



Nat Land

Nat Land can be translated from Dutch to English in two ways. One of the translations is "wetland" which is an umbrella term for; marshes, swamps, floodplains, bogs, peatlands, and probably more. These are all landscapes which are neither land nor water. The second translation is wet country. Both translations make sense because this article is about the Netherlands and living with water instead of fighting it.

The Netherlands is facing big challenges; for example, the rising sea level, more frequent heavy weather and the degradation of biodiversity. One of the more nature-centered solutions to these problems would be to allow more water in Dutch landscapes. However, this solution is in direct conflict to the dominant narrative concerning water. The Dutch have been fighting water for over a thousand years. Fighting water became quite a big part of the Dutch national identity. Changing this is going to take some persuasion. This article will make an attempt at that, by looking at different narratives surrounding wetlands in different parts of the world.

We need a new story for the Netherlands. A big part of this new story needs to be about living with water instead of against it.

Water and the Dutch

Historically the Netherlands is an interesting place. About a thousand years ago, the Netherlands consisted mostly of wetlands, more specifically a type of wetlands called peatlands.

The first small efforts to convert these swampy wetlands into more conventional usable land started in the medieval ages (800-1000) when monks in the area of Holland started digging ditches. By doing this, they could drain out some of the water from the top layer of soil to make it suitable to grow grain.

The next big change in water management happened around the 10th century. At this moment in time the Dutch started with large-scale ontginning (cultivation of wetland). Ontginning is the Dutch word used for the process of draining the ground up to a point where you can no longer call it wet land. In short, the process works as follows. Just like the monks, they started off by digging ditches. But instead of leaving it there like the medieval monks, the process got extended by building clay dams called dijks, and windmills to pump water.



(Windmill at the Gein, by W.Roelofs)

Ditches, dijks and windmills became the most iconic parts of the Dutch landscape. Another iconic Dutch artifact that has its roots in this specific bit of history is cheese.

Cheese may be the most popular and well known food from the Netherlands. The first years after the ontginning, the ground was still suitable for a couple of crops. However, as the pumping continued the ground changed. It became unsuitable for grain and other types of crops, except for grass. Grasslands are perfect for keeping cows, the Dutch had so much grassland and cows that they were producing more milk than could be consumed directly. An easy way to preserve milk is making cheese.

Until now, fighting water remains quite a big part of the Dutch culture. More recent developments are the building of the afsluitdijk, stormvloedkeringen and the making of the flevopolder. I won't linger too long on these structures, but add them to the list of ditches, dijks, windmills and cheese and you will start to see why fighting water is a big part of the Dutch cultural identity.

We're going to lose this fight

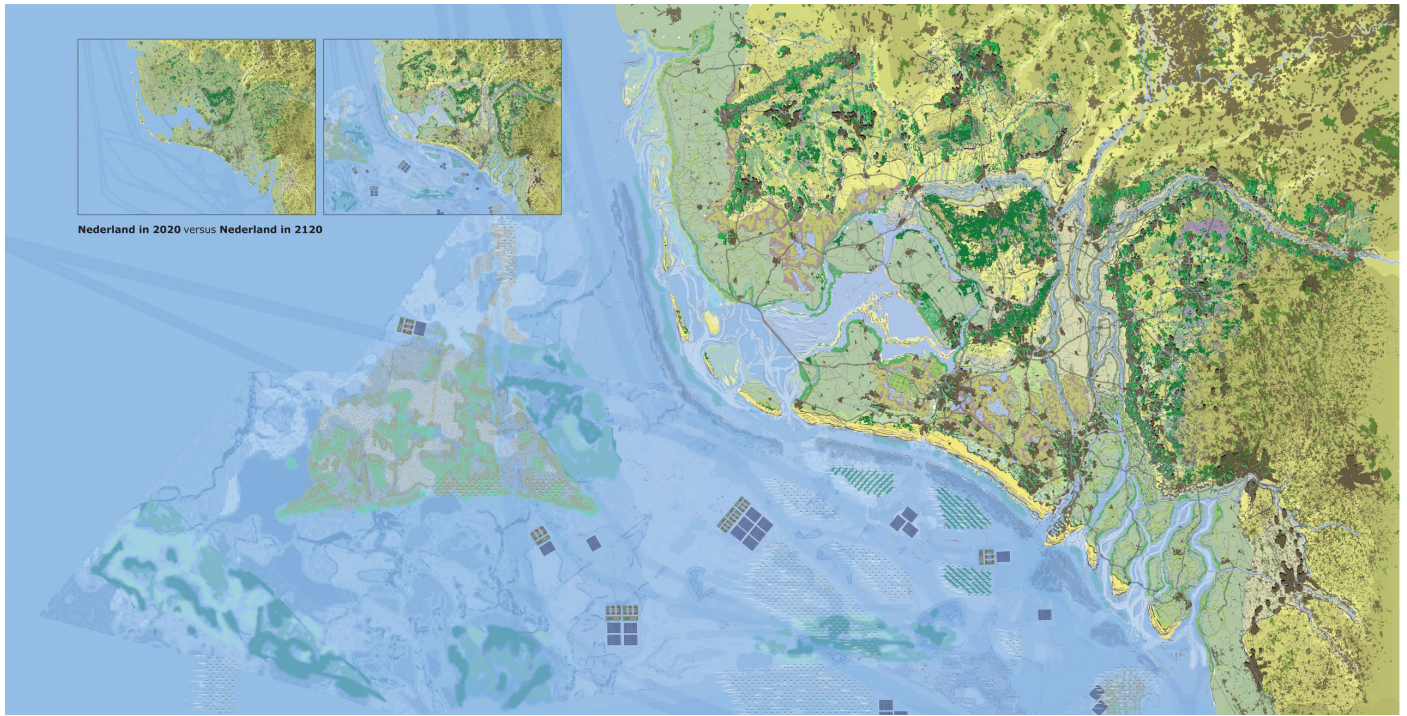
Dutch people pride themselves on being victorious over water.

