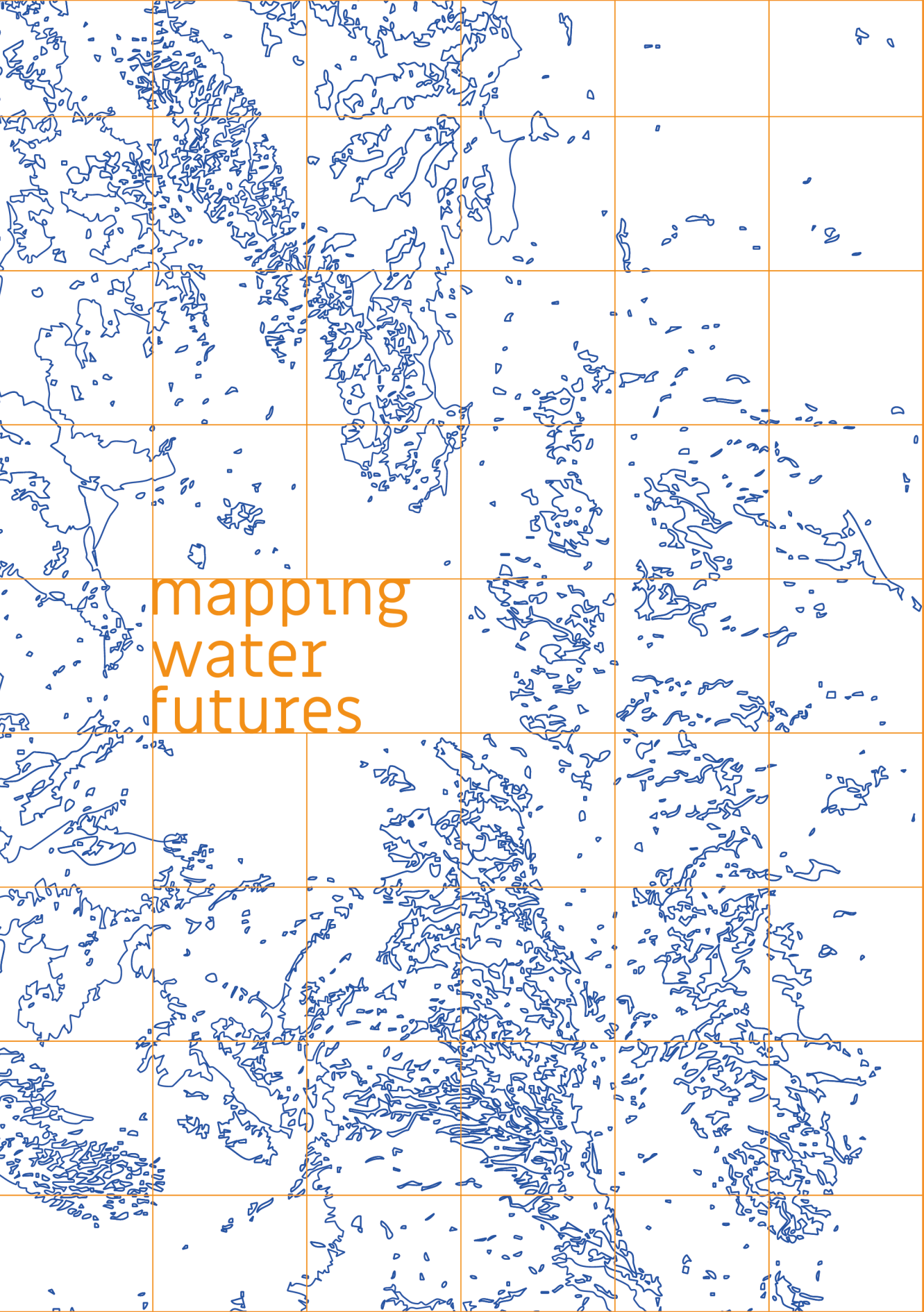

mapping
water
futures

mapping water futures

Index

Introduction

Water covers more than 70% of the earth's surface, and thus constitutes a major section of the ecosystem on Earth. It is a vital element on earth, all life (as we know it) depends on water to be able to thrive.
The climate has always changed a bit, but in recent years, due to greenhouse gases, the climate has experienced extreme changes which have also strongly impacted the global water cycle. From melting glaciers to ocean acidifications, flash floods, and prolonged droughts, disruptions in ecosystems now happens faster than most species can adapt to. Because of global warming, the atmosphere can hold and transport more moisture.
Water doesn't have the opportunity to fully infiltrate the soil. This accelerates the hydrological cycle. While it is still important to decelerate this process as much as we can, it is also important to look into strategies of adaptation and think ahead to a future with water that will be compromised.

