



Delta Programme 2015 brochure

Working on the Dutch Delta in the 21st century

A new phase in the battle against the water



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The Netherlands is well protected against water. We are safe, but still vulnerable. That is why the Netherlands is preparing for a new phase in how it deals with and battles against water. The framework for this are the five Delta decisions, which were published in the Delta Programme 2015 on September 16, 2014, Budget Day.

Our dykes, dunes and barriers still provide the best possible protection against floods. However, our population has grown significantly, and thanks to our economic growth we have more valuable assets to protect. That means we need to raise our game. Sea level is also rising, our soil subsides, and weather extremes are increasing. And because periods of drought are becoming more frequent and prolonged, we need to be careful to ensure our fresh water supply remains sufficient. That's why we need to continue working hard over the next few decades on flood risk management and fresh water supply in our delta.

Prevention

Through the Delta Programme, the Netherlands is building on the foundations left to us by previous generations, with one important difference. The icons of our battle against the water were all built in response to disasters. Thus, the construction of the Afsluitdijk (Closure dam) was partly a response to the storm surge of 1916. The Delta Works were built following the North Sea flood of 1953. And following the large-scale evacuations along the major rivers in the mid-1990s, we decided to give the rivers more space. This time we are not waiting for a disaster; instead, we are taking measures to ensure we keep one step ahead of any possible disaster. This has led to the Delta Act, which came into effect on 1 January 2012. All the authorities are working together: the State, provinces, municipalities, and district water boards. Civil society organisations, the private sector and knowledge institutes are also closely involved. The cabinet has authorised the Delta commissioner to draw up, organise and oversee the implementation of the Delta Programme. As a government commissioner, his job is to present a proposal for the Delta Programme to the cabinet. Every year on Budget Day, these proposals and their financial implications are presented. The minister for Infrastructure and the Environment is politically responsible.

The new phase in the battle against the water is an important one. Almost 60 per cent of the Netherlands could potentially be flooded, including a large portion of the Randstad conurbation – the most important economic centre of our country. Our economy also depends to a great extent on the availability of fresh water.

New measures

The Delta Programme includes three interrelated new measures which will form the basis of the work we do on our low-lying country over the next 35 years:

- new water safety standards;
- sustainable fresh water provision;
- climate-resilient design and water-robust construction.

The emphasis on these three areas will ensure that we improve flood risk management and that the Netherlands will be less vulnerable to drought. Two other important decisions relate to:

- the Rhine-Meuse delta;
- the Lake IJssel region.

Finally, our decision on sand nourishments will ensure a stronger coastline.

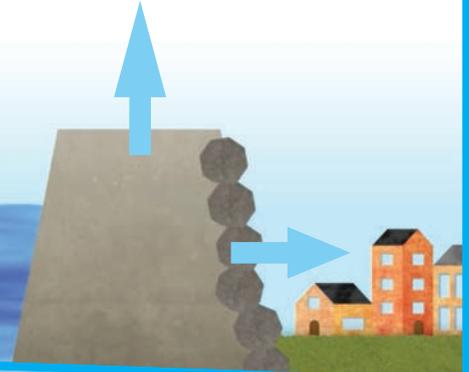
We will be using a wide range of measures over the coming years to ensure that our country can continue to withstand extremes of nature and the climate, and keep everyone safe. This will enable us to keep our country safe and habitable, protect our residents and strengthen our economy. We have established regional preferential strategies that will be used in those regions to guide the measures coming forth from the Delta decisions. Everything is to be completed by 2050. To help achieve this, the National Water Plan will be modified and laws changed, and an administrative agreement has been drawn up. By taking an adaptive approach, we will be able to adjust to circumstances in a sensible and timely fashion.

The Delta Programme

We are not going to wait and see; instead, we are taking measures to prevent any future flood disaster.



We are raising, widening and strengthening the dykes in crucial areas.



We will ensure that important buildings and regions have extra strong protection.



It is uncertain how rapidly the climate is changing. We want to be ready in time and are starting now.

In some areas, we are giving rivers more space.



15 to 20 per cent of our economy relies on fresh water. We will ensure that it is stored and allocated better to reduce the likelihood of shortages.



