Topic: **Waves** **QC-0502**

Resource:

Wave Buoy Data

Basics: An ocean wave is periodic change in water height as water molecules rise and fall in a circular pattern. NOAA has placed buoys at strategic locations in the oceans to record and transmit wave data. This data can be used to predict the size of waves that may impact local shores at future times. Such data is scrutinized by surfers, surf kayakers and FEMA, and is also useful for coastal kayakers.

Question: *How are waves generated?*

Answer: In the open ocean waves are generated primarily by the action of wind on the water surface and wave height is generally proportional to the velocity, duration and distance over which the wind acts. Waves are also generated by boat wake and may be complicated by wave interactions and reflections off bulkheads and cliffs. Contrary to popular belief, wave patterns are not easily predictable. Exceptionally large waves may be generated by reinforcement of wave trains, storm effects or even earthquakes.

Question: *How do waves affect a kayaker or canoeist?*

Answer: The effect depends on the size of the wave, its direction of travel and the angle to the craft. This determines the magnitude and direction of the force on the boat that must be compensated for. The design of the boat is also very important in determining its stability in wave conditions. All things being equal, the comfort level of a kayaker in wave conditions is directly proportional to their level of skill.

Advanced Concepts: You may want to get more information on the following:

- What is "chop"? ..."surf"? ..."clapotis"?
- How can you use a low-brace to stabilize against a wave? ...a high brace?
- How can you hold a course when waves are hitting your boat at an angle?
- How can you best control your boat when waves are pushing from behind?
- How can you best maneuver you boat in wave conditions?

For more information contact

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