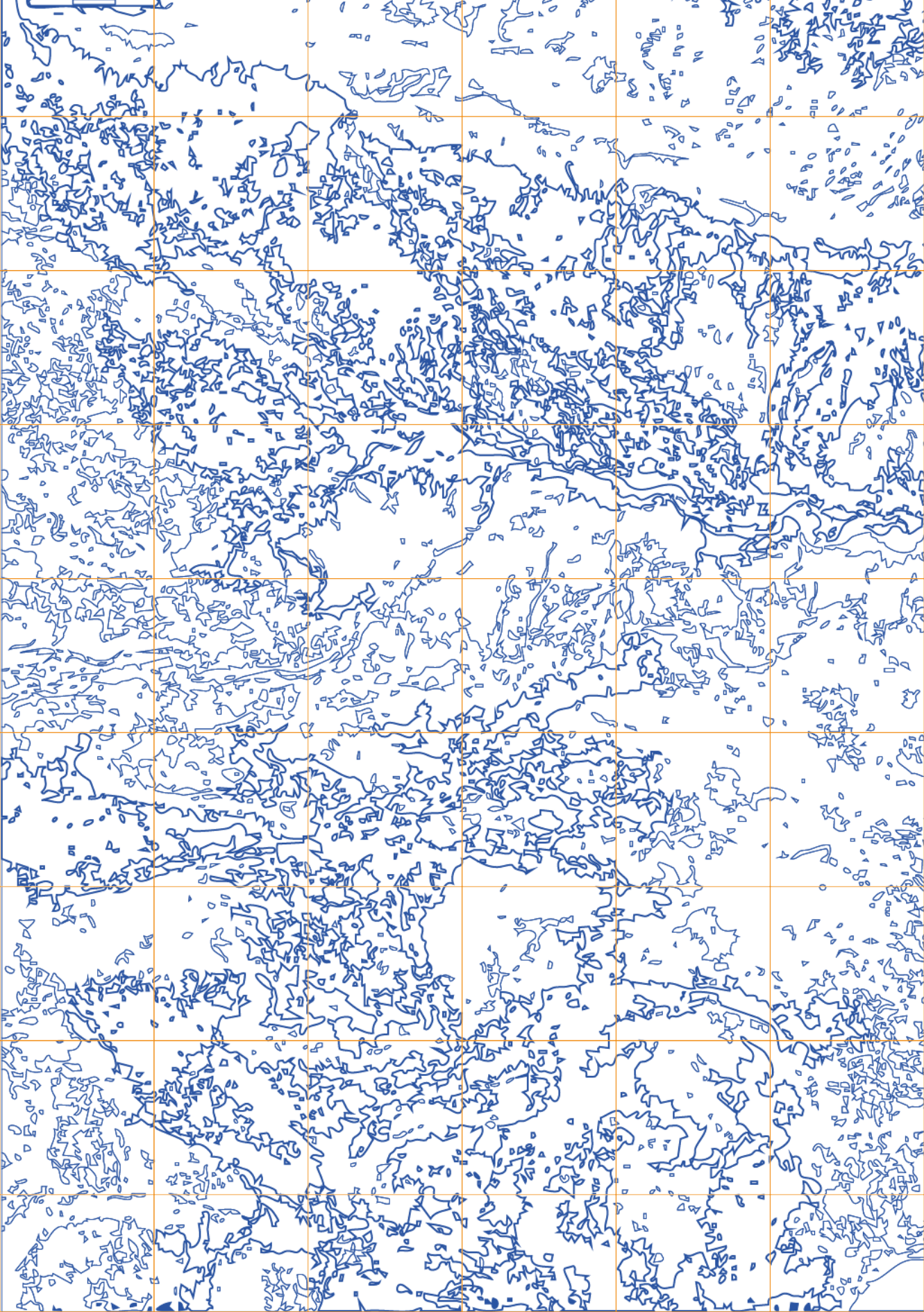
In this book, we explore water futures through the speculative design approach. This design practice aims to challenge preconceptions, raise questions, and provoke debates. It opened the doors for designers to imagine and explore possible water futures globally.

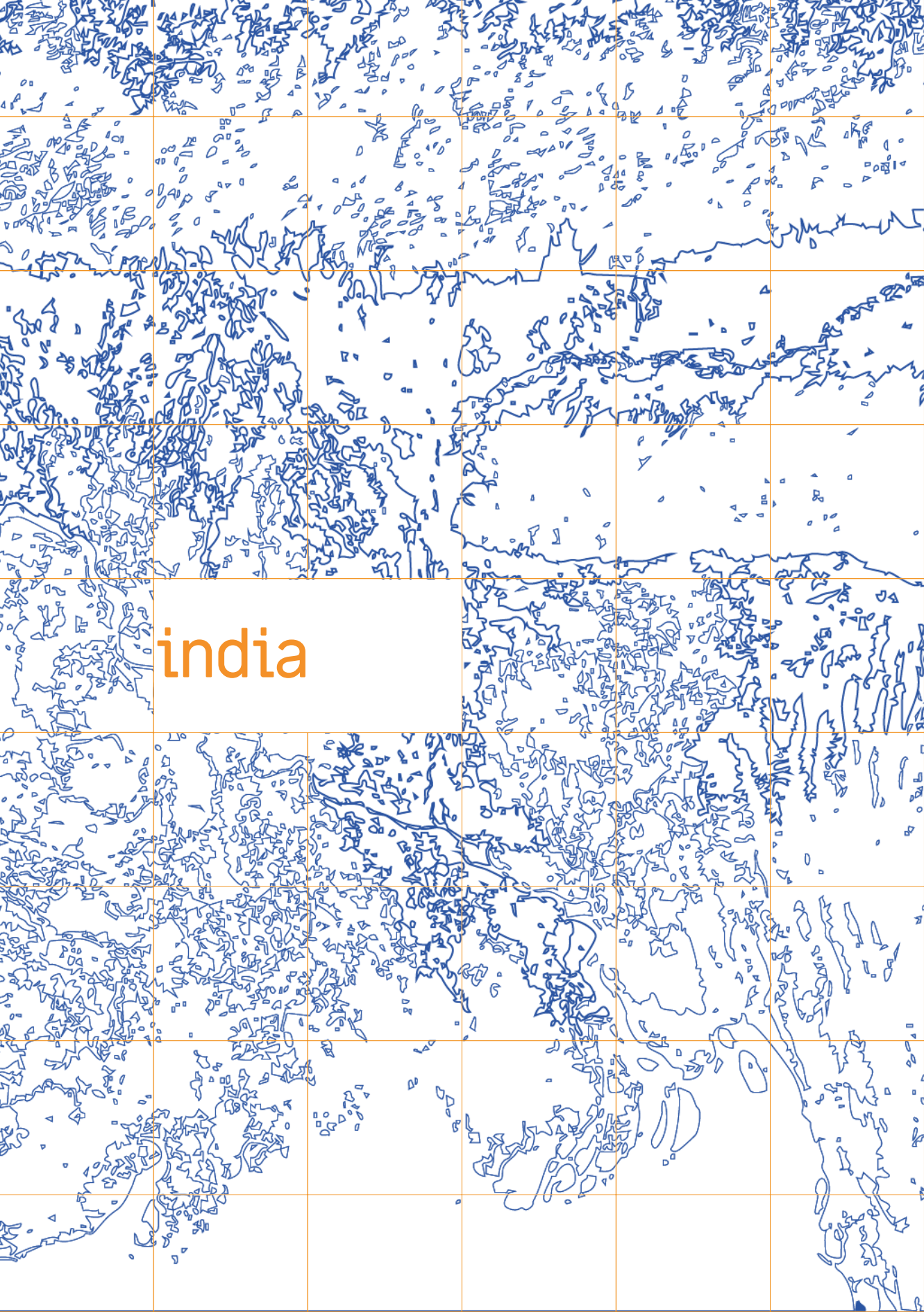
We start with the water spring in India where the Ganga river starts, then travel further down the river stream. We end up in the Netherlands where different rivers connect to the sea. We continue where the river meets the sea and travel to the salterns in France and Croatia. Here water changes form, turning into gas and flowing through the air as evaporating steam in the geothermal region of Iceland. Eventually this book will end up with the condensation of the fog net in the Namib Desert.