Within Dutch culture sayings like

"God created the earth except for the Netherlands it's made by the Dutch"

(Descartes n.d)

are not uncommon. The Dutch water terminology sounds a lot like war terminology in which the water is considered the enemy. But did they win the fight over the water? And is the water actually an enemy in the first place? And if it was, should water still be their enemy now? With this question I went to the University of Wageningen and spoke with the head of environmental research Tim van Hattum. Their answer is clear. No! We should stop fighting water and learn to live with it instead.



(Een natuurlijkere toekomst voor Nederland in 2120)

In 2020 van Hattum and his team released an article on climate adaptation in the Netherlands in 100 years. They wrote about many of the possibilities. And almost all of them include shifting our mentality towards living with water.

Learning to live with water will solve several problems; one of them is oxidation (rotting) of the ground. There's also the effects of climate change including sea level rise, dry summers and more frequent heavy weather and last but not least a combination of the previous is causing the biodiversity to degrade at an alarming rate.

All three of these problems are intertwined, ecosystems are interconnected, if you change one thing, everything else will be influenced.

Oxidation, increasingly heavy weather and the loss of biodiversity are interconnected in the following way. By pumping away water we introduce air to previously swampy areas. The oxygen in this air kick starts a rotting process. This results in two things: the rotting process releases large amounts of CO₂, methane gases into the atmosphere which are both greenhouse gases. Secondly, this rotting process of the top layers of soil reduces the volume of the ground drastically. This results in the ground level going down. On average about 2 cm a year. It doesn't sound like much but over time this becomes a rather large number.

The ground going down wouldn't be half as scary if the sea wasn't going up as well.

Because of this combination, roughly 30% of the Netherlands is now already beneath the level of the sea and will continue to go down.

Combined with more frequent heavy weather and relatively narrow rivers makes the chance of floods uncomfortably high. Today 59% of the Netherlands has potential flooding risk.

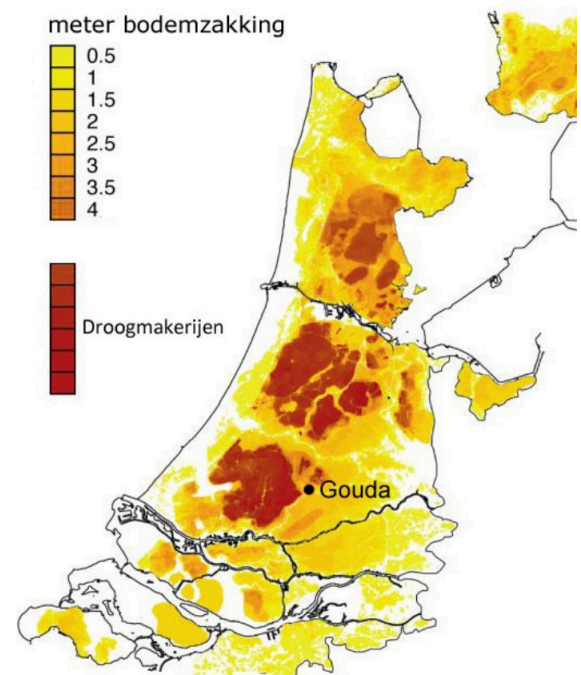
So how are the Dutch trying to solve this issue? The reaction is to be expected, they start pumping water

