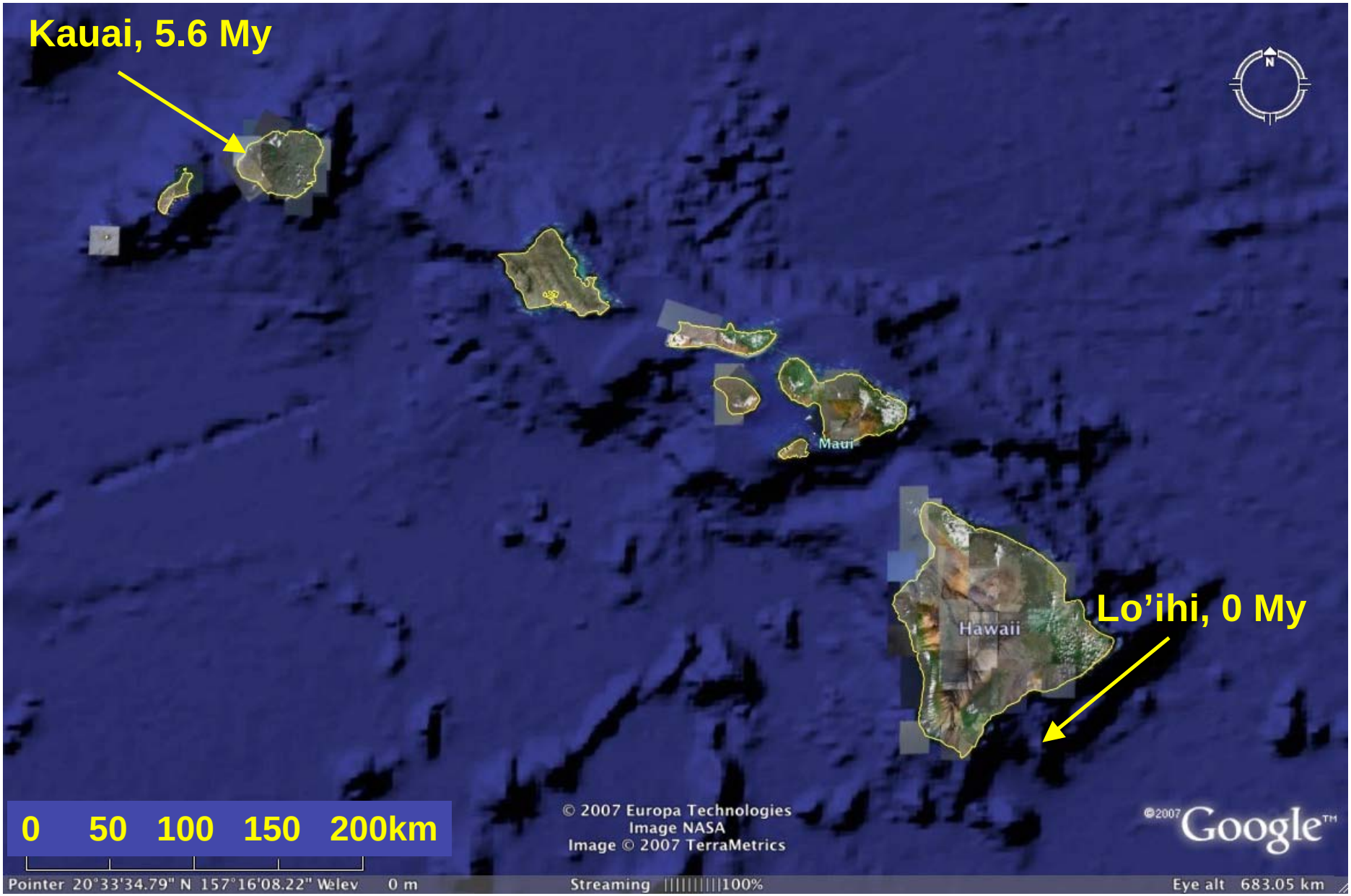
6) What direction was the Pacific Plate moving across the Hawaiian Hotspot between 50-65 million years ago?