[a]
affirmative
problem solving
design as process
provides answers
in the service of industry
for how the world is
science fiction
futures
fictional functions
change the world to suit us
narratives of production
anti-art
research for design
applications
design for production
fun
concept design
consumer
user
training
makes us buy
innovation
ergonomics

[b]
critical
problem finding
design as medium
ask questions
in the service of society
for how the world could be
social fiction
parallel worlds
functional fiction
change us to suit the world
narratives of consumption
applied art
research through design
implications
design for debate
satire
conceptual design
citizen
person
education
makes us think
provocation
rhetoric

A/B by Dunne & Raby [Speculative Everything], "A/B began as a list we created a few years ago called A/B, a sort of manifesto. In it, we juxtaposed design as it is usually understood with the kind of design we found ourselves doing. B was not intended to replace A but to simply add another dimension, something to compare it to and facilitate discussion".




india

Ganga Goddess Retirement

“The last remains of the Ganges river embodied in an urn”

Lee Hun, Lida Andritsou and Zizi Mitrou

Goddess Retirement” envisions the retirement of the Ganges River goddess in 2075. For centuries, Ganga has been a guardian of humanity, purifying souls, waste, and all else carried by her waters. However, the river has endured relentless pollution from human and industrial activities.

In 2017, the government granted the Ganga human rights to protect her, aiming to shift our perception of nature and God. In our opinion we think it’s contradictory, so we asked ourselves “What if she retired?”.

Moreover, after 58 years of formal recognition and continued service, the goddess steps into retirement —a poignant reflection of the river’s uncertain future, as it faces the possibility of drying up within five decades.

25.3006258, 83.0104205_GANGES RIVER, INDIA

This project challenges the exploitative relationship between humans and nature while reinterpreting their correlation with rituals.

It imagines a future where humanity must acknowledge the consequences of environmental degradation and re-establish a balanced, respectful connection with Mother Nature. Through this speculative lens, “Goddess Retirement” proposes creating new rituals to honor and coexist with nature, moving beyond the transactional dynamics of the past.

The narrative underscores the urgency of fostering sustainability and reverence for the planet, advocating for a profound cultural shift to ensure the survival of our rivers and the ecosystems they sustain.


05/05/2025, Bhagalpur India
Today something extreme happened: on the way to the factory I saw that Ganges had dried up. I couldn't believe my eyes.
06/05/2025, Bhagalpur India
The factory was operating normally today but it seemed that they are going to start cutting people. I'm afraid I'll be one of the first, after all I haven't been in this factory for many years.
10/05/2025, Bhagalpur India
Today we have been told that the factory will be multi-operated. They didn't fire anyone, but will be going to the factory once a week. They have nowhere to dump the waste in production but dropped dramatically. I'll have to see what I can do. I can't be on my own salary.
20/06/2025, Bhagalpur India
I was expecting it today we went to the factory and saw the sign that it was closed for good. How many families were left without work. I still don't know how I'm going to make a living. I'm living on the money I've been saving.
20/07/2025, Bhagalpur India
I started collecting mud from the river and making ceramics. Maybe I can sell them, after all, that's all I know how to do well.
10/08/2025, Bhagalpur India
I picked up quite a bit of pottery. I've sold a few items in the neighborhood and I'm thinking of making an instagram page and in the future a website to sell them. I'm currently using the factory from the abandoned factory to bake them, but I think I'll be able to buy a kiln at home soon. I get really stressed out every time I go there, although a lot of people use the abandoned factories.
20/08/2025, Bhagalpur India
Instagram is going great. I send ceramics all over the world. I think I should do a website and start a business.


the
netherlands

Farming in a future dominated by water

“The future of farming in the Netherlands, adapting to the tides and learning to live in harmony with water, rather than fighting against it.”

