

Het Zoölogisch Station begon in 1876 in een houten keet. Het begin van het wetenschappelijk onderzoek in de Waddenzee.



De Keet De Man Willem in het veld Evolutie van zeevogels

Leren van de zee



1. J. Bredford heeft het Zoölogisch Station over een houten keet, waar wetenschappelijk onderzoek mogelijk is. In aanbidding op het de wetenschappelijk onderzoek op de Waddenzee. Dit is een stuk vergaande foto's, ongeveer twee weken lang op de zee. De foto's zijn in twee delen verdeeld: de eerste twee zijn van de zee, de laatste twee van de Waddenzee. De eerste twee zijn van de zee, de laatste twee van de Waddenzee. De eerste twee zijn van de zee, de laatste twee van de Waddenzee.

Van inderhaal af, en het vertrek. Op 22 april 1932 kan het, in een veld van de Waddenzee. Zoölogisch Station, waar it gebruik wordt gemaakt. Dit werd het nieuwe wetenschappelijk 'de Keet' genoemd. Het was een stuk veld, voor het veld van de Waddenzee, een stuk veld. Een langzaam veranderende veld van de Waddenzee, voor het veld van de Waddenzee.

NIOZ In 1932 werden aan het Zoölogisch Station in Den Helder bevindt zich de eerste wetenschappelijk onderzoek in de Waddenzee. Het was een stuk veld, voor het veld van de Waddenzee. Het was een stuk veld, voor het veld van de Waddenzee.



Waddenrecherche van het NIOZ

de behoeften. De 'Keet' stond voort in Den Helder en een jaar later in Zierikzee. Het was een stuk veld, voor het veld van de Waddenzee. Het was een stuk veld, voor het veld van de Waddenzee.

Onderzoek op stroom Onderzoek op stroom, onderzoek op stroom, onderzoek op stroom. Het was een stuk veld, voor het veld van de Waddenzee. Het was een stuk veld, voor het veld van de Waddenzee.

Bultrug gaat altijd voor

Walvissen Vissers vormen nu de grote bedreiging voor gedecoreerde zeezooiers



De bultrug in het Maasdelta... Het was een stuk veld, voor het veld van de Waddenzee. Het was een stuk veld, voor het veld van de Waddenzee.



Rostocker Expeditionsschiff schafft erste Etappe

Wärmeländer Forscher befahren Westküste Grönlands... Het was een stuk veld, voor het veld van de Waddenzee. Het was een stuk veld, voor het veld van de Waddenzee.

Een reddingboei moeten brandstofkosten drukken

Nieuwe vistechnieken... Het was een stuk veld, voor het veld van de Waddenzee. Het was een stuk veld, voor het veld van de Waddenzee.

Public Outreach

Jan Boon*

In 2007, NIOZ featured twice in international newspapers, 27 times in national newspapers, 36 times in regional newspapers and 15 times in magazines. Furthermore, NIOZ scientists acted in 9 items on the Dutch and the Belgian TV, and in nearly 30 items on national and regional radio programmes.

Newspapers

The northward distribution of many marine species in European seas was reviewed in position paper 9 'Impacts of Climate Change on the European Marine and Coastal Environment' of the Marine Board of the European Science Foundation. As coordinating author and editor, Katja Philippart was allowed to formally hand over the report to a representative of the Flemish Government in Bruges. Belgian national newspapers and the Belgian TV reported on this newsitem.

Another paper led by Katja Philippart which got quite a lot of media attention, focussed on the long-term reactions of the Wadden Sea ecosystem to changes in nutrient levels between 1970 and 2000. The authors attributed this to an initial increase in nutrient levels during the nineteen-seventies and early eighties and a subsequent decrease after the building of sewage treatment installations. Especially the levels of phosphate decreased quite dramatically.

A journalist joined the team led by Gerard Duineveld at the RV Pelagia for several weeks during a research cruise on the ecology of cold-water corals in the N.E. Atlantic Ocean. This resulted in a two page article in the '*Volkskrant*', one of the leading national newspapers.

The '*NRC*', another national newspaper, made an article about the acidification of our oceans due to rising CO₂ levels in the ocean. Hein de Baar contributed to this article.

Many newspapers also referred to an article in *PloS Biology* about the Sorcerer II Global Ocean Sampling Expedition of Graig Venter, with Gerhard Herndl as one of the co-authors. The paper reported on the unexpectedly large microbial biodiversity in the oceans: only few microbial species occur in very high densities, but orders of magnitude higher numbers of species concur in minute densities. This was established with a new molecular biological analytical technique. The big eco-question now is: Why are they still there?

Several newspapers paid attention to the introduction of invasive species by ballast water of ships and the measures taken by the International Maritime Organization to halt this. Marcel Veldhuis worked on the development of a test protocol to evaluate the efficiency of ballast water treatment installations. These will become obligatory on ships between 2009 and 2016.



Photo: Kees Camphuijsen.



