

Successful public session on 'Impacts of Sea Level Rise'

The Dutch football team's strategy against Mexico during the 2014 World Cup as a metaphor for climate adaptation? Hilarity ensued after environmental scientist Marjolijn Haasnoot showed a video clip of an interview with former player Dirk Kuijt to illustrate the strategies available for dealing with rising sea levels. This was just one of the highlights of a fascinating seminar on the possible consequences of sea level rise.

Sixty up-and-coming talented scientists from 23 different countries had already discussed the phenomenon of sea level rise in the past, present, and future on Monday, 27 August. That evening, another 140 interested individuals attended the lecture and debate session in the Blue Auditorium of Utrecht University's Marinus Ruppert building. Weatherman and polar researcher Peter Kuipers Munneke moderated the evening's discussion. A terrifying silence descended over the auditorium when he asked whether any policymakers were in attendance. "They're probably busy protecting our coasts", was his witty reply.

Not just wet feet

Piet Hoekstra, physical geographer and Dean of the Faculty of Geosciences, explained that there is more to the problem of rising sea levels than just wet feet. He used the Mekong river delta as an example, with its intricate network of irrigation canals, where rising sea levels combined with soil subsidence presents the risk of salinization, with enormous consequences for local food production. Bas de Boer (Institute for Marine and Atmospheric Research, Utrecht University) talked about issues such as melting ice caps in the distant past, and the resulting land subsidence that is still affecting North America.

Stimulating

Michiel van der Meulen (TNO - Geological Survey of the Netherlands) explained how the Dutch coast has developed over the past few millennia, along with the influence humans have had through draining marshes and peat extraction. He stimulated his audience with the assertion that the Netherlands' prosperity is rooted in an extremely insecure location, and that nature simply cannot be controlled, but he also offered hope: "Who knows what solutions humanity will come up with in the future – after all, medieval Dutchmen could never have predicted the technological achievements we have today."

Observing and modelling

The importance of accurate observations and model-building was the subject of the lecture by Roderik van de Wal, like Bas de Boer affiliated with the Institute for Marine and Atmospheric Research. Satellite images show that sea level rise is increasingly the result of melting ice caps. With that knowledge, we can make some predictions about sea level rise in the future, but he cautioned that melting Antarctic glaciers and extreme water levels have complex causes that can differ over time and from location to location. He therefore emphasised the importance of measurement for managing the effects of sea level rise.

Scenarios

Marjolijn Haasnoot from the research institute Deltares pointed out the importance of thorough preparation. One essential element of that is the drafting of a variety of scenarios and the ability to switch from one scenario to another when the need arises. To illustrate, she used the example of the Dutch national team coach's instructions for the duel against Mexico at the 2014 World Cup – which as we all know was a successful strategy. We cannot predict exactly how high sea levels will rise, or the speed at which it will happen, so planners will have to take all of those uncertainties into consideration.

Debate session

As the event concluded, the speakers and the audience had an opportunity to discuss a wide range of issues, varying from the political conditions for a sustainable approach to sea level rise, to the question of whether our 'bathtub model' can serve as a good example for other countries. As a final note, moderator Peter Kuipers Munneke asked the audience whether all of our research efforts should be focused on the southern oceans and Antarctica. Only time will tell.

Broad initiative

The conference [Impacts of Sea Level Rise](#) was an international collaboration by [INQUA](#) and [PAGES](#), with support from the Dutch organisations [NESSC](#) and [Deltares](#). The conference was organised by Utrecht University in cooperation with TNO - Geological Survey of the Netherlands, NIOZ, TU Delft, and the University of Leiden.