Ziqi Mao, Mila Tešić and
Linnis van Kampen

This project explores what farming might look like 100 years in the future, in a version of the Netherlands where the mindset has shifted from fighting water to tolerating and allowing it in.

We drew inspiration from the Biesbosch area, where some dikes have already been lowered, and controlled flooding of rivers is used to protect nearby cities.

Our project takes this concept further, imagining a future where farming is shaped entirely by the tides. We drew inspiration from the research by Wageningen University.

The ratio of water to land in this hypothetical Netherlands of 2120 closely resembles how it was before 1900. This sparked the idea of “returning to your roots.”

-25.4001623, 15.2580219_BIESBOSCH, THE NETHERLANDS

With this in mind, we envisioned how this modern farmer might still retain some very traditional traits and habits. The farmer lives on a terp, descending to work only when the tide is low.

We designed a tide clock for this farmer that helps him keep track of the tide situation.

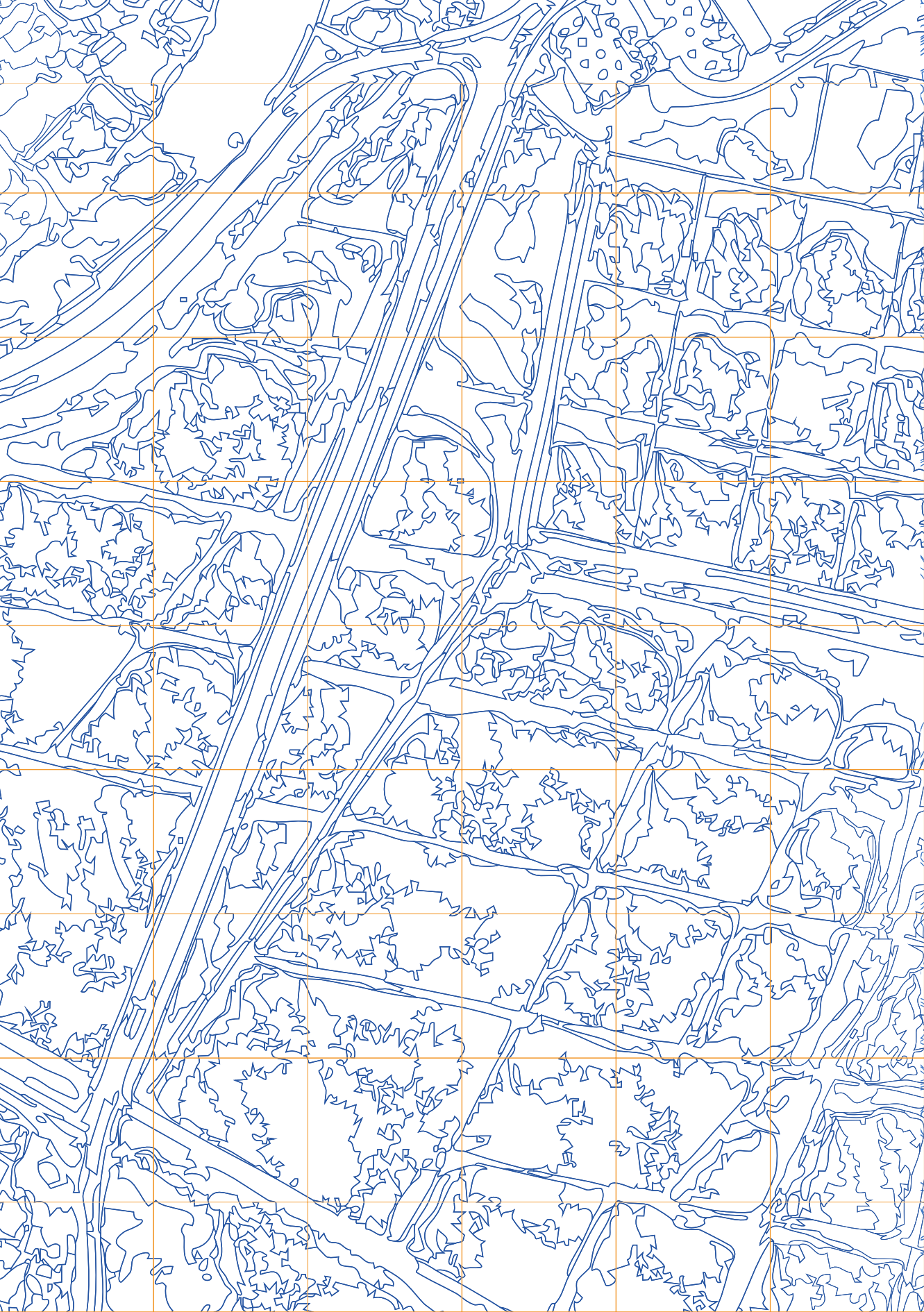

01:00
02:00
03:00
04:00
LOW TIDE
06:00
07:00
08:00
09:00
HIGH TIDE
11:00
12:00
13:00
LOW TIDE
15:00
16:00
17:00
HIGH TIDE
19:00
20:00
21:00
22:00
23:00
00:00


Winter
SOW
HARVEST
DECEMBER
JANUARY
FEBRUARY


Eb en vloed
Wachten op
niemand


Koopmans goed,
is eb en vloed


Alle vloed heeft
zijn weerloop




france and
croatia

Out of the box: Salt Narratives

"A saltern worker's lunchbox to celebrate the customs emerging from climate adaptation in a saline future for water."