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The year 2007 ended with news issues due to two paleo-oceanographic publications in *Science*. The first one dealt with the influence of the sudden drainage about 8000 years ago of the North-American Lake Agassiz on the speed of formation of North Atlantic deepwater. NIOZ geologist Thomas Richter participated in this paper. The second article in *Science* was on positive feed-back coupling mechanisms in global warming due to increasing atmospheric carbon dioxide levels. This caused the melting of methane-containing gas hydrates in Polar regions. Since methane is a much stronger greenhouse gas than carbon dioxide, this accelerated global warming about 55 million years ago. This article was published in close cooperation with Utrecht University. Jaap Sinninghe Damsté and Stefan Schouten contributed on behalf of NIOZ.

TV coverage

The major TV item in 2007 was the documentary 'The world is flat' on the scientific work of Theunis Piersma and his colleagues on the behaviour and physiology of migratory birds and their preys in the Wadden Sea.

Two unexpected happenings on our doorstep caused a quite lot of spontaneous media attention in the newspapers and on the national TV. In January, the corpses of a few hundreds of birds with an oily coating from a ship's spill stranded on the beaches. Our scientist Kees Camphuysen told the media that this was certainly not a classical oil spill, but a much more aggressive mixture which had rapidly 'dissolved' the feathers and bones of the seabirds. It proved to be a mixture of oil with a detergent. Regrettably, the identity of the ship remained unknown despite serious efforts of the police to trace it.

A few months later, a juvenile humpback whale suddenly appeared feeding in the Marsdiep between Den Helder and Texel; the fifth sighting of a humpback whale in Dutch written history! Kees Camphuysen was again called upon again; this time as a whale expert.

The catches of two southern fish species in our NIOZ fike in the Mokbaai illustrated the ongoing northward shift of species in European waters: several hundreds of pilchards (*Sardina pilchardus*) and gilthead seabreams (*Sparus auratus*) were caught. The latter even marked an official new species for our country. These 'fish-findings' led to an item in the Nature TV-series 'Vroege Vogels TV'.

The same TV programme made an item about the pathology session on stranded corpses of harbour porpoises to learn more about the possible causes for these casualties along the Dutch coast.

The National broadcasting foundation NOS made a TV recording on invasive species in the Wadden Sea which was broadcasted on the 6 o'clock news, featuring Rob Dekker during sampling of the long-term benthic series at the Balgzand intertidal flat.



NIOZ and NWO

It is the policy of NWO as umbrella organization, to make the relation with its research institutes more visible to the outside world. Part of this is the implementation of a new house style for all institutes. Therefore this annual report shows a new and more colourful NIOZ logo, which was finally introduced on 1 September. After sometimes vigorous discussions within the institute and a decision only after two design rounds, a final vote by our personnel decided upon an evolutionary design instead of a revolutionary new design. Also the Dutch name of the institute was slightly modernised to 'Koninklijk Nederlands Instituut voor Zeeonderzoek' instead of the quite old-fashioned '..... Onderzoek der Zee'.

On 31 August, the Committee Education and Sciences of the Dutch Parliament were introduced to the work of NIOZ on board of the RV Pelagia during a short cruise from the harbour of Scheveningen. Board members of NIOZ and NWO as well as other representatives of NWO were also present on this occasion. An overview article about NIOZ was published in the NWO Journal 'Hypothese'.



This year marked also the start of the International Polar Year (IPY). The Dutch part of IPY is coordinated by NWO Earth and Life Sciences. During the cruises to the Antarctic or the Arctic, Corina Brussaard, Clair Evans and Patrick Laan had their own web-logs on VPRO's Noorderlicht (see <http://pooljaar.nl/virussen> and <http://pooljaar.nl/ijzer>). A movie-DVD was also made from the GEOTRACES research cruise to the Arctic.

Exhibitions and local activities

Exhibitions.

A NIOZ exhibition stand was present at the 'Duikvakerebeurs' in Utrecht, at the Lustrum meeting of the Netherlands Institute for Biologists (NIBI), at the celebrations at Texel for the 100th birthday of the TESO ferry company, and at the infomarket for students in animal sciences of the Van Hall-Larenstein Institute.



Visitors

Twelve groups visited NIOZ for a general introduction of the institute by means of a general presentation, the introductory movie and a guided tour.

To stress the advantages of a multi-disciplinary oceanographic institute, a set of six posters was made. The first poster gives the mission and main tasks of NIOZ, while the other posters show the new NIOZ research themes 'Coastal Seas', 'Changing Oceans', 'Dynamic Sea Floors', 'Sea and Climate' and 'Biodiversity'. A4 hand-outs of these posters act as introductory flyer on public occasions, for guests and new personnel.

A special award symposium.

Jan van Gils was the proud winner of the Dutch Zoology Prize of the Royal Netherlands Zoological Society. Part of the prize was the organisation of the Symposium 'in the footsteps of Jan Verwey' at NIOZ at 29 June. The subjects of the symposium were the physiological and behavioural adaptations of organisms to changes in ambient conditions

Website Zee in Zicht / Sea on Screen

Together with a number of partners, NIOZ maintains the public web-site www.zeeinzicht.nl/ www.seaonscreen.org on the North Sea. This year, the consortium of 'Zee in Zicht / Sea on Screen' partners was expanded with the Centre for Estuarine and Marine Research of the Netherlands Institute of Ecology, the Flanders Institute for Marine Research, and the NGO 'North Sea Foundation'. With this new input, we intend to expand the sea areas covered by the website with the Wadden Sea and the Delta area in the south-west of our country.