



International Delft FEWS User Days 2017

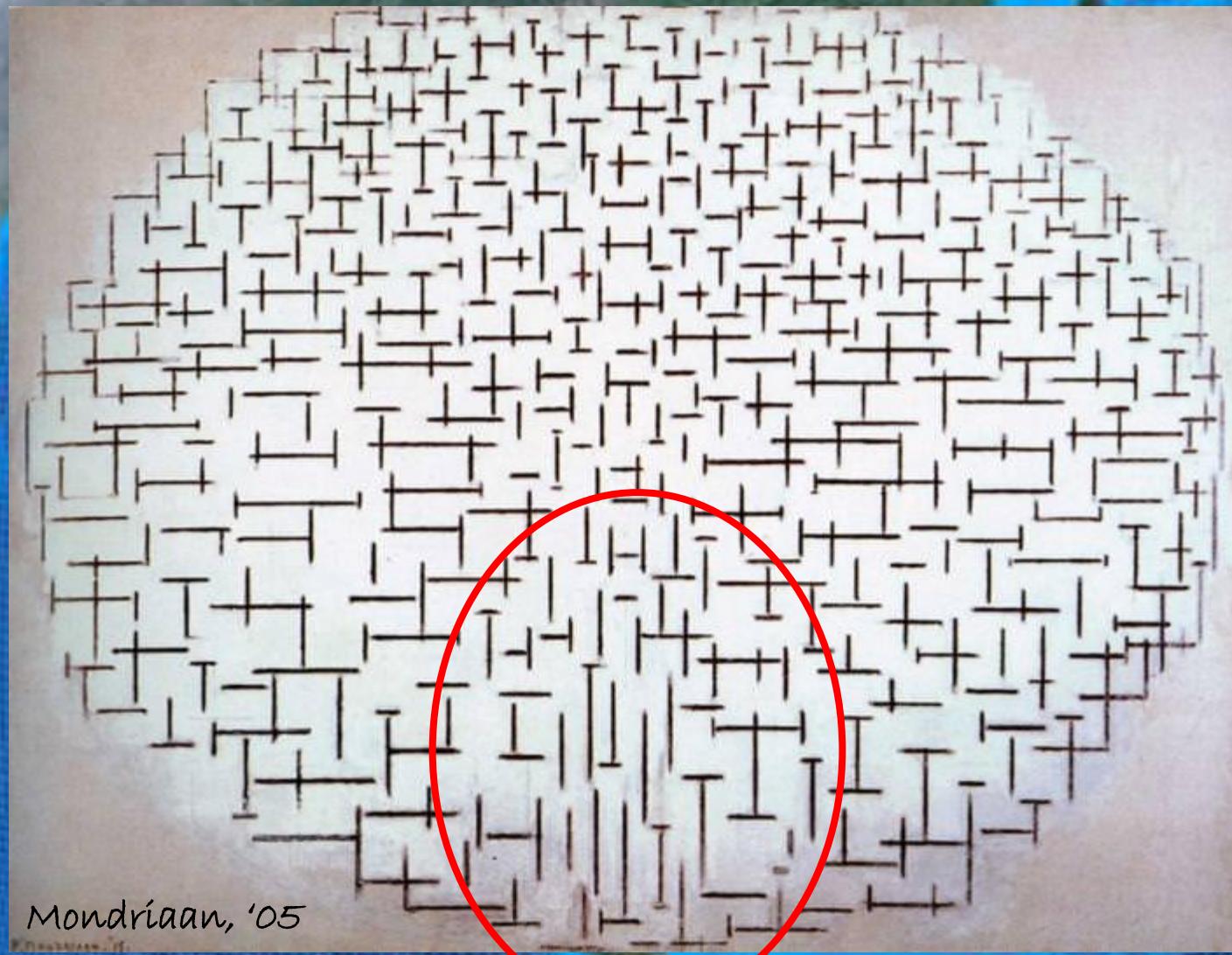
*Karel Heijnert
Deltares*



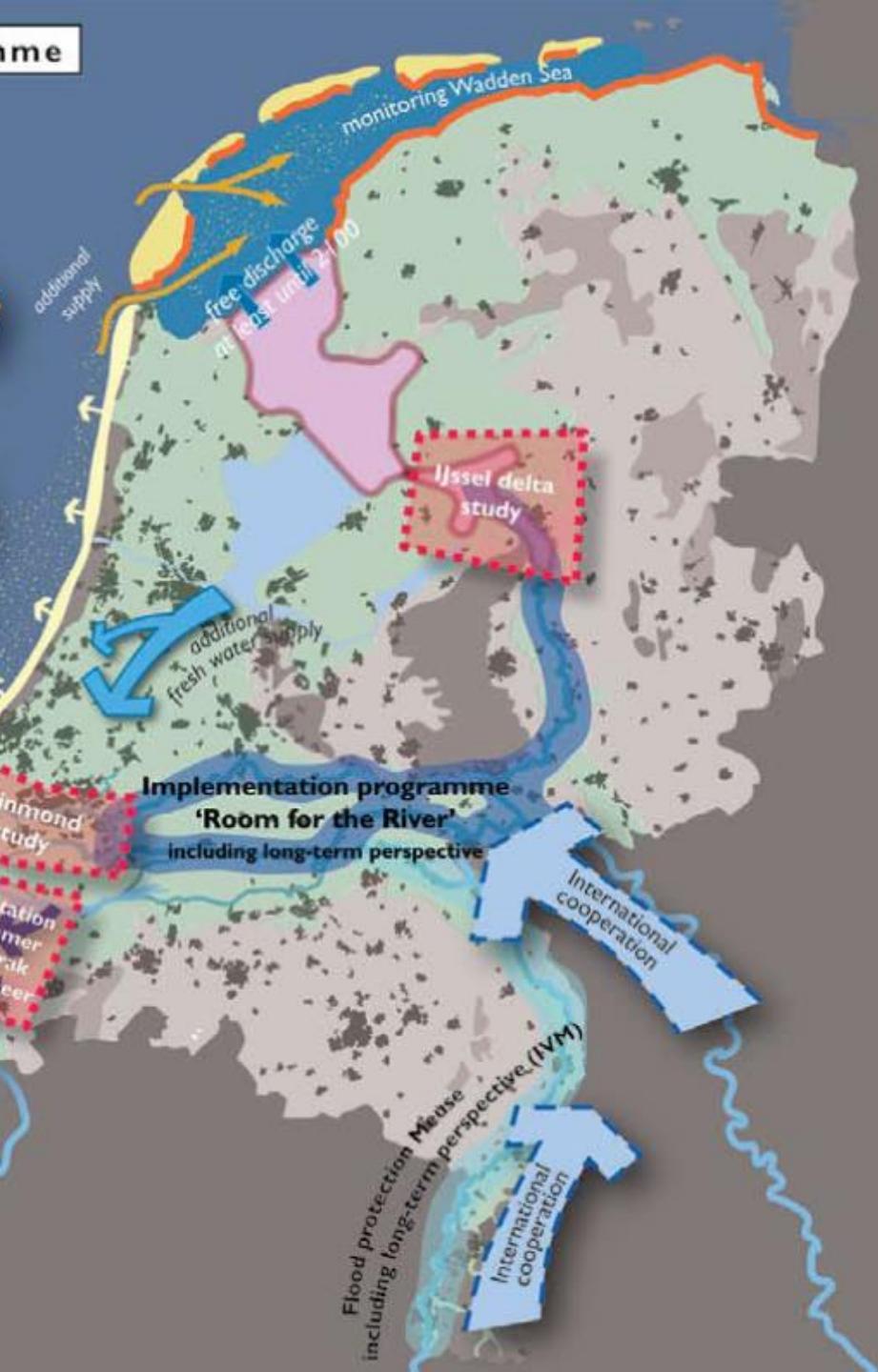








Mondriaan, '05



Raise level +1.1 m in spring
Adapt regional water system infrastructure. Raise dikes.
More water to IJssel in spring

Decrease level and adapt infrastructure (-0.8?)

Lower navigation sluices. Increasing pumping capacity. Strengthen dikes.
Lower inlet structures.

Raise level +0.6 m

Raise dikes. More water to IJssel.
Adapt regional watersystem infrastructure

Decrease level within current infra (-0.6?)