Eva Rodinis and
Léonie Hanen

Connecting traditions of solar salt-making in France and Croatia, Out of the box speculates on salted narratives, elaborating on future habits and cultures of adaptation to (climate) changes that affect the saltern, its community, and its ecosystem.

With sea water evaporating faster, rising salinity and freshwater loss, the effect of these climate fluxes will be most clearly observed in the saltern as a landscape directly affected by the changes in natural water cycles – eventually reaching even the worker's lunchbox.

This project recognizes small rituals in everyday life as signs of new emerging customs that grow from working with what is given from the particular rich context of salt-making heritage and the salt marsh landscape itself.

The lunchbox adapts local recipes for life in a hypersaline environment, adding sugar and beta-carotene to the diet for climate protection. The meal must be accompanied by new cutlery, specifically crafted for harvesting freshwater and halophytes.

By situating the scenario of the climate future in a personal story through the medium of food – Out of the Box addresses the importance of communities, small-scale rituals and crafting adaptability in a changing climate future.

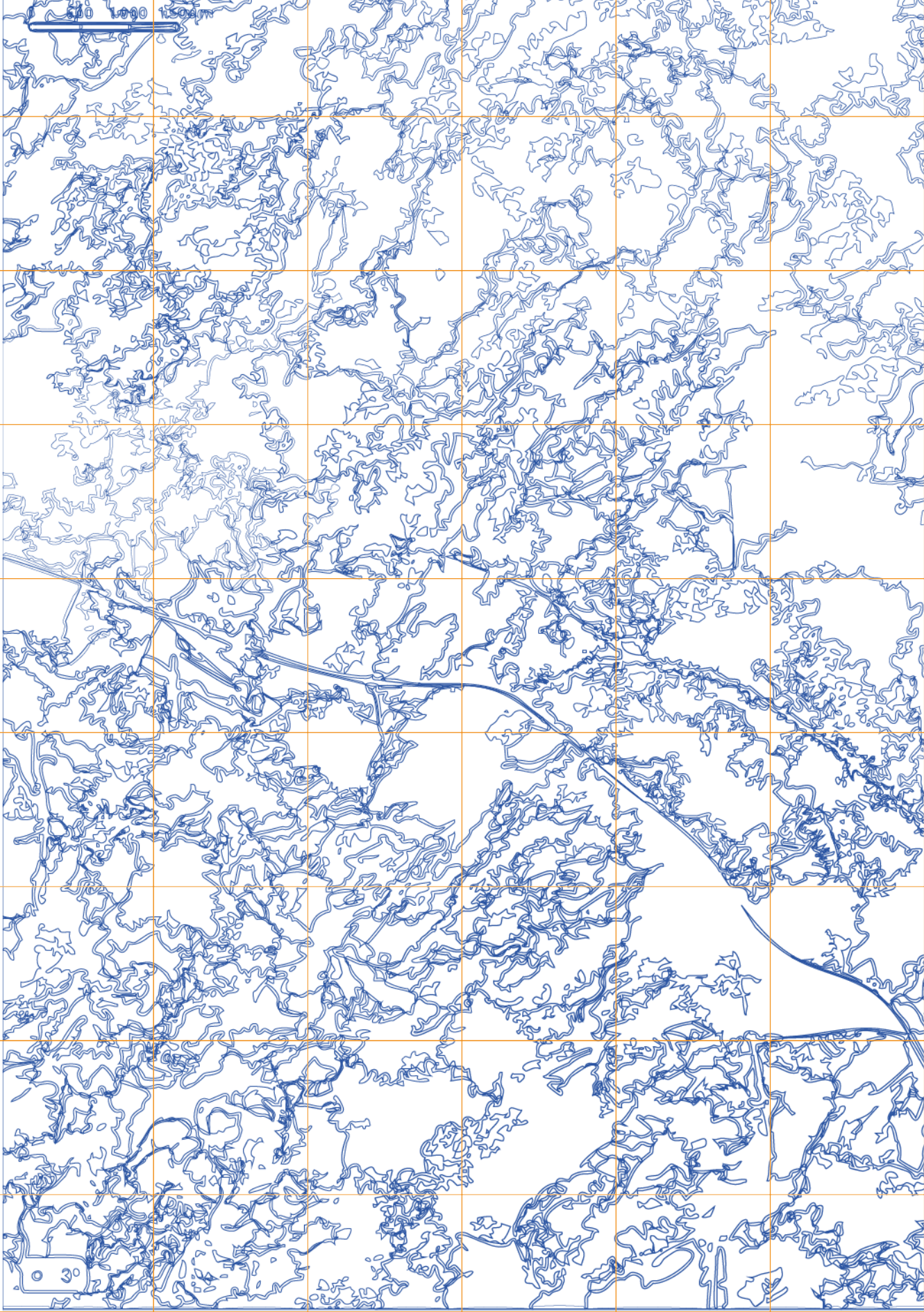
47.2863045, -2.4501140_GUÉRANDE AND CAMARGUE, FRANCE
44.2411881, 15.1932221_NIN, CROATIA

The seasons are unreliable and constantly in flux: intense heat and rain periods succeed each other. The sea water is evaporating faster, the salinity is rising and direct access to freshwater is difficult. How are these drastic changes reaching the worker's lunchbox?

