

EOSC 114: Natural Disasters

Waves & Tsunami

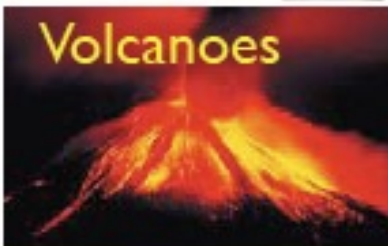
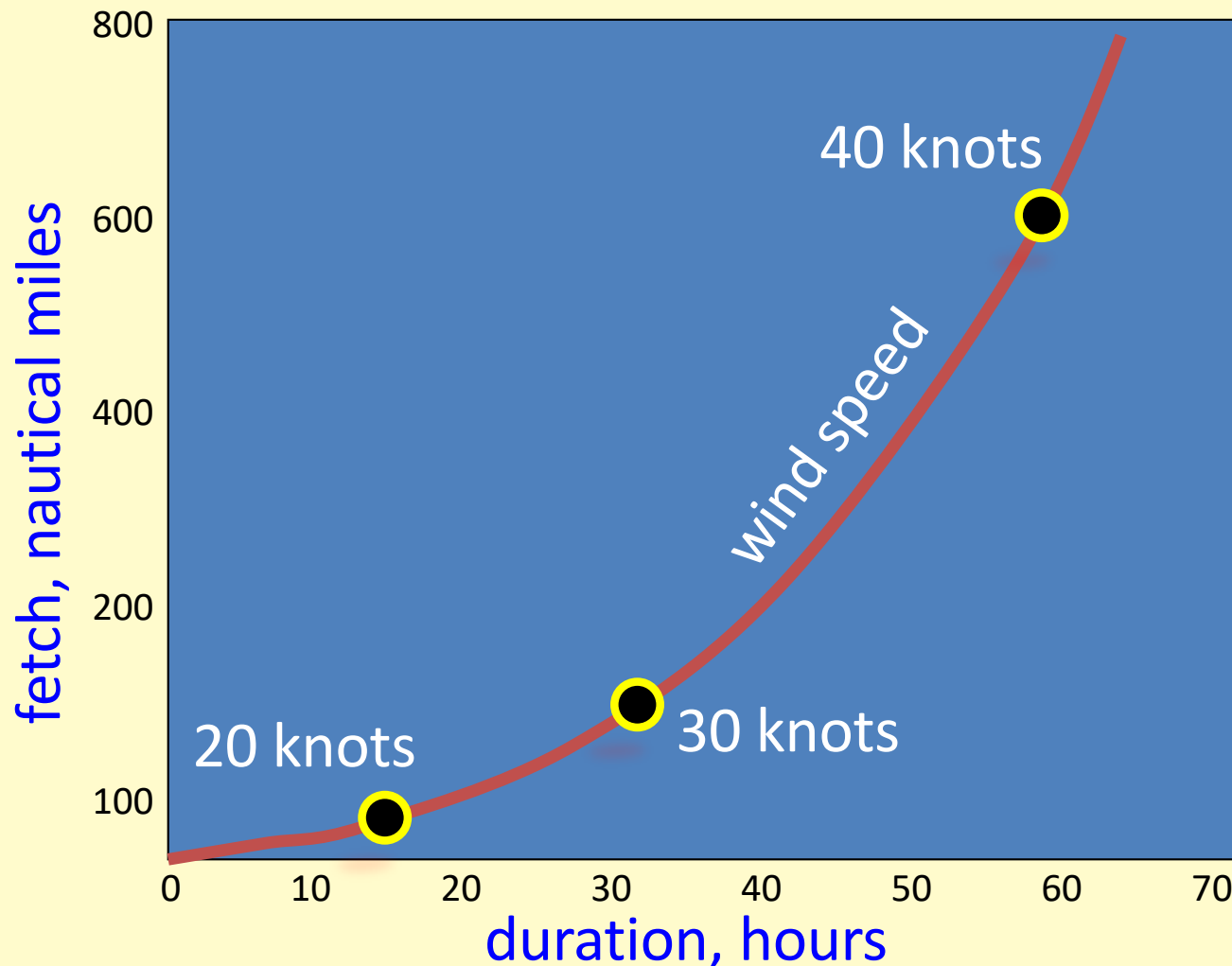