Accept navigation abstraction during extreme droughts

Raise IJsselLake level within current infra +0.1

More water through IJssel in summer, Afsluitdijk NWW

Optimising current policy
Flexible water levels

Current policy

-0.20 - -0.4 m NAP

More efficient water use

e.g. increase regional storage, flushing optimisation, flex level control. After 2050 pumping capacity needs to be increased.

Change to drought/salt tolerant crops

After 2050 pumping capacity needs to be increased

Change land use

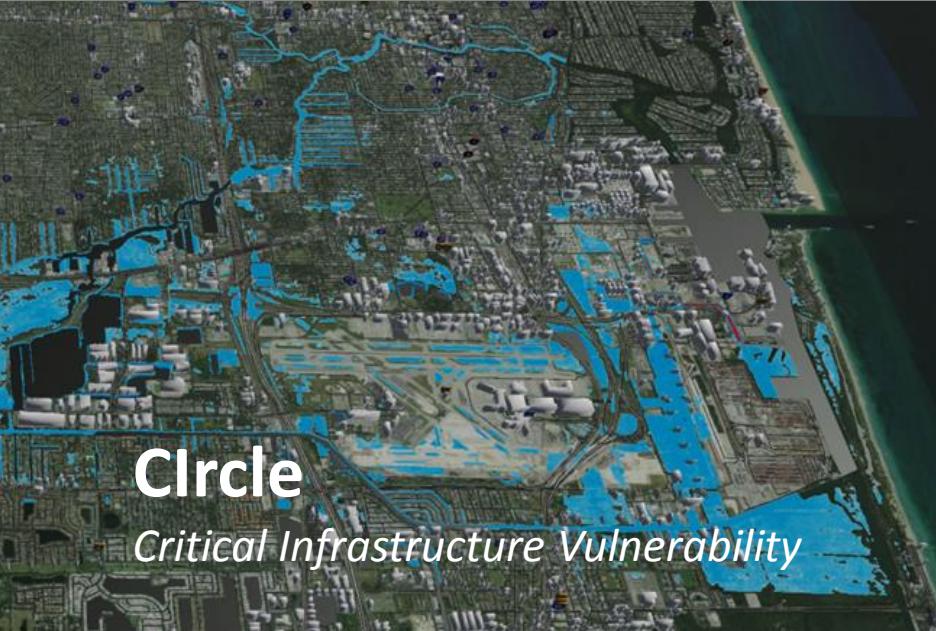
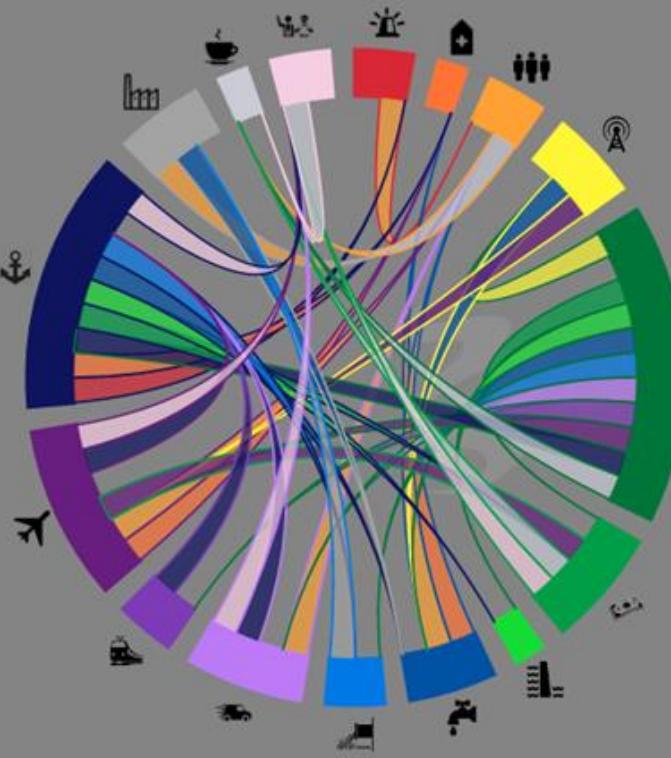
Transfer station to new policy
Adaptation Tipping Point of a policy (Terminal)

