LIZ BONNIN: Hi, I'm Liz Bonnin. Now if I say the word 'spit' and 'backwash' to you, you might think I'm about to start talking about a trip to the dentist. Don't worry, I'm not.

This is physical geography, where a spit is a stretch of beach that juts out into the sea, and backwash is the force with which the waves return to the sea causing it to move and change.

To demonstrate this, let's check out a clip featuring Katie Knapman from the Countryfile team, who's in Spurn Head, off the coast of Yorkshire. A place where shifting sands are a serious business.

KATIE KNAPMAN: Although this spit has been here for hundreds of years, it's a very dynamic piece of land. It's always on the move. The sea may have shaped it and built it, but it also has the power to move it.

Despite this constant shift, people still live and work here. There's a permanently manned RNLI Lifeboat station at the point, and piloted boats are on hand to guide vessels through one of our busiest shipping channels.

Out there on the horizon, just over two miles away, you can just about make out a met mast, which is a piece of equipment used to measure weather conditions. It also marks the point where the coast line was in Roman times, and that shows you just how much this landscape has changed over time.

On average, the spurn moves west up to two metres, or nearly 7 feet, a year. It's all down to longshore drift, a natural process that never rests. I'm meeting geologist, Dr Yan Zalasiewicz, from Leicester University, to find out more.

Longshore drift, classic geography term.

DR ZALASIEWICZ: It is, yes.

KATIE KNAPMAN: Can you explain that?

DR ZALASIEWICZ: Well, I suppose it's a classic spit, which is formed by material being washed by the sea out of these cliffs of boulder clay. The waves attack them. They break them down actually at the rate of one or two metres a year. The mud and the sand and the pebbles are washed out. The waves will carry the pebbles up the beach like this. Normally coming at an angle. And then the backwash comes, so it will simply drop back down the beach here. The next wave will come, pick it up, take it diagonally again and down it goes again. So it will go on travelling, it will do a zig-zag along the beach, and simply, will carry on.

KATIE KNAPMAN: So more and more material will be taken from one side of the beach, right along, and that is how the spit will form.

DR ZALASIEWICZ: It is how the spit forms. It's an ongoing conveyer belt. Material is always coming out of the cliffs, that's the supply, and it's carrying on down, and it's just travelling. You know, it'll travel miles and miles.

KATIE KNAPMAN: In the past, man has tried to check this movement and prevent erosion by protecting the land from the sea's natural passage. The Victorians set up a series of sea defences to hold back the waves. They were maintained by the MOD until the late 1950s.

Since then, the Yorkshire Wildlife Trust has been responsible for the management of the spurn. Now a designated National Nature Reserve.

Andrew Gibson is the full time warden in charge and he's going to show me around the reserve.

Now the sea is just over this bank here.

ANDREW GIBSON: It is, it's just over on our left.

KATIE KNAPMAN: When you've got your spring tides, is the sea actually washing over this bit of land?

ANDREW GIBSON: It will come over. Believe it or not, that's what we want. We want it to wash over and move westwards which is what it would do naturally.

KATIE KNAPMAN: You want nature to shape this land?

ANDREW GIBSON: We do but we need to manage it for our own benefit as well, and it's striking that compromise between the two things.

KATIE KNAPMAN: There we go. Oh my goodness, it's blowing a gale! So what's the important thing about this bit of road and that bit of road?

ANDREW GIBSON: Well, that's your traditional tarmac road which would say bad road. This is good road. This is a removable interlocking concrete block. But it allows us to do is you can see the sand migrate over this very easily, and if the dynamic coastline, as it moves, washes it away, we can pick this material up, put it back in the recycler and bring it back out. Whereas the tarmac road is fixed, it's hard, it needs a sub-base. It's a hard scar on the landscape should we say. Whereas what we need is dynamism.

LIZ BONNIN: I love that. The ground beneath you keeps moving, so of course, you need a road that you can recycle. Fantastic.

DR SAMANTHA COPE: Yeah so this section through here is more vulnerable to hinging back, what with the entrance of Chichester Harbour and the focusing onshore waves. And just behind us we have a flood route that will feed through to flooding the houses, which is why we put the rock in place.

ELLIE HARRISON: And if there was no beach management at all if we simply left the sea to do what it would do, what would happen here?

DR SAMANTHA COPE: Yeah so the beach would very quickly erode, move in to Chichester Harbour and up towards the west of Hayling Island. And that would then put these 1700 properties behind us at risk of flooding.

ELLIE HARRISON: So it's quite important that the hand of man has to intervene I suppose.

DR SAMANTHA COPE: Yeah and this allows us to continue to work with nature and with the coastal processes.

ELLIE HARRISON: Well my pebble hasn't moved that far yet, but where will it turn up in 20 years from now?

LIZ BONNIN: I haven't got a tracer, but it does make you think. I wonder where this pebble is going to end up.