



## In Memoriam: Dr. Saskia “Kiek” Jelgersma

Author: Tooley, Michael

Source: Journal of Coastal Research, 28(5) : 1316-1317

Published By: Coastal Education and Research Foundation

URL: <https://doi.org/10.2112/12A-00007.1>

---

BioOne Complete ([complete.BioOne.org](https://complete.BioOne.org)) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](https://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.



## IN MEMORIAM



### Dr. Saskia “Kiek” Jelgersma



Dr. Saskia “Kiek” Jelgersma was an internationally renowned geologist in the Dutch Geological Survey who revolutionized the investigation of sea-level changes and developed a methodology that has been employed by investigators of recent sea-level and coastal changes. Her approach was interdisciplinary; she used biological (pollen, diatoms, and shells), geological (sediments), archaeological, absolute dating (radiocarbon), and surveying techniques to determine the rates and directions of sea-level movements, changes of coastline, land subsidence, sediment consolidation, and coastal vegetation history. Her doctoral thesis on *Holocene Sea-Level Changes in the Netherlands* was published in 1961 in the memoirs of the Geological Survey (of The Netherlands), in the same year that the late Professor Rhodes Fairbridge of

Columbia University in the City of New York wrote a seminal work on sea-level changes published in *The Physics and Chemistry of the Earth*. Their sea-level curves could not have been more different: Jelgersma’s curve showed a steadily rising sea level for the past 8000 years for The Netherlands, whereas Fairbridge’s curve for the Earth was oscillating. Subsequently, a lively discussion, continuing to the present day, ensued between those who subscribe to one or the other interpretation. Throughout this period, Jelgersma consistently and strongly argued her case, gaining added respect from some but alarm from others for the obduracy she displayed. The great strength of Jelgersma’s research lay in the objective criteria used in the selection of sites and samples, all of which came from similar old environments now buried beneath younger sediments in Holland and all dated in Professor H. de Vries’s laboratory in Groningen. In contrast, Fairbridge used a range of different materials dated in many laboratories from coastal sites on every continent. After her research on sea-level changes was published, she collaborated with Dr. J. de Jong and Dr. W.H. Zagwijn in the Geological Survey and Dr. J.F. van Regteren Altena in the State Archaeological Service on an investigation of sand dunes along the Dutch coast, and was able to demonstrate a remarkable cyclicity of dune building and erosion related to changes of climate.

One of Dr. Jelgersma’s earliest reports in the Geological Survey was for the Delta Commission of the Ministry of Transport, Public Works, and Water Management, which had been established shortly after the disastrous North Sea floods of 1953. In this report, she used data on past sea-level changes to extrapolate future changes so that the height of the proposed dikes in the Delta Plan in Zeeland could be determined. This was in 1954 and more than 30 years before the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the World Meteorological Organization and the United Nations Environment Programme in 1988.

From the sure foundation of her fundamental research on the evidence for and nature of sea-level changes in Holland, her research became more strategic. In 1987, she organized a session on the impacts of future rise in sea level on European lowlands at Noordwijkerhout in The Netherlands, and in 1989, she was a member of the organizing committee, with Professor Rhodes Fairbridge, Professor Roland Paepe, and Professor H. Faure for a North Atlantic Treaty Organization (NATO) Advanced workshop on the “Greenhouse Effect, Sea Level and Drought” in Fuerteventura, Canary Islands, Spain. The international significance of her work was recognized in her election as president of the Commission on Quaternary Shorelines of INQUA (International Union for Quaternary Research) in 1987 and subsequently the award of honorary life fellow. The import of Jelgersma’s research on sea-level changes

is as relevant today for people living on or near the coast (half of the world's population) as it was 50 years ago and essential for the management and risk assessment of coastal zones.

The second of three daughters, Saskia "Kiek" Jelgersma was born on 9 May 1929 in Oegstgeest, north of Leiden. Her father was Dr. Hendrik Cornelius Jelgersma (1893–1982), a neurologist and psychiatrist and a nephew of Professor Gerbrand Jelgersma, founder of the Jelgersma Clinic in Leiden University. Her mother was Jonkvrouw (Lady) Henriette Augusta van Foreest (1893–1986). The three daughters grew up in a house in the grounds of the clinic in Oegstgeest.