Pathways

2050

- Preferred path Hierarchist Perspective: large
- Preferred path Egalitarian perspective: protection
- Preferred path Individualist Perspective: market

- Emergency Services
- Healthcare and Public Health
- Citizens
- Communications and IT
- Electricity
- Financial Services
- Storm Water System
- Drinking Water
- Wastewater
- Main Roads and Tunnels
- Railroad
- Airport
- Port and fuel storage
- Industrial Facilities
- Commercial Facilities
- Tourism



Circle

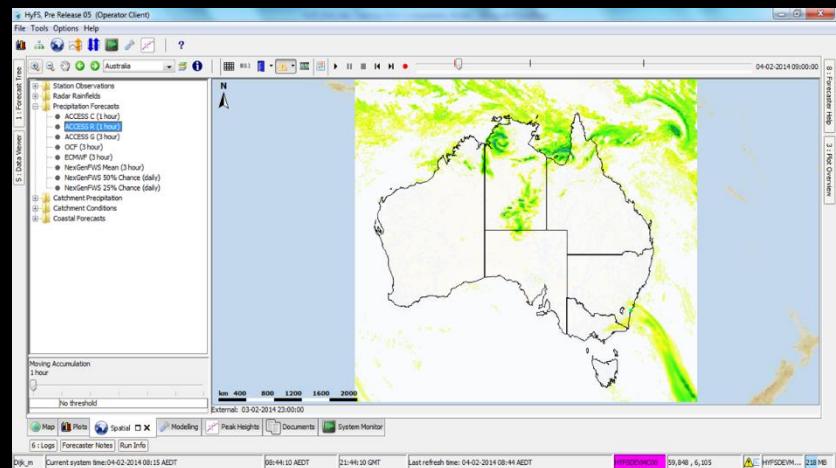
Critical Infrastructure Vulnerability

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  xsi:schemaLocation="http://www.wldelft.nl/fews
  http://fews.wldelft.nl/schemas/version1.0/workflow.xsd" version="1.1">
  <!--Run Rhein Interpolation -->
  <activity>
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  <!--Spatial interpolation from grid to HBV-centroids-->
  <activity>
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    <ensemble>
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  <!--Aggregate forecast data for display -->
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  <!--Disaggregate timeseries at HBV-centroids -->
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  <!--Aggregate inputs for display -->
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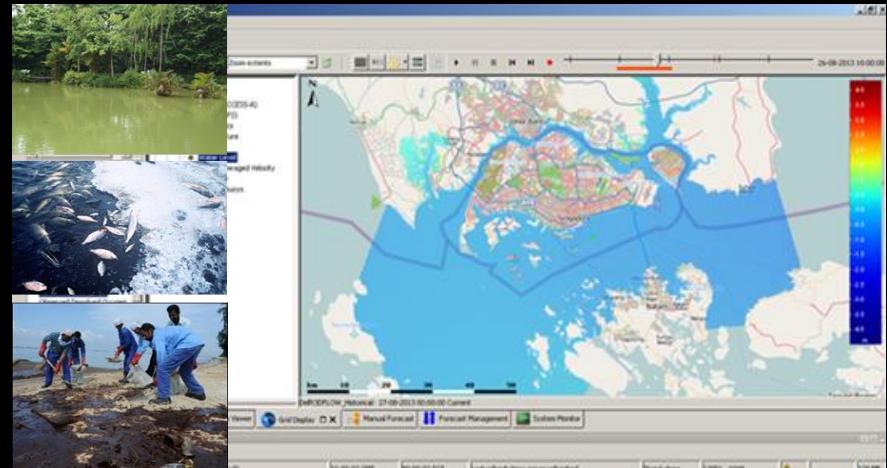
Hydrological forecasting - CHPS for NWS



Water balance forecasting Netherlands



HyFS – National forecasting for Australia



Water quality forecasting Singapore



2016

2006





Effective forecasting and warning in cities

Scenario Analysis

Real-time Hydrological Forecasting

Flood



**installations
updates
hosting
troubleshooting**
...made much easier

FEWS as a service



*Thank you all very much
for coming to the FEWS User Days 2017 !!*