

# Introductory Statement - the Netherlands

Vision, ingenuity and leadership: water policy and developments in the Netherlands



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## Introduction

Over the centuries, dynamic coastal processes in and around the mouth of one of our rivers the Maas (Meuse) have formed a large system of sandbanks. The residential and working area of 'Delfland' located in the surrounding area, is a few metres below sea level and protected by natural sand dunes. However, a rising sea level and powerful hydrodynamic forces during storm tides poses a serious threat to the safety of the inhabitants.

Three centuries ago, 'De Beer' - as part of the sandbank in the mouth of the Maas was called - became a "Dangerous sea monster, which could destroy ships and annihilate all of Holland".

Protecting land, property and people from such threats, became a common theme in the physical and geographic history of the low-lying Netherlands. It was the driving force behind the vision and ingenuity, with which much of the low-lying country, now referred to as the Netherlands, was created.

In 1731, a hydraulic engineer by the name of Nicolaas Cruquius launched a plan to dig a channel through the section called the "Hoek van Holland" and the sandbank in order to provide the Meuse River with a wide entrance to the North Sea. In his vision, the strong currents in the mouth of the river would remove the sandbank, strengthen the dikes and reduce the risk of flooding.

Cruquius was far ahead of his time. His plan met a great deal of resistance and was not (yet) accepted. His proposal to "centralise the management of water flows and levels" in Holland met the same fate.

In the 19th century, an engineer by the name of Pieter Caland put this plan on the table again. In 1858, in his role as secretary of the "Raad van Waterstaat" (Public Works Council), he proposed launching a daring project to dig a channel through the dunes to the "Hoek van Holland." The primary aim of his proposal was an economic one: ensuring the free passage of ships from Rotterdam to the sea. In 1863, King Willem III signed a new law: "Den Nieuwen Waterweg" (The New Waterway), and in 1872, the first ship, a steamer of the Harwich line, sailed through the Nieuwe Waterweg to the sea (see the recent map of the Nieuwe Waterweg).



*Mouth of the River Meuse and a view on Rotterdam - Map of the river Maas, Jacob Quack 1665.  
(source: Collectie Gemeentearchief Rotterdam / cat.nr. RI-86; Bertus Wouda, 2008)*

### Rijkswaterstaat (Dutch Department of Water Management and Public Works)

In the 18th Century, there was an increasing awareness that the safety of the Netherlands was at risk. In 1770, the influential “Bataafsch Genootschap der proefondervindelijke wijsbegeerte” (Dutch Association for experimental philosophy) was established with its most important goal being to prevent the destruction of the Netherlands by catastrophic floods. Influential citizens, including the founder of the Rijkswaterstaat, Christiaan Bruning, were convinced that “unity in the administration and management of water” was needed to ensure the safety and welfare of the entire country - a concept, by the way, which also deserves attention today.

In 1798, the Rijkswaterstaat was established during the ‘Bataafsche’ Republic (1795 – 1801), a period of national and political change, characterised by a significant move to a central authority.

Rijkswaterstaat became responsible for managing and taking care of the coasts and rivers, all the inland public works, and the supervision of the lower government echelons responsible for public works and water related issues.

The significance of this was far-reaching. The decision and the manner in which the Rijkswaterstaat - worked with research institutes, engineering firms and dredging and construction companies - has transformed the low countries in the course of two centuries into a modern, safe and secure country.

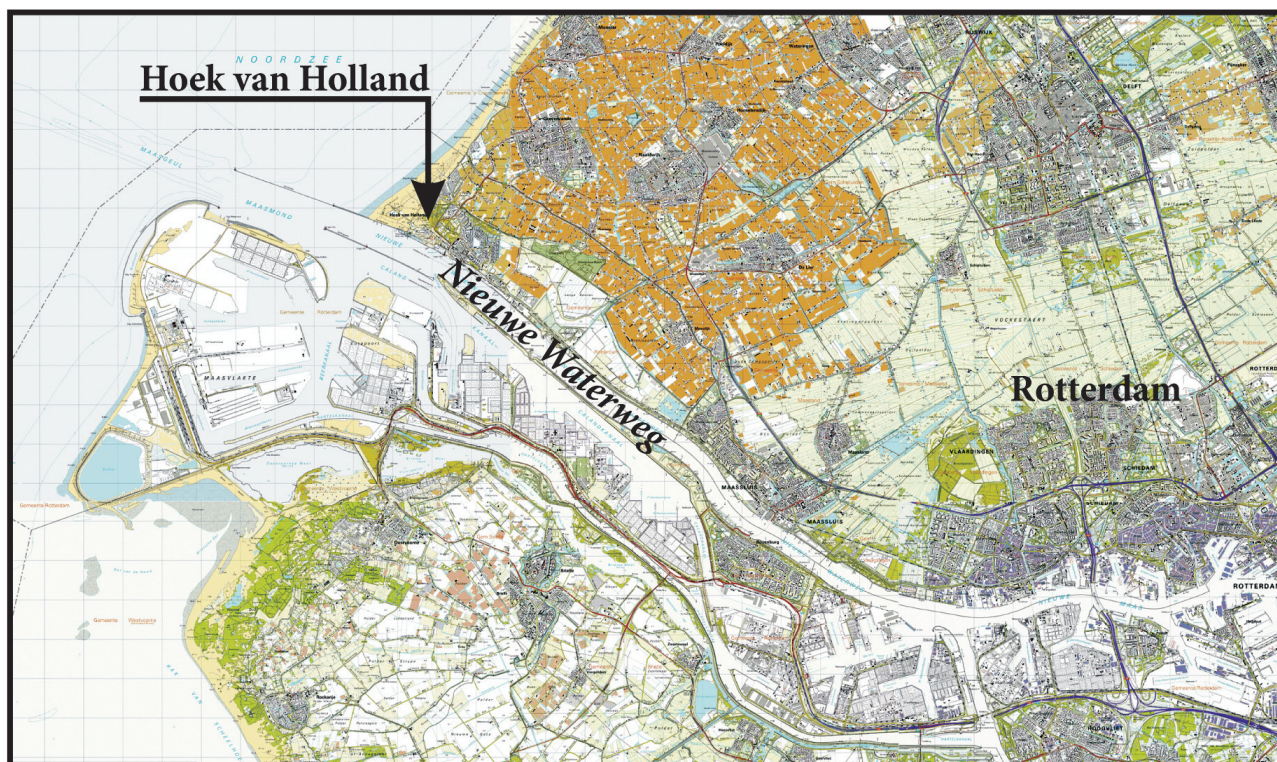
The Dutch policy of integrated coastal management has received worldwide recognition. This was emphasised in 1993 when the first American National Oceanic and Atmospheric Administration: “Excellence Awards for Coastal and Ocean Resource Management” was given to the Netherlands (Van der Plas, 1993).

