

## OCEAN 201 LABORATORY WAVES AND SURF FORECASTING

**Key Words: Wind Speed, Wind Duration, Fetch, Wave Decay, Refraction, and Shoaling**

Although a thorough understanding of the generation and propagation of ocean waves as governed by the laws of physics requires a considerable background in math and science, the ability to make a reasonably accurate surf forecast can be developed by just about anyone with the access to the right information and a willingness to take the time to practice. Just like surfing, it takes a while to get good.

There are 6 essential pieces of data and information needed to make an accurate surf forecast:

1. Wind speed – Distance covered by the wind per unit time
2. Duration of the wind – time over which wind blows
3. Fetch - distance over which the wind blows
4. Wave decay – decrease in wave intensity as swells spread out from the storm center
5. Refraction – bending of waves as they travel over an uneven ocean floor
6. Shoaling – increase in wave height as wave goes encounters shallower bottom

Essentially, the first three are what generate the waves - the wind. The second three cover what happens to the waves once they are generated. Both of these topics are covered quite nicely in the following web page. The reading will take less than an hour and is well written. Go to <http://www.stormsurf.com>. Click on the wave to enter the site, then click on the link **Surf Forecast Tutorials**. Just read the two pages **Wave Basics** and **Weather Basics**. These two web pages will constitute the reading for next week's lab.