The environment is so over-salinated that the salipatina — a thin crust of salt — is everywhere: on the skin, on tools, on the lunchbox. The worker has to clean it off with the brush he added to an old knife. In the morning, he harvests the saltwort with this new tool that he made, it looks like a fork. He made more for friends and colleagues. The saltworts are put in the lid of the lunchbox and cooked in the sun, with the stone soup. The saltbread grissini are stocked in the ground to keep them cool and crunchy. He also takes some sea water in his water desalinating vessel.

Usually, before getting back to work he mixes a sugar cube with seawater to rehydrate himself. It is also important, as a little treat for himself. Sweetness is rare. Forgetting the beta-carotene is not a problem anymore. He felt the sun burning his skin too many times to forget to take one to be protected.

Salt is everywhere and *Out of the Box* celebrates community and the craftsmanship of adaptability.


500 1000 1500m


iceland

The Symphony Alarm

“By transforming natural steam into a tool for safety, the Symphony Alarm symbolizes resilience and adaptation, giving nature a voice.”

Lot Dik, Fatima Kane and
Benedetta Faccani

The Symphony Alarm is a robotic system designed for Iceland’s Hengill region, to protect the people and the animals that live there by warning them of earthquakes.

The Hengill region of Iceland, a region once known for its geothermal power plants, buzzed with human activity, extracting energy from the earth’s core. However, today’s landscape seems like a different world. The machines have stopped, and the land bears the scars of exploitation. The geothermal area is now disturbed due to power plants abusing the area’s hot water sources. This caused a rise in induced seismicity, and, over time, these earthquakes have contributed to the formation of surface cracks, allowing hot steam and gases to escape to the surface, creating an otherworldly fractured landscape.

The Symphony Alarm is created as a tool for safety by harnessing geothermal steam from fumaroles to create harmonic sounds, serving as a gentle yet urgent alarm for people and animals. The artifact, a rock-like robot, is hollow and contains vents ending in small holes. The steam will run through these vents and escape through the small holes, producing a whistling sound.

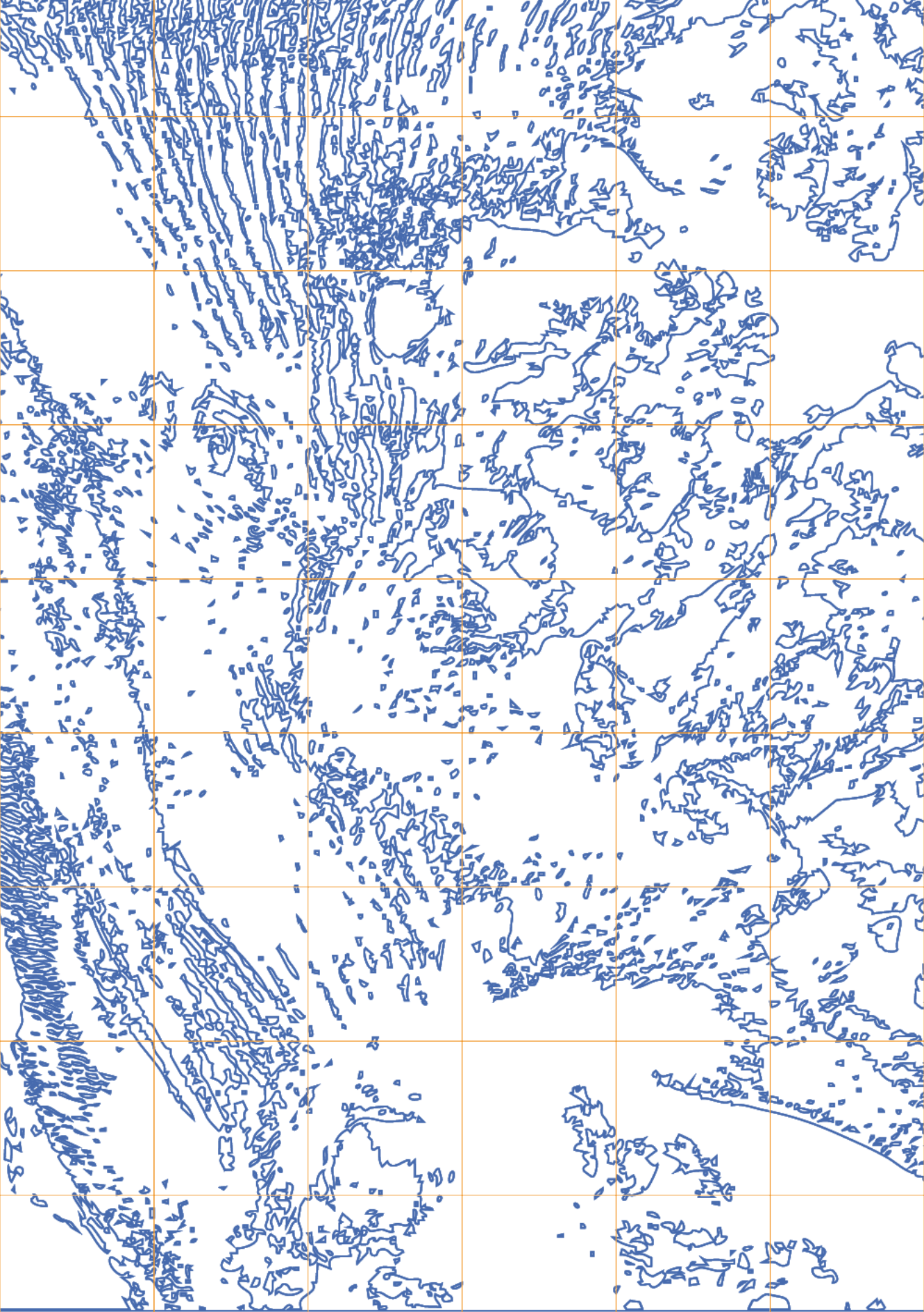
When fumaroles stop, the robots uses thermal cameras and GPS sensors to locate new ones, navigating Iceland’s rugged and unpredictable terrain.

