

# Future management of water security in Limburg

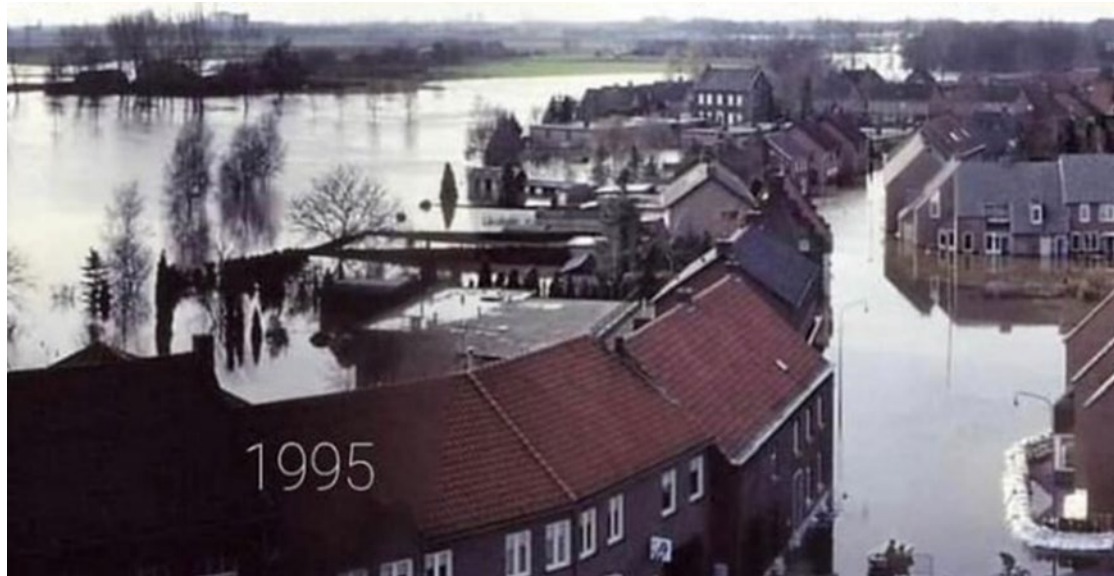


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# How did we start – a look in the rearview mirror ?







An aerial photograph of a river landscape. The river, named Grensmaas, flows from the top left towards the bottom right. It has several meanders and a large, forested island in the middle. The surrounding area is a mix of green fields, brown agricultural land, and some residential areas with houses and roads. In the far distance, a line of wind turbines is visible against the horizon.

# Grensmaas





An aerial photograph of a Dutch landscape. A wide, calm river flows through the center, bordered by green grass and trees. On the left, a dense residential area with many houses is visible. In the foreground, there are large, traditional Dutch farmhouses with red-tiled roofs and a large, curved, thatched-roof structure. A road with a few cars and a yellow car is visible in the lower right. The sky is blue with some light clouds.