faster than ever! However, in the last couple of years we discovered this is not a sustainable solution. Apart from having a lot of excess water over the wet seasons, the summers became very dry. Pumping out all the water during the winter period leaves us with too little water over the dry summers.

It is safe to say that many things change because of our doing.

These drastic changes in the landscape -in some cases on purpose like large-scale ontginning but in other cases unforeseen like the effects of climate change- result in the degradation of biodiversity. This is a big issue because it results in monocultures. Monoculture ecosystems are vulnerable to sickness in flora and fauna.

Restoring swamp landscapes has many benefits. Unfortunately, not enough people seem to be interested in the idea. However, it is becoming increasingly clear that it is time for us humans to adapt and consider ourselves as part of the ecosystem. If the ecosystem collapses, so will we.



(Ground sinking down in the past thousand years. Source: Deltares)

Wetlands have a bad rep in the west

The climate is changing a lot and humankind has to adapt to these changes.

It is not just the Dutch water fighting culture that makes climate adaptation seem so unattractive. It is also the general reputation of wetlands in the Western culture, USA UK west EU.

In modern day pop culture in the west there is barely any positive representation of swamps. It is not that swamps do not occur in pop culture, just never in a positive light. Two good examples of bad representation of wetlands in pop culture would be: the Shrek movies by Universal Studios and the dead marshes in the Lord of the Rings.



(Dead Marshes in the film The Lord of the Rings)

The Dead Marshes from The Lord of the Rings by J.R.R Tolkien is a swamp through which three of the main characters need to pass. The Dead Marshes are filled with dead bodies floating just below the water surface. The bodies are the result of a big battle a very long time ago. The restless souls of these bodies try to lure the main characters into the water.

Many of the stories like these have their roots in old European folklore. In this case it is based on old north-west European lore in which it is told that swamps are places where big battles have taken place. Possibly, JRR Tolkien also took inspiration from the phenomenon of bog bodies. Bog Bodies are preserved dead bodies that are sometimes found in wetlands. The water in certain types of wetlands have the ability to preserve corpses for a very long time.



(Meisje van Yde, the most famous bog body in the Netherlands)



(Shrek in the film Shrek)

Compared to the dead marshes and bog bodies, Shrek seems reasonably harmless.

Shrek is the main character from the movie series Shrek by Universal Studios. He is a green monster that lives in a swamp, and no, Shrek isn't outspokenly negative about swamps, however, Universal Studios do play with the narrative of a monster in a swamp that is disliked and even feared by the surrounding villages. It is throughout the movie that we get to discover that Shrek is actually alright.

In this story, we can trace the origin to old folklore as well. Especially in more Eastern parts of Europe it was believed that swamps were magical places full of mythical creatures and witches. A good example of a witch like this would be Baba Yaga, who is a witch that lives in a tiny house that stands on two large chicken legs. It is important to understand that many of these narratives were never negative to start with. For example, Baba Yaga was believed to be a representation of nature. She was neither good nor evil; she was just functioning within her own sense of morality. It was with the coming of the Christian church that most of these pagan folk stories got their negative twists.



(Baba Yaga on chasing vasilisa. Photo from wikipedia commons)

Don't get me wrong swamps are dangerous places and have always been seen this way but the same is true for mountains, deserts and large woods and they certainly have their over romanticised versions of themselves in popular culture. Which is unfair because swamps can be beautiful too. They are also very good carbon sinks (better than woods if you measure it by square meters). From an ecological standpoint swamps are complex and interesting ecosystems and last but not least healthy swamps do not stink.