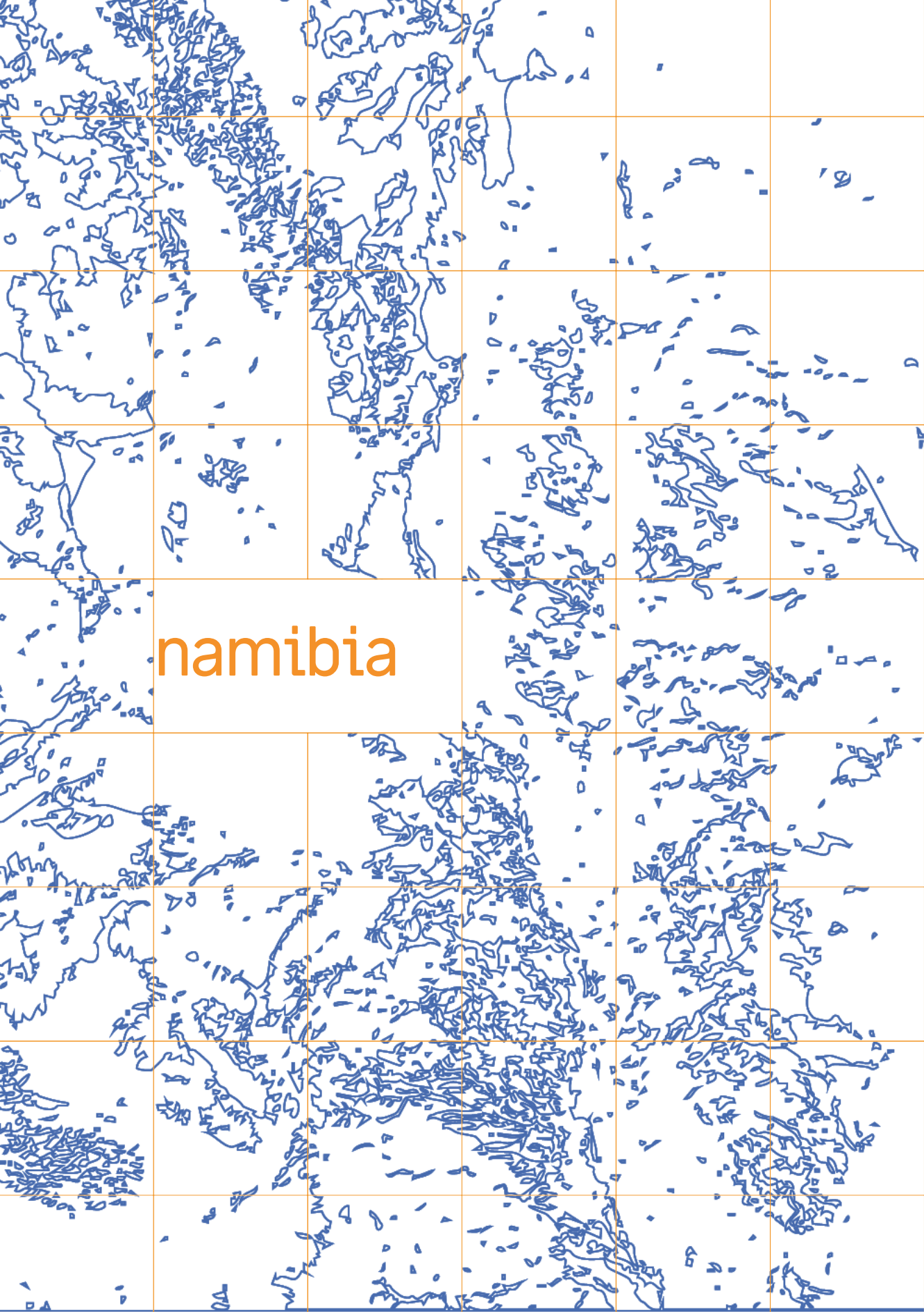
64.1095111, -21.2571498_HENGILL, ICELAND

This project challenges the exploitative relationship between humans and nature while reinterpreting their correlation with rituals.

It imagines a future where humanity must acknowledge the consequences of environmental degradation and re-establish a balanced, respectful connection with Mother Nature. Through this speculative lens, “Goddess Retirement” proposes creating new rituals to honor and coexist with nature, moving beyond the transactional dynamics of the past.

The narrative underscores the urgency of fostering sustainability and reverence for the planet, advocating for a profound cultural shift to ensure the survival of our rivers and the ecosystems they sustain.




namibia

Namib Desert 2124

“In 2124, a nomad in the Namib desert looks towards the coastal wind to collect moisture.”

Riekje Marie Paruschke and
Mike Sullivan

In May 2024, Namibia experienced the worst drought in 100 years.

This makes us fear the worst, how will the water supply in Namibia differ in the next century?

In this project, we imagine a future scenario where water scarcity has made survival in the Namib desert nearly impossible:

Finding safe drinking water is the main objective of desert dwellers. We follow a lone nomad that travels through the desert, meandering from place to place, foraging for what spare resources the land has to offer.

The Namib Desert Beetle is native to the harsh environment and has adapted the ability to harvest water from the coastal winds that bring in moisture from the South Atlantic Ocean.

