Unit 06 GeoMations: How Delta's Work

We're flying along in our helicopter out over the ocean, and we're looking towards shore at a beautiful beach we just saw there. And we're seeing the pretty waves of the ocean underneath us. And we see a great river coming down to the shore, something like this, meandering along the way some of these great rivers do.

Now if we could somehow hang along in our helicopter and wait for a flood, what we'd notice is that sitting next to the river, there's a bunch of trees that are growing. And when the flood happens, the water would start trucking out of the river into both directions. And as the water came trucking out of the river, it would slow down when it got into the trees.

And as it did so, it would start depositing a layer of mud. And that layer of mud would be thickest very close to the river, and then it would thin on out across the flood plain of the river. And this would be happening on both sides of the river. And so after a while, we would see that the river is contributing to building a natural levee that sits along the river and runs all the way out to the mouth.

Now, if we could keep watching this happen over very long times, over hundreds or thousands of years, we would see that in many places, the ocean is not strong enough to get rid of all the mud that the river delivers. And so the river would start building out into the ocean, and it would just extend its way out there, building a levee. And as it did so-- not a very high one-- but as it did so, the river itself would lengthen. And so it would be coming out in there, and the water would be flowing down to the sea.

And when this is going on, it has to keep going downhill. So it builds up, as we saw earlier, as well as building out. And so you start getting higher walls that hold the river in, on up here, to allow it to flow downhill and run out like that.

And so as the bed of the river is raised, and it gets higher walls, it's like being on the log flume at the amusement park. And at some point, there's a flood, and that wall breaks, and the river takes the short way down to the sea. And then the whole process will start over again. It'll start building a new wall, and building out that way. And eventually, sometime in the future, this one will become big, and then it will do it over again. And so rivers build deltas. They switch from one place to the other as they build out.