# Bypass Neer





WV



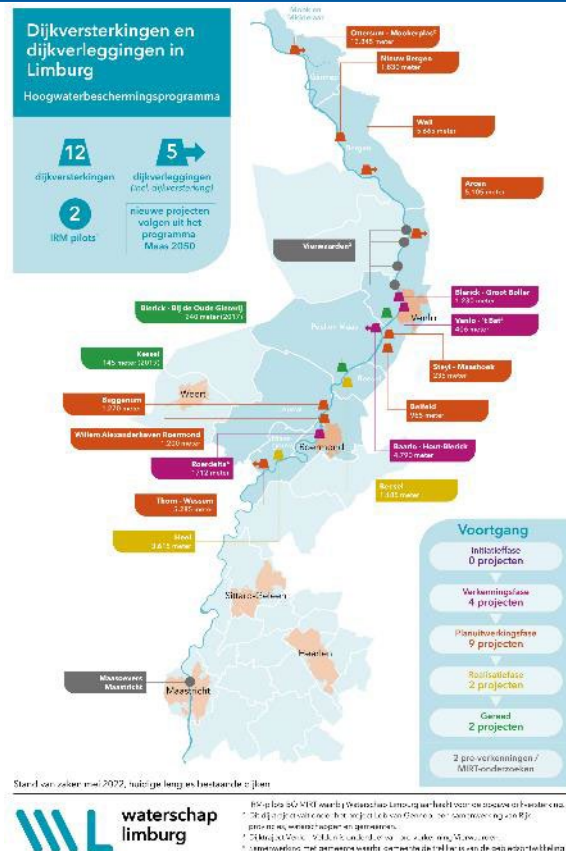


# Ooijen-Wanssum





# Measures River Maas







# Meerssen



Juni 2016



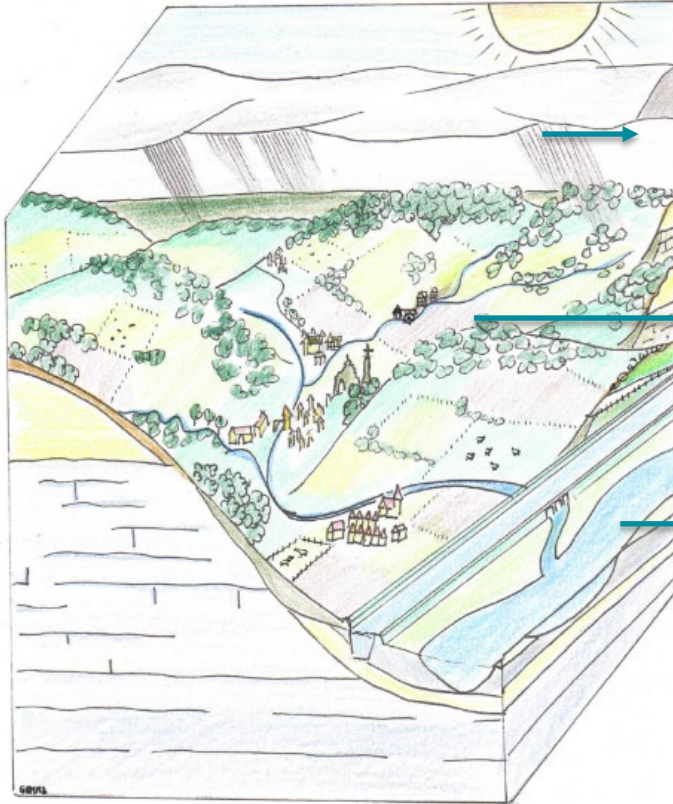


Meerssen



Augustus 2014

# July 2021 – a look back



Crisis 1: precipitation South-Limburg 1:500 1:1000

Crisis 2: 50 times as much supply via streams

Crisis 3: Maas discharge  $3300 \text{ m}^3/\text{sec}$

## Watersystemanalysis

- 1) What hat happened?
- 2) What does it tell about our system?
- 3) What are goed measures?
- 4) What kind of extra research is necessary?



**Estimation ENW July `21 : 1,8 billion € damage**



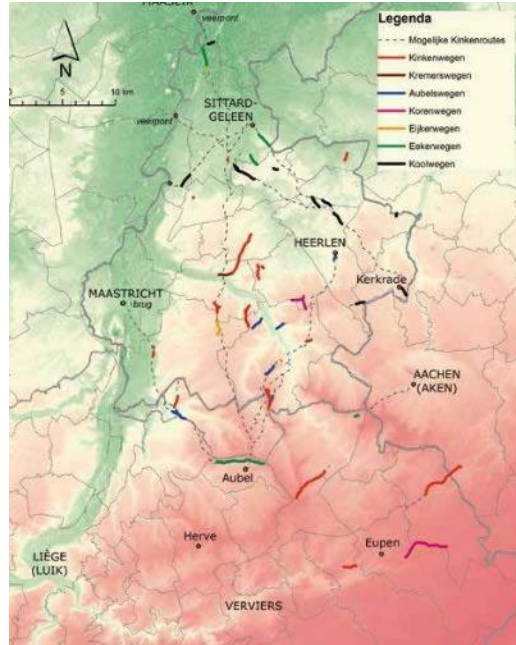
# Limburg urgent

## Damage potential

- 2300 damaged homes
- 600 companies damaged
- 50.000 people evacuated

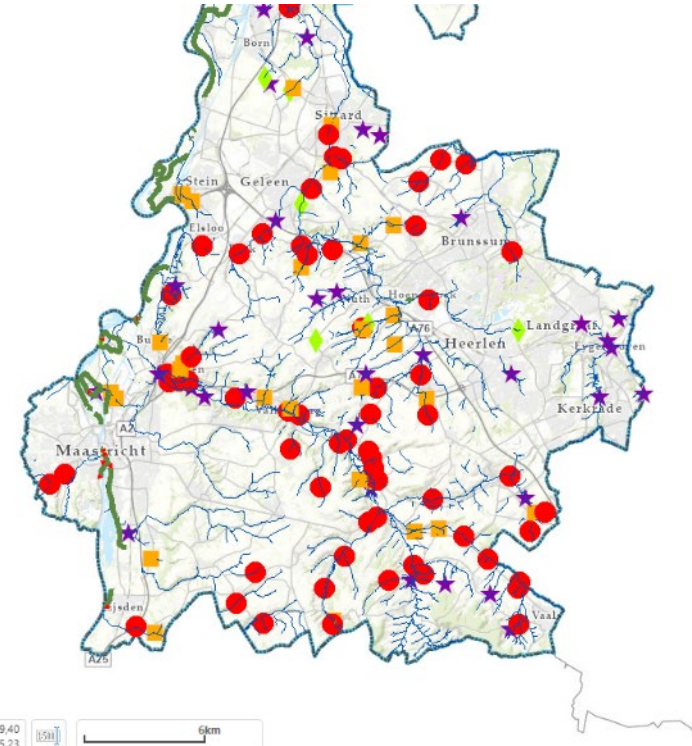
## Characteristics:

