

Ocean Waves:

Waves are wind driven - local winds can conflict with the long-range waves and white caps result.

Waves are true stirring mechanisms of the sea especially in upper layers

Wave Nomenclature

L = length A = Amplitude Trough

H= height Train Crest

Wave period - time in seconds for one complete wave to pass

Amplitude (1/2 h)

Velocity: $L/T = C$ (C = Velocity) C = Celerity

Fetch: distance + direction unimpeded

Inner Wave Motion:

Gyral within wave: orbital - elliptical motion seldom felt below 100 feet below surface

Why a wave breaks: Translation wave @ surf zone

1. Wave molecules are compressed from sphere to ellipse by contact with the submarine surface
2. Crest of wave is greater than 120 degrees
3. Obstructions of topography

Wave height in storm: Atlantic 25 @ 50 feet (max)

Pacific 112 feet (max)

Rogue wave 100 feet = Perfect storm edge wave

John F. Looney © 2004