-25.4001623, 15.2580219_NAMIB DESERT, NAMIBIA

It harvests fog using hydrophilic bumps and hydrophobic valleys on its carapace to condense fog. Inspired by the desert beetle, the desert nomad has hand-crafted two tools to harvest fog: a fog net and a clay collection bottle. The fog net uses its large surface area and texture to condense the coastal wind which is then channeled into a clay vessel for storage and drinking.

The bottle is designed to be screwed into the sand and it has points to attach to the fog net and a carrying strap.

Fog harvesting has been previously implemented large-scalvve, as a permanent piece of infrastructure in a water-challenged environment.

This project adapts fog net technology to be viable at a smaller scale. Fitting with a setting where extreme self-reliance has become necessary due to conflicts over resource scarcity.


NAMIB DESERT 2145

Master Industrial Design
Royal Academy of Art, The Hague
Prinsessegracht 4
2514 AN The Hague
www.kabk.nl
m.roozenburg@kabk.nl
z.roelse@kabk.nl

Production

Coordinator
Maxime Benvenuto

Production
Hun Lee
Lida Andritsou

Editorial
Eva Rodinis
Linnis van Kampen

Image team
Hun Lee
Léonie Hanen
Zizi Mitrou

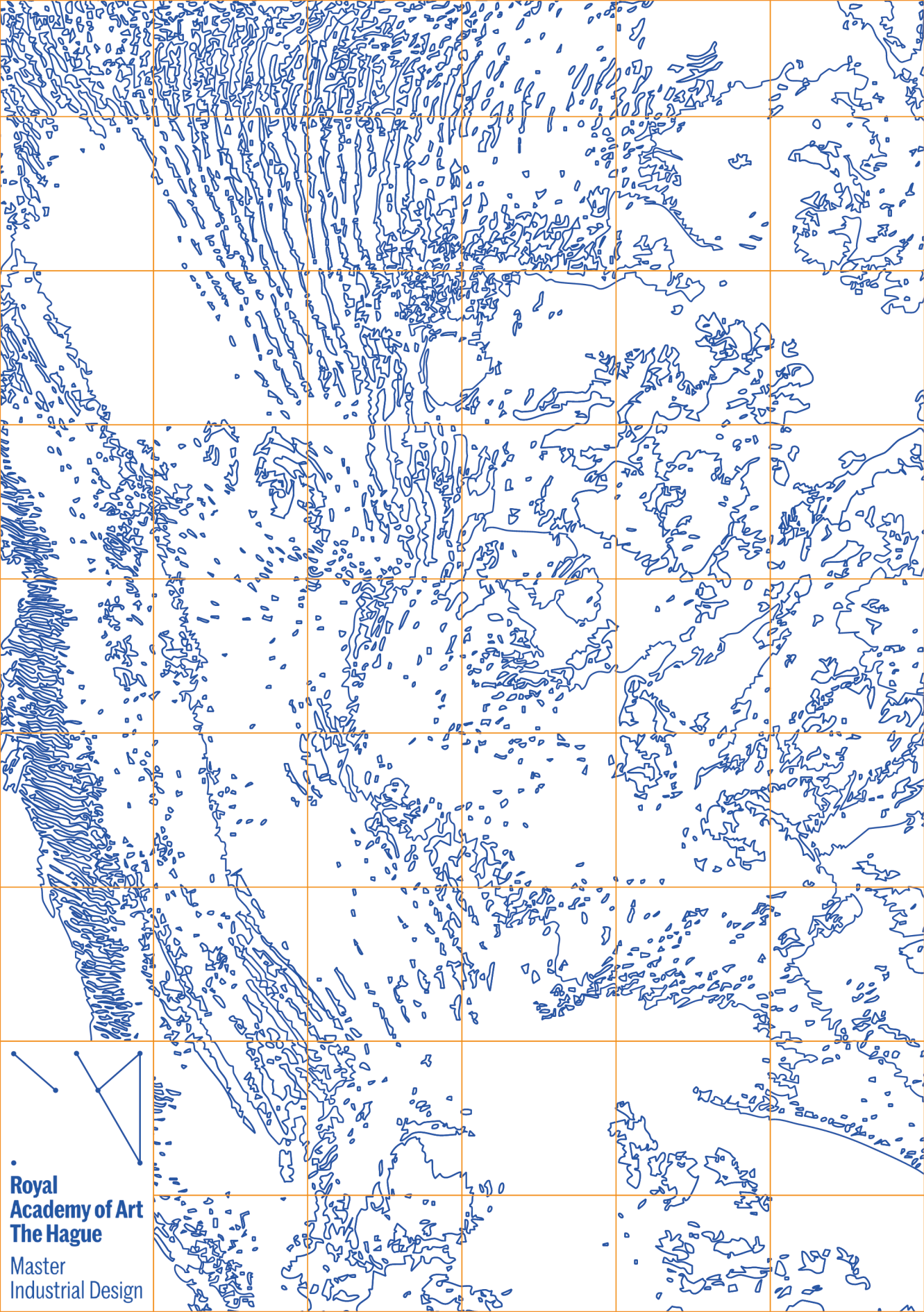
Graphic design
Lot Dik
Mila Tešić
Riekje Paruschke

Online production
Lot Dik

In collaboration with
Study Centre for Technology Trends (STT - Stichting Toekomstbeeld der Techniek)

Coaching of the project
Cream on Chrome (Martina Huyhn and Jonas Althaus)

Special thanks to
Maaike Roozenburg, Head of department MID
Zara Roelse, Coordinator MID



Royal Academy of Art The Hague

Master Industrial Design