- Lowest point at the Euregio
- Geomorphological situation
- Meteorological situation
- Converging systems
- 75% border with a foreign country
- Measures of a fundamental nature
- The Limburger expects it!



**Is this a new setting?  
Or the new normal?**

# Measures regional system





# Proposition



## Ongoing developments: Post-flood



Recovery



Information sessions



Evaluations



Campfire talks

## Ongoing developments



Proposition



Nationwide policy tabel



Meet up

**HWBP**  
voor sterke dijken



Maas2050

**Deltares**  
Enabling Delta Life  
System operation

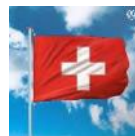


Roer, Geul...

Input voor  
„Plan de campagne“



Fact  
finding



Best practice  
Suisse



brainstorm



crisisorganisation





## International developments



## Started actions

- demountable walls/partitions 70 houses (Mechelen)
- Test Flood barriers



- Central control room ready – weather forecast
- Policy table recommendations partly part of ongoing developments

# “ Stones in the pond ”

Ia.

Accept that we cannot  
solve all nuisances.  
July 2021 was  
exceptional.

Ic.

What is a  
realistic residual  
risk?

Ib.

We are going to make the  
system of standards risk-  
based, where necessary we  
will also take safety into  
account

II.

We're going to set up  
system to the norm.  
Above that under  
conditions above-  
normative  
interventions

IV.

Limburg as a catalyst  
where concepts from  
the policy table are  
applied. Create  
experimental space!

III.

Working on a climate  
proof system is only  
possible if solutions  
are integral

V.

A lot of water comes  
from (B) and (D). Part of  
the problems we solve  
there (with NL €)

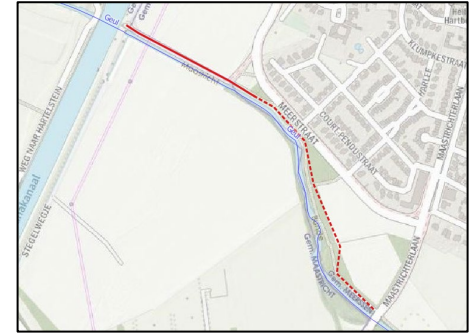


waterschap  
limburg



# The next steps 1

- Measures Short term/long term
- Interreg and alert - investment in cooperation abroad
- Short term measures (partitions...) §§
- Campaign “awareness”
- National policy table with recommendations for the whole country
- Invest in dialogue with Assurances



# The next steps 2

- Stones in the pond – standards / framework
- Water system evaluation (Deltares)
- Accelerate / intensify ongoing HWBP and WiB programs
- Regional cooperation strengthened
- Master plan at the end of 2023 for the entire landscape
- Multi-layer safety (5 steps)



# Think big 1





# Think big 2



Go East!

Go South!

# Think big 3



Through the eye  
of a needle

It will be  
different  
next time!





# Dealing with flooding in Limburg

Five methods to prevent or deal with flooding – the multi layer safety:

0. waterawareness
1. solving in the water system itself\*
2. solving by spatial planning\*
3. solving during crisis itself\*
4. robust recovery after crisis

\* Multi-layer risk approach

Major  
consequence

Limited  
consequence



0 1:25 min ? 1:100 ambition ? 1:1000



3  
Areas of focus  
(Geul, Geleenbeek, Roer)

		actions			
		actioner	Short term	Semi long term	Long term
0. Waterawareness		WRL,...			
1a. solving in the water system itself		WL, gem			
1b. Measures in the system		WL			
2. Solving by spatial planning		Gem, PL, Rijk			
3. Solving during crisis itself		V-regio's, WL			
4. Robust recovery after crisis		WL, gem, Rijk, insurances			