Her interest in geology was first aroused when she observed dune sands overlying shell-rich beach sands in a boring in the grounds of a dairy in the village of Oegstgeest on her way to and from school. However, it was archaeology that attracted her interest during an excavation of a Roman fort by Professor Van A.E. Giffen, who suggested she read for a degree in archaeology at the University of Leiden. Without Latin or Greek, this was then impossible, and instead, from 1948 until 1951, she read for a degree in geology, intending to transfer to archaeology later. However, as she describes, "I started the study of geology, but I liked it so much that I never switched to archaeology."

She continued at the University of Leiden, reading for a master's of science degree in geology, paleontology, and petrography, which was awarded in 1954. She applied unsuccessfully to Shell for the post of palynologist (pollen analyst): Shell did not then employ women scientists. Later that year, she obtained a short-term contract as a geologist with the Geological Survey of The Netherlands in Haarlem to write a report on past and future sea-level changes in Zeeland, on the strength of which she was appointed a permanent member of staff at the survey and was allowed to continue her research on sea-level changes in the University of Leiden under the supervision of Professor A.J. Pannekoek.

In 1959, she was awarded a research fellowship in the Limnological Research Centre, Department of Geology, at the University of Minnesota, traveling there by boat to New York and onward in her Peugeot car. She developed the palynology laboratory there and worked on the vegetational history of several lake basins with Professor Herb Wright, demonstrating to the incredulity of her hosts the existence in North America of the return of a period of intense cold about 12,900 years ago and thought at the time to be exclusively a European phenomenon.

On her return to The Netherlands in 1960, she was appointed senior geologist in the Geological Survey of The Netherlands, a post she held until her retirement in 1995. She found subsurface mapping, which she undertook as advisor to the National Institute of Water Supply on drinking and industrial water, to be a great pleasure, referring to it as "a crossword puzzle."

Dr. Jelgersma traveled extensively, giving lecture courses in the 1980s at the Earth Technology Institute, Free University of Brussels in Belgium, Departments of Geology in Qingdao and Nanjing in China, and the Asian Institute of Technology in Bangkok, Thailand. However, one of the greatest pleasures she

had was her association with the Department of Geography and the Environmental Research Centre at the University of Durham, where she collaborated with me and successive generations of research students, arranged radiocarbon dating facilities, without which their research on sea-level changes could not have advanced to the present refined state and import.

She would join field excursions to the coast and was described as an unstoppable tank rolling across a marsh sweeping all before her, with plumes of smoke rising from one of the many Gauloise cigarettes she smoked, and the frequently uttered command to those behind her, "Come on! Hurry up!" To some she was unapproachable, intransigent, and would not brook criticism, which led one Fellow of the Royal Society of London to remark after an exchange of views during an international conference in London, "I am rather scared of that Dutch lady." To others, she displayed quite a different mien—compassionate, solicitous, and generous in her support.

She was a Councilor in Bergen for over 20 years and chairman and treasurer for many years of several charities and foundations (such as the Jelgersma van der Hoop Foundation established in 1934 and the van Foreest and Margaretha Splinter Fund) for which she was admitted to the Order of Orange Nassau (*Lid van de Orde van Oranje Nassau*) on the occasion of the Queen's birthday on 30 April 2010. For her contributions to coastal and sea-level science and to the geology of The Netherlands, she received on 22 October 1997, the signal honor of the Van Waterschoot van der Gracht Medal, which was awarded during the Staring Memorial Symposium "Sea-Level and Science Fiction" in Amsterdam. The title was of her composition and underscored the disdain she had for the IPCC and its conclusions on future sea-level rise based on computer models bereft of empirically based geological evidence.

Saskia "Kiek" Jelgersma was a complex person who will be remembered for her outstanding research, her deep sonorous voice, her love of malt whisky, especially Knockando, and of Spanish wine, art, and culture: One of her favorite artists was Diego Velasquez and his painting of the "Rokeby Venus," the title of which she scored out on the cards she sent and replaced it with "Saskia at her toilette," though she could not have looked less like the subject of the painting. She enjoyed good food and wine, and her contribution was usually a skillfully made tapenade before a dinner party, and at home she was exultant at the chance to take her guests to Het Huis Met De Pilaren in Bergen or Hotel Meyer in Bergen-aan-Zee.

Saskia Jelgersma was unmarried. Her elder sister, Professor Henriette Bosman-Jelgersma, predeceased her. She is survived by her younger sister Merit Jelgersma. She died in hospital in Alkmaar, a few miles from the home she loved in the dunes at Bergen-aan-Zee, on 7 May 2012.

Michael Tooley  
Downfield House  
Down Law  
Cupar, Fife KY15 7TG, United Kingdom