

Dutch create world's largest man-made wave

October 5 2015, by Nicolas Delaunay



In a country where most people live below sea level, studying the oceans is a matter of survival. Now Dutch scientists have created the world's biggest man-made wave in a bid to prepare for the worst.

"Here we can test what happens if enormous waves hit our dykes," said Dutch Infrastructure Minister Melanie Schultz van Haegen as she inaugurated the giant wave machine Monday in the city of Delft.

Dubbed the "Delta Flume," the machine, which took three years to build at the Deltares institute, can send waves as high as five metres (15 feet) crashing down a 300-metre long channel which is some 9 and a half metres deep.

"At the end of the long channel we have a wave maker, and that's basically a vertical wall that moves back and forth, and it can make very large waves," explained Bas Hofland, an expert in coastal defences working on the project.

Four powerful pistons behind the seven-metre high metal plaque push the water—some nine million litres or four times the capacity of an Olympic-size swimming pool—at the speed of 1,000 litres a second down the channel.

The aim of the 26-million euro (\$29-million) project is to simulate the power of the oceans, and recreate tsunami conditions to help build better, stronger flood defences.

The Netherlands is a country where half the population lives below sea level on reclaimed land.

"Safety against floods is one of the main issues here in the Netherlands, so we want to test the dykes and the dunes," Hofland told AFP.

"It is not possible to make it at a small scale, so we must have real life-scale dikes and dunes."

Surf's up

After a centuries-long battle with the oceans, the Netherlands has dubbed itself the "safest delta in the world" thanks to a unique network of dykes and dunes stretching over thousands of kilometres, which

literally hold back the tides.

One of them, known as the Oosterscheldekering (or Eastern Scheldt storm surge barrier), stretches across nine kilometres (five miles) to the south of the country.

It is made up of 64 gates, each about 42 metres wide, which can be closed during stormy weather to hold back rising waters.

"The water and its logistics are those sectors for which the Netherlands is known around the world," Schultz van Haegen said, who saw for herself the full force of the machine when she was drenched by one of the waves.

And it's not just those working in coastal defences who have been drawn to the gigantic project in Delft.

The team at the Deltares institute have also been flooded by requests from surfers, keen to try out the power of the wave.

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