A wider perspective on wetlands

The three most ancient civilizations on Earth all developed on floodplains. The ancient civilizations of Mesopotamia “the land between the rivers” in what today is cald Syria and Iraq (including the Sumeria, Akkadia, Assyria, and the Babylonia), the floodplains of the Indus River, in what is today Afghanistan, India, and Pakistan, gave rise to the Indus River Civilization, also known as the Harappan civilization and finally ancient Egypt. These civilizations developed on floodplains for good reason. Floodplains are flat and therefore easy to build on, they are near or in the water (which is an important resource) and last but not least the seasonal floods provide a fresh layer of topsoil which is ideal for growing crops.

The prejudices against wetlands are most present in western cultures. Outside of the West, wetlands are recognized as fertile and rich in biodiversity. Specifically, seasonal swamps called floodplains are generally loved all around the world.

If we would restructure the Netherlands to be more wet, the amount of wetness would vary depending on the season as well.

A good modern day example of an inhabited floodplain would be the floodplains of the Pampas in Argentina. The nationalgeographic encyclopaedia writes the following about the area:

“The rich floodplains of the Pampas are nicknamed the Breadbasket of Argentina. These lowlands are susceptible to floods, but are also home to some of South America’s most lucrative grain farms and cattle ranches”

(National Geographic Society and Caryl-Sue 2016)

There are more reasons to live in a swamp apart from practical reasons like food and water. The seasonality of a swamp can provide a connection to the environment and a rhythm to life. It is specifically this living with a wetland instead of just on a wetland that is a big and important difference in mentality. In “The Rhythm of Life on the Amazon Floodplain: Seasonality and Sociality in a Riverine Village” the author Mark Harris writes about his conversations with the villagers about living on the floodplains. This is a bit out of this journal.

“Living well for Parúaros is also about a particular practice of work which involves an active engagement with different seasonal terrains. The rhythm of work creates the space and a pace for social life in the community, in both a pragmatic and an aesthetic sense.

(Harris 1998)



(floodplains of the Pampas)

In his essay Mark Harris writes about how the rhythm of the floodplain and that of its inhabitants are synced up and connected. Within the Netherlands, disconnection from the environment is a large part of the issue. Within the current Dutch culture it is expected to have all available options all year round. For example, being able to have strawberries in the winter and go snowboarding in the middle of the summer is considered normal. This is not sustainable, if we want to solve the issues at hand we should try to sink in with the rhythm of our environment more.

A new story for the Dutch

We are facing enormous challenges. So far I primarily focused on the historical and cultural context of the issues and the solutions. However it is also important to talk about the problems in a more practical way. Already the summers are warmer and drier than before, storms are more violent and last year's floods (2021 juli) are probably the first of many. There is no doubt that the landscape and ecology of the Netherlands is dramatically shifting. Which means the humans will have to shift with it, culturally, mentally and physically. This is a huge challenge. In the coming 50 years we will have to modify houses, cities and infrastructure to withstand more floods, heavy weather and drought.

Something in our infrastructure that will need to adapt quickly to the rapid changes we are going through is our electricity sources. All our power stations need water for generating steam and for cooling. However, not all power stations are located at places that will have access to water all year round. This is due to the increasingly dryer summers. Because of this a large part of our power stations need to be shut down. An alternative power source shall have to be arranged, preferably co2-neutral, for example, solar panels and wind-and water turbines..

We have proven to be good at adapting to our surroundings. Take the story of cheese for example. Cheese became one of our main products because of the way the landscape changed. Now the landscape is changing again so what is going to be our new cheese? There's a lot of research on this topic and I'm happy to say there are many options. For example, cranberries and cattail will grow brilliantly on Dutch wetlands. I think everybody knows cranberries and their value but cattails make for a brilliant building material.

So will either cattail or cranberry be the new cheese? Who knows? If we approach climate adaptation from this angle it doesn't have to be about natural disasters and climate refugees.

As long as we start early and take it seriously it can be about progressive and exciting ideas and technology.

Still, adapting to climate change will obviously be a challenge. A challenge made harder by the Dutch national identity surrounding water and the bad reputation of wetlands in western culture.

What we need is new stories with a wider perspective on the pros and cons of living in a swamp. Stories that don't fall back on the archetypes surrounding wetlands. This includes research like the one from the University of Wageningen "Netherlands in 2120", but it can also include more traditional storytelling like films, books, or art and design.

Living with a swamp can be a very exciting and realistic scenario for our future in the Netherlands. And although this might seem like a very big change in what we are used to, it is time to start shifting.



(cattail)

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