Our cities and villages are preparing for climate change. For instance, by ensuring sufficient water storage and making cities greener.



We will continue to take measures in the Rhine-Meuse delta to ensure flood protection during storms at sea and when rivers run high.



The Lake IJssel will use a flexible water level management system. This will ensure enough fresh water is available and any excess water can be pumped out to sea.





1 New safety standards: reduced risk of victims and damage

At present, not everyone is equally protected against floods. People in some areas are at greater risk of drowning than those in other areas. But we are going to change and improve how this is organised. The new flood risk management policy will ensure that everyone in the Netherlands living behind dykes, barriers and dunes can be assured of a minimum common level of protection, with the risk of drowning being no greater than 1:100,000 per year. This will be the basis for dyke safety standards. Economic key regions and those with high population densities will receive an extra level of protection. This will apply also to sites of vital national importance such as the energy hub in Groningen and the Borssele nuclear power station.

Maintenance and improvement

Where the level of protection is already satisfactory, the focus will be on adequate management and maintenance. Where everything is fine, it will remain fine. For example, we are nourishing sand along the coast to ensure that coastal foundation remains firm. Where improvements are needed, we will be looking at each region individually to see what measures we can use to achieve the required level of protection. Higher levels of protection are particularly required in the river region, the Rijnmond-Drechtsteden region and around Almere. Here we will be strengthening dykes and widening rivers.

Complete package

These measures are all part of a complete package. Primarily, our dykes, barriers and dunes need to prevent flooding. That will continue to be the cornerstone of our flood risk management policy. Using river widening measures we can achieve lower flood levels that fit with planning objectives. With all our measures, we will try to combine with other interests, such as improving the natural environment and recreational facilities. We will also use spatial planning measures to try to limit the damaging effects of any flood, should the worst still happen. New-build homes and other buildings will in future take potential flood damage more into account. If there is a threat of a flood, the disaster management authority will ensure that residents and businesses are well informed as to what they should do.



2 New approach for fresh water: smart response to water scarcity

Fifteen to twenty per cent of the Dutch economy relies on fresh water. Even now, periods of drought are already causing economic damage that can run up to hundreds of millions of euros a year. If drought conditions and water salinization increase, so too will water shortages and associated economic damage. Meanwhile, demand for water is increasing in agriculture, shipping, industry and society as a whole. Our dependence on fresh water makes us vulnerable. We will therefore be working on a better and smarter system of fresh water supply.

Targeted investment

We are doing this with a new approach that will improve the availability of water and limit shortages in locations where necessary. We want to achieve this through focused investment in our water systems. For example, flexible water level management in Lake IJssel can ensure a greater supply of fresh water during periods of drought. Better supply of river water will improve fresh water provisions in Gouda and the southwest. Additional measures will also be introduced for elevated areas in the east and south of the Netherlands. But it is also important to be frugal: everyone, from individuals to businesses, will need to use fresh water more efficiently.

Counting on water

We also want companies, entrepreneurs and farmers to know how much water they can count on in different seasons. Over the coming years, we will therefore be making explicit how much water is available. Agreements will be made between water management bodies and users so that, in future, everyone knows where they stand. Water management bodies will be able to allocate water resources better, and users will be able to modify their investment accordingly.

Regions stepping up

The regions (district water boards, provinces and municipalities) will be stepping up to implement the new fresh water policy: within their areas, they will best be able to determine the measures needed, whether it be addition water storage or flexible water level management. The plans for this have been developed and are ready.



3 Climate-resilient design and waterproof construction: taking climate into account

Climate resilience is not just a matter of building and maintaining dykes. It is about how we design the Netherlands. How can we make our country – and urban areas in particular – more resilient to heat, drought, excess water and potential flooding?

Climate-resilient cities

By 2050, we want our urban areas to be resilient to whatever the weather throws at them. Where we build or re-design, we will be taking rainfall, drought and heat into account as much as possible. For instance, we can create more green spaces and water-storage areas in and around cities. Or we can use innovative solutions such as a ‘water square’ in the middle of a neighbourhood. Such squares are dry most of the year, but in the event of heavy rainfall are allowed to flood and can contain excess rainwater for longer, before gradually draining away.