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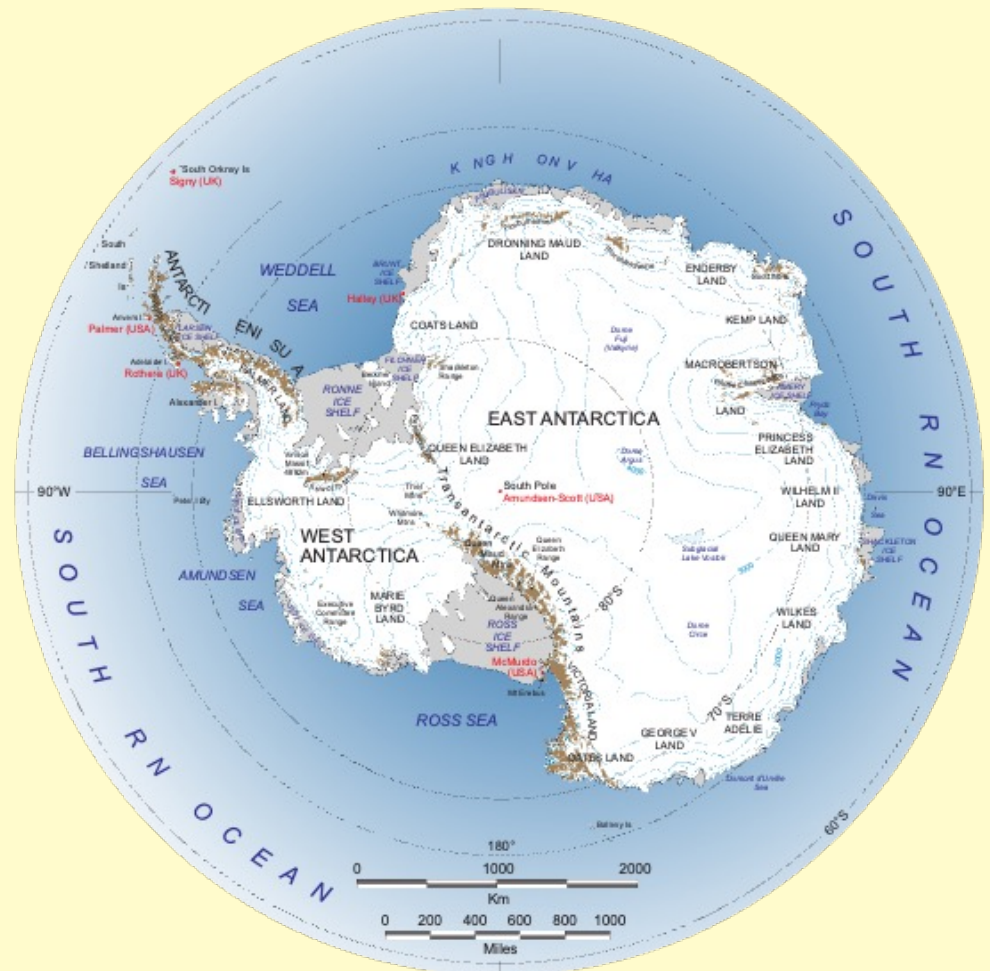
Over a fetch of 400 n.miles, a wind must blow with a speed of about ____ over ____ to generate a fully developed sea.



- A. 20 kn, 15 hr
- B. 30 kn, 32 hr
- C. 35 kn, 50 hr
- D. 40 kn, 58 hr
- E. 80 kn, 70 hr

The largest (wave heights) wind-driven waves are found around Antarctica in the Southern Ocean. What do you think accounts for these massive waves in the Southern Ocean?

- A. Ice cover
- B. Wind speed
- C. Cold water
- D. Fetch
- E. Wind duration



What do you think happens when two different ocean swells meet?

- A. This can't happen, because ocean waves all move in the same direction
- B. The bigger wave absorbs the smaller wave's energy, and gets even bigger
- C. The smaller wave removes some of the bigger wave's energy
- D. The waves combine to produce a more complex wave
- E. The waves crash together and break

Why do you think tsunami can be especially devastating in Hawaii's Hilo Bay, a semi-enclosed water body?

- A. The tsunami constructively interferes with the seiche generated in the Bay.
- B. There is destructive interference between the tsunami and waves in the Bay.
- C. The tsunami constructively interferes with tides in the Bay, producing a 'tidal wave'.
- D. Bays are shallow and tsunami energy increases as they approach shallow water.

Why are tsunami very common in the Pacific Ocean?

- A. The Pacific is the largest ocean, so there's more chance of a tsunami occurring
- B. There's a huge number of earthquake activity around the Pacific
- C. The Pacific is the deepest ocean, allowing a tsunami to become larger
- D. Pacific coastlines are the most heavily populated, so tsunami are more likely to be observed there

Which aspect of a tsunami is the MOST predictable?

A. wavelength, L

B. height, H

C. period, T

D. celerity, c

E. steepness

A Hurricane is predicted to hit the coast of Square Island (in the NH). Which town is MOST at risk for storm surge hazards?

A

B

C

D

E