The Rijkswaterstaat became incorporated in the Ministry of Transport, Public Works and Water Management (Min. V&W) in the course of the 20<sup>th</sup> century. Since 2010 the Min. V&W changed into the Ministry of Infrastructure and the Environment (Min. I&E).

### Vision of the Netherlands future

In the final decades of the 20th century, the focus has been on the economic infrastructure of the Netherlands. The Netherlands was busy preparing itself for the coming century. Its economic strength and potential had to be utilised to the full, but at the same time, there was an increasing focus on issues such as sustainability, quality of the spatial environment, and responsible ecological management. This resulted in an integrated approach to formulating policy, choosing investments, and preparing and implementing projects.

The vision of the economic future of the Netherlands was and still is, in large part, based on the strategic geographical location of the Netherlands as a “Gateway” for Europe, but with an additional focus on broadening the economy to include knowledge-intensive activities. In order to take advantage of the potential in terms of transport,



*The Nieuwe Waterweg, the navigation channel between Hoek van Holland and Rotterdam, inaugurated in 1872. (source: Topografische Dienst Kadaster, Emmen, 2009)*



distribution, industry and services, it was necessary to invest in the main ports, the links to inland Europe and mobility in our own country. Preparations for major infrastructure projects, included separated railway links for goods and for people connected to the European networks, the Nieuwe Waterweg Storm Surge Barrier, the expansion of Schiphol Airport and the Port of Rotterdam. Most of these projects are complete, whilst others are ongoing.

The CCC-I-2-2 Chapter - "Rotterdam: Long-term sustainable harbour development" - which is presented below, is an excellent example of what can be realised via a modern and integrated project-based approach.

### Climate change

The speed with which the world around us is changing, is both fascinating and at the same time frightening. As recently as the last decade of the previous century, the world seemed to be entering a long period of economic growth, but now it is going through a major financial and economic crisis. It is becoming increasingly clear that natural climate change is being accelerated by human intervention, raising the earth's ambient temperature and leading to rising sea levels. One of the greatest challenges facing humanity is to ensure that the areas situated in deltas and along coastlines and rivers, where roughly three quarters of the world's population is located, remain a safe place for their inhabitants to live. Successfully meeting this challenge will demand a high degree of international cooperation. The Netherlands, for its part, has started preparing adaptive measures based on worst-case climate change scenarios.

### Concluding

The threat to the low-lying areas of the Netherlands from the sea, now exacerbated by the impacts of global warming, demand leadership from central government.

In view of the enormous scale and complexity of the challenges facing us, we will need vision and ingenuity to find solutions, make plans, and implement the projects to meet these challenges. In so doing, the Dutch treasure trove of knowledge and experience, gained over the centuries in the Dutch delta, will be an invaluable asset. However, to take advantage of this asset, the central government in the Netherlands will need to demonstrate the same type of leadership and vision as it did in the 18th century.

The techniques for protecting life and property acquired during the long period of living in the Dutch Delta can be shared with other coastal areas in the world threatened with inundation from the sea.

### References

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**Nieuwe Waterweg Storm Surge Barrier:** [www.park.org/Netherlands/pavilions/techno/svk/engels/index.html](http://www.park.org/Netherlands/pavilions/techno/svk/engels/index.html).

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(photo: Aeroview bv)



(photo: Aerophoto-Schiphol)

*The vision of the economic future of the Netherlands is, in large part, based on the strategic geographical location of the Netherlands as a "Gateway" for Europe; Rotterdam (largest harbour of Europe) and Schiphol International Airport contribute 12% to the GDP.*