Civic participation

Municipalities can encourage their residents to make their environment waterproof. Everyone can do their bit in simple, effective ways to help create a future-proof city. Greener gardens, for example, can enable rainwater to drain more gradually, so that drains do not overflow.

Special attention

In order to prevent major social and economic damage, our approach to designing climate resilience for the Netherlands prioritises the facilities that our society cannot do without. These include fresh water supplies, healthcare, energy supplies, telecom and ICT.

4 Rhine-Meuse Delta

The Rhine-Meuse Delta comprises the major river region, the Rijnmond-Drechtsteden region, the Southwestern Delta and the associated coast. It is the vulnerable transition area where the rivers meet the sea. But it is also an area of national importance in economic terms, centred around Rotterdam harbour and all the activities that go with it. The Rhine-Meuse Delta is densely populated and made up of polders that have the potential to flood very quickly and deeply. The region requires special attention in order to safeguard future water safety and fresh water provision.

Flood risk management

Flood risk management in the Rhine-Meuse Delta is fundamentally based on dunes, dykes, storm surge barriers and allowing sufficient space for the river. This approach is considered to be sound in the long term. Significant investment will be required from now until 2050 to improve the protection of this region. This approach will form the basis for all spatial planning and economic development around the Nieuwe Waterweg, including construction beyond the dykes. Research is also being done into the possibility of improving the effectiveness of the existing Maeslant storm surge barrier.

Discharge distribution Rhine branches

The Rhine water that enters our country at Lobith divides itself in fixed proportions across the Waal, the Nederrijn-Lek and the IJssel river branches. This discharge distribution will remain unchanged until at least 2050. More research will be done.

Fresh water provision

Investment in water supplies at Gouda and in the Southwest Delta will improve fresh water supply and counteract salinization resulting from high sea levels and reduced river drainage.

5 Lake IJssel region

Lake IJssel is the most important fresh water reservoir for the region north of the Amsterdam-Zwolle line. The available fresh water supply is linked to the water level in the lakes, and the water level also determines flood risk around the lakes. The Delta Decision for the Lake IJssel region sets out what we will be doing to ensure flood protection and fresh water supply.

Sea level is rising. This means that, in future, we will not always be able to drain excess water from Lake IJssel into the Wadden Sea. We will be dealing with this by placing pumps in the Afsluitdijk over the next few decades, so that we can still drain water sufficiently. This will enable us to maintain average winter water levels at around their current level up to 2050. Our motto for this is 'drain if possible, pump when necessary'. In the summers we can contain more water in the lake.

Flexible water levels and fresh water

Climate change threatens to reduce the water supply in the Lake IJssel region, while demand is set to rise. We can deal with this by using a new, flexible style of water level management. Flexible water level management means that water levels can vary within a certain margin around the target level. Water management bodies are then better able to act upon expectations of drought, heavy rainfall or storms, and to tailor water management to stakeholder needs. Because the average winter water level will remain unchanged, flexible water level management has no effect on flood risk. This approach also means we can build a fresh water supply that can be used to meet water needs in dry periods up to and beyond 2050. We will be doing this by maintaining the water supply in the Lake IJssel region and working on modifications to the regional water system and water-saving measures among users. This will enable us to steadily respond to developments.

Flexible water level management will require a flexible design for our shores over the coming years. We will also need the main water system managers, the regional system and water users all to come up with a mutually agreed approach to the more efficient use of fresh water.

Delta Programme

The Delta Programme is a national programme. The State, provinces, municipalities and district water boards work together within the programme, also receiving input from civil society organisations. Its aim is to ensure that the Netherlands and its future generations, remains protected against floods and that there are sufficient supplies of fresh water.

The Delta Programme is made up of nine sub-programmes:

- Safety
- Fresh water
- New-build and restructuring
- Rijnmond-Drechtsteden
- Southwestern Delta
- Lake IJssel region
- Rivers
- Coast
- Wadden Sea region

The Delta Programme is managed by the Delta commissioner, the government commissioner for the Delta Programme.

www.deltacommissaris.nl