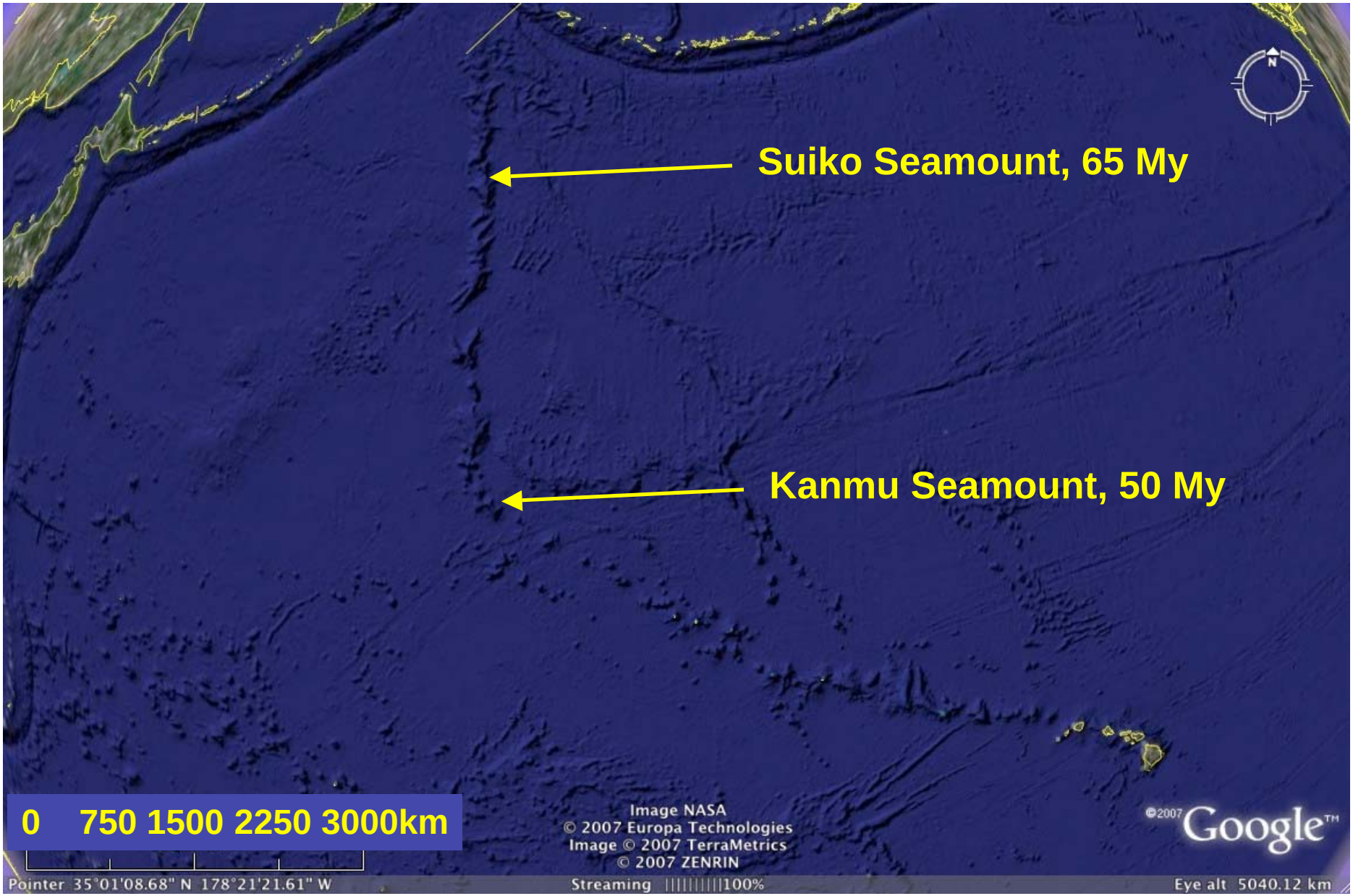
7) What is the distance between Kanmu Seamount and Suiko Seamount (be as precise as possible, include units)?

8) How fast was the Pacific Plate moving between 50-65 million years ago (give answer in cm/year)?

9) Based on what we learned in class, what might have caused this change in plate motion and speed?

10) Numerical models of absolute plate motion estimate that the Pacific Plate is moving at a speed of ~8 cm/year. Does this match your calculation exactly? If not, speculate as to why.


Kauai, 5.6 My
Maui
Hawaii
Lo'ihi, 0 My
0 50 100 150 200km
© 2007 Europa Technologies
Image NASA
Image © 2007 TerraMetrics
©2007 Google™
Pointer 20°33'34.79" N 157°16'08.22" Welev 0 m
Streaming 100%
Eye alt 683.05 km


Suiko Seamount, 65 My
Kanmu Seamount, 50 My
0 750 1500 2250 3000km
Image NASA
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Image © 2007 TerraMetrics
© 2007 ZENRIN
©2007 Google™
Pointer 35°01'08.68" N 178°21'21.61" W
Streaming 100%
Eye alt 5040.12 km