COASTAL GEOLOGY – TIDAL WAVE ENERGY

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The movement of the water is actually entrapping the sand and either bringing it up to shore to build up the beach. Or if a tide is receding, it's actually taking the sand from the beach and moving it further offshore. And that's where we have secondary sand bars forming. So you can walk out into the water, and you may feel drops and rises in the bottom. And those are places where the sand is building up sand bars off of the beach.

So we've noticed today that we have a falling tide. So the water is receding. So it's actually grabbing sand from the beach face and carrying it into the water.

So what happens is the most energy-- we have a lot of shell material here, the shell hash. Because it's heavier, so it takes more energy to deposit this shell than it does further out, where we have smaller shell particles. So it's like a sorting process. So the sides of the grains get sorted as the water's energy moves this in toward shore or washes it away from the beach.

So out here where we had our ripples, we have fewer shells and a lot more sand. What's happening is the water's being forced up to shore. It's colliding with the land itself-- with the beach-- and that's stopping the energy. So that's why all the shells get dumped right there at that place where we step out of the water. That's often called the step. So that's where your coarsest grains will be found, typically building up right there in the swash zone.