

For years, scientists who study the shoreline have wondered at the apparent fickleness of storms, which can devastate one part of a coastline, yet leave an adjacent part untouched. One beach may wash away, with houses tumbling into the sea, while a nearby beach weathers a storm without a scratch. How can this be?

The answers lie in the physics of the

nearshore region—the stretch of sand, rock, and water between the dry land behind the beach and the beginning of deep water far from shore. To comprehend and predict how shorelines will change from day to day and year to year, we have to:

- decipher how waves evolve;
- determine where currents will form and why;
- learn where sand comes from and where it goes;
- understand when conditions are right

for a beach to erode or build up.

Understanding beaches and the Q ! eo





