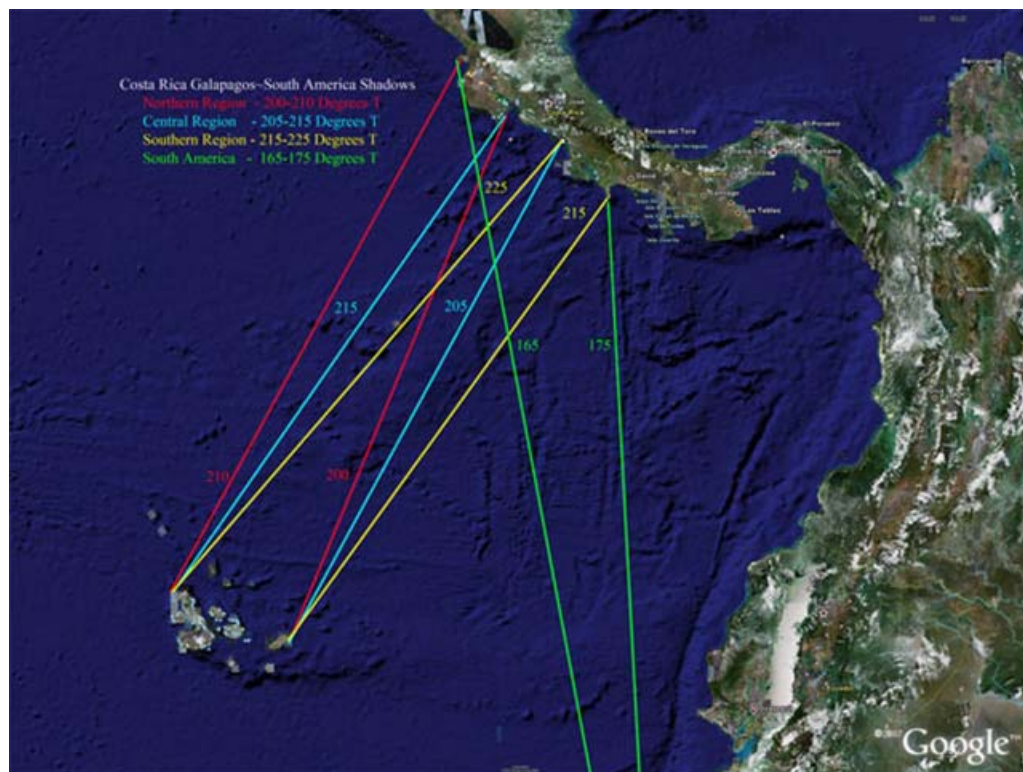


Costa Rica Swell Shadows Caused by the Galapagos Islands. Courtesy of Surfline.com
http://www.surfline.com/surf-news/galapagos-islands-swell-shadow-on-nicaragua_127479/

The Galapagos Islands shadow will come into play for Costa Rica when swells approach from 225-200 degrees. Note, however, that **Northern CR will see the heaviest shadowing on swells from 210-200 degrees (210-195 for us?)**; Central CR will see the heaviest shadowing on swells from 215-205 degrees; and Southern CR will see the heaviest shadowing on swells from 225-215 degrees. Map created by Sean Collins.



The Galapagos Islands can and will produce an island wave shadow in various parts of Central America. Of course, just how strong the shadow is for specific locations will depend on the exact swell direction. Case in point: this most recent Southern Hemisphere from the SSW 195-205 degrees was much smaller for Nicaragua than other parts of Central America thanks to the shadowing effect of the Galapagos Islands. The majority of swells of the South Pacific are generated by very large storm systems that track from West to East. Therefore, we often see a very broad fetch of strong winds set up and stay intact (although fluctuating in intensity depending on the storm's behavior) while moving through the Southern Hemisphere.

As a result, the swells are usually pushed out from a broad swell direction (example: starting at 225-200 degrees and shifting to 210-180, with a building/peaking/fading trend within this gradually shifting range). Even though specific angles of a swell may be shadowed for specific regions (which is a small range in comparison, about 10 deg), there is still usually plenty of remaining swell energy still getting in un-shadowed.

This brings up another factor to take into account; knowing which specific range of the swell angle is packing the bulk of the swell energy, which can be within a small range. For example: the overall swell direction may be from 225-200 degrees, but the 210-200 degree range may be the meat of the swell. As a result the Galapagos shadow can/will play a major role, thus directly affecting what you see at specific beaches of Central America.

Sean Collins noted that, "When the Galapagos shadow is fully into effect, I would estimate it takes out at least 50% of the swell energy (swell height and wave consistency). As the swell directions will always range a little there will also be waves approaching from the sides on the border of the shadow. The ocean depths are very deep near the Galapagos so there should be very little refraction at all, but some diffraction as the swell energy also settles in throughout the shadow void - similar to the swell sweeping around the end of a breakwater in deep water."