Using maths to predict in just three minutes how a tsunami will behave

LOCATION: Malaga
DURATION: 1'30"

SUMMARY: A maths team from the University of Malaga has created a computer system that simulates the behaviour of a tsunami. With a few equations and a computer solving them, in barely three minutes they can determine how a tsunami will spread, its speed, which zones will be affected and when the wave will arrive.

VTR:

Predicting a tsunami's behaviour. That is what this maths team from the University of Malaga has achieved, which they do, in a very short space of time thanks to equations and computing.

CARLOS PARÉS
University of Malaga
Professor

"A few equations which, when you solve them, tell you that the tsunami is forming at a certain point in the ocean, then how it's going to spread, at what speed, which zones are going to be affected, when the wave will arrive..."

The success of the system is in its speed, and the secret is in the use of the computers powerful graphic cards to carry out the calculations.

CARLOS PARÉS
University of Malaga
Professor

"They use the calculations strength which the graphic cards have, and then, they get simulations which are much quicker."

MANUEL CASTRO
Profesor Universidad de Málaga

"We would be able to give an answer regarding the waves arrival time, the height at which it'll hit a certain area in about two and a half minutes, maybe three."

Italy's prevention bodies were the first to bet on this type of simulation system. But they also joined those of Europe and the United States. Specifically, the North American organisation of ocean control and atmosphere and the European Join Research Centre, which has a wide range of uses.

JORGE MACÍAS
University of Malaga
Professor

"One, as I was saying, is the early warning systems, which they use to quickly calculate, in just a few a minutes, once an earthquake has been produced. Another important use is making flood maps. So, knowing all the possible outcomes."

With these possible outcomes, the prevention bodies will be able to prepare emergency protocol and implement infrastructure to minimise a situation like this.

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