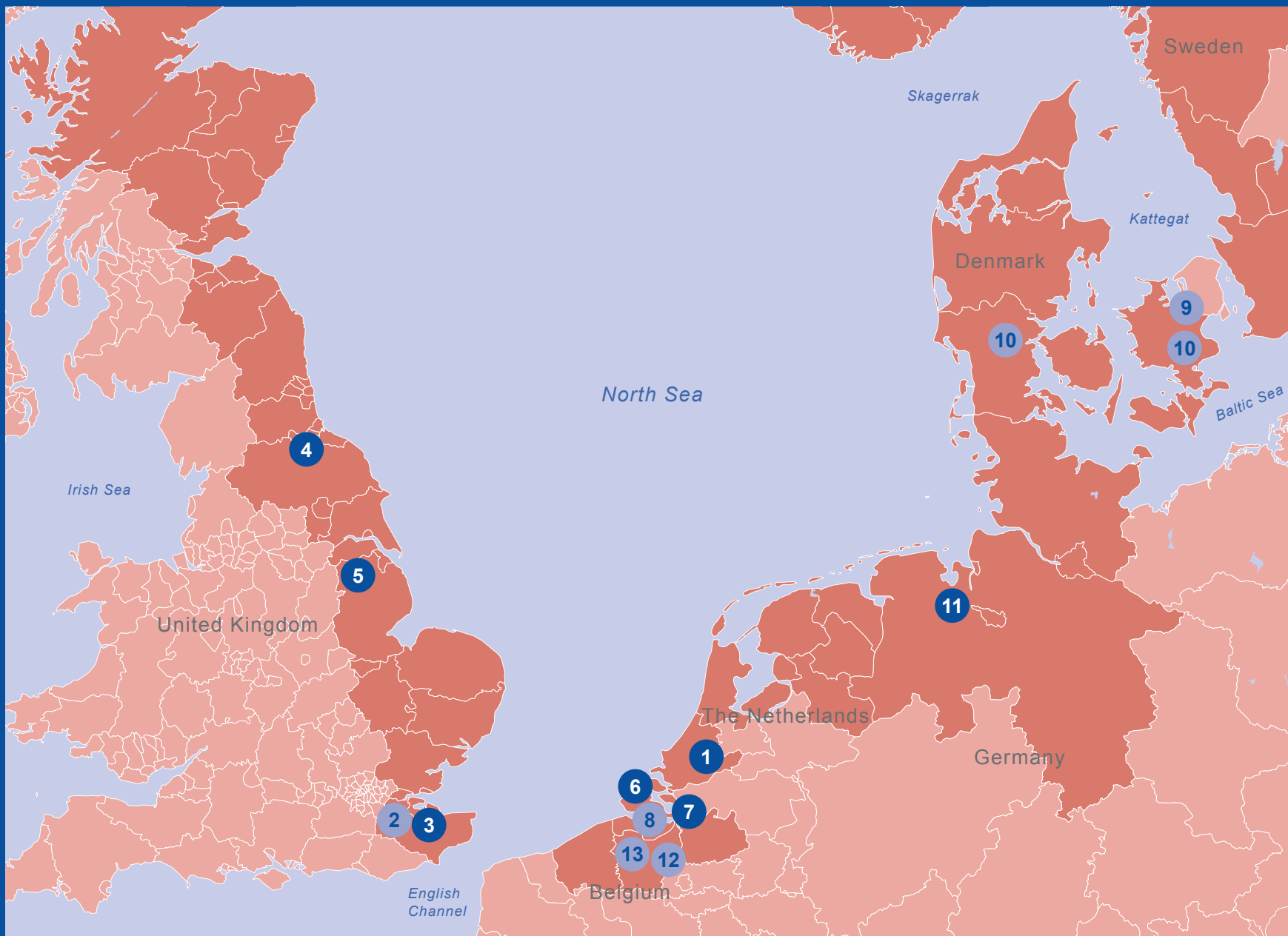


FRAMES pilots



Interreg
North Sea Region
European Regional Development Fund



Pilots



WP3



WP4

- | | | | |
|---|---|---|---|
| 1 Alblasserwaard (NL) Provincie Zuid-Holland | 5 Southwell (UK) The Rivers Trust, National Flood Forum | 9 Roskilde (DK) Danish Coastal Authority | 12 Ninove South - Burchtdam (BE) Provincie Oost Vlaanderen |
| 2 Kent (UK) Kent County Council | 6 Floodproof electricity grid Zeeland (NL) Provincie Zeeland | 10 Veje & Solrød-Køge (DK) Danish Coastal Authority | 13 Denderleeuw (BE) Universiteit Gent |
| 3 Upper Darent (UK) The Rivers Trust, National Flood Forum | 7 Reimerswaal (NL) Provincie Zeeland, Rijkswaterstaat | 11 Wesermarch (DE) Jade Hochschule, Oldenburgisch-Ostfriesischer Wasserverband | |
| 4 Lustrum Beck (UK) The Rivers Trust, National Flood Forum | 8 Slogebied (NL) Provincie Zeeland | | |

Benefits MLS for national climate adaptation strategies

| | National Adaptation Strategy (NAS) | How can MLS improve the NAS and local/regional/national activities |
|----|--|--|
| BE | The National Adaptation Strategy describes the main climate change impacts, the existing adaptation responses, a roadmap to a future National Adaptation Plan (NAP) and policy guidelines for adaptation. | Resilience will become a main political chapter in the White Paper on Spatial Planning of Flanders. MLS is the central concept of the Flemish river basin management plans such as the Sigma plan (a plan to reduce the risk of floodings in the Schelde region). |
| DE | The Federal Government adopted the German Strategy for Adaptation to Climate Change. The implementation of the EU Floods Directive according to federal states working group on water related issues (LAWA) is based on the holistic concept of risk management, including prevention, emergency management and aftercare. | MLS is already considered as the base for flood risk management under a changing climate. Activities in FRAMES will emphasize the importance of focusing on the 2nd to 4th layer with the same priority as layer 1, fostering the integrative aspect. |
| DK | The Ministry of Environment and Food implements the EU Floods Directive, performed by the DCA. Central to climate change adaptation efforts is a strong interaction between state and municipalities. Municipality plans include a flood risk mapping and priorities for the local climate change adaptation measures. | The DCA are responsible for the appointment of flood prone areas and the preparation of flood hazard and flood risk maps. Municipalities that have designated areas of potential significant flood risks are responsible for the formulation of risk management plans. As MLS considers the same three focus areas as the flood risk management plans (protection, spatial planning and emergency response) the FRAMES project harmonises with the EU Floods Directive and shows parallelism to flood risk management. |
| NL | The National Waterplan comprises climate adaptation strategies to protect the Netherlands from (coastal and river) flooding, to work towards climate resilient urban areas and to ensure adequate supplies of freshwater for generations ahead. The Waterplan is implemented by the National Deltaprogramme. | The National Water Plan states that the measures required to comply with the updated flood safety standards must be realized before 2050. The National Water Plan's preferred strategy for achieving the flood safety standards is the MLS approach. |
| UK | The Water Framework Directive and the Habitats Directive as well as the Climate Change Act and national Flood Risk Management Policy and Strategy all consider different aspects of MLS as well as wider issues such as Climate Change and are overseen and delivered by different combinations of National Government (including the Environment Agency), Local Government and private sector partners (including charities). | Expanding current approaches to include catchment planning and emergency planning (level 2 – spatial planning) and community resilience (level 4) will enable a more sustainable approach to flood risk management and more effective working between different partners. Adopting all levels of MLS will enable future investment to deliver multiple benefits and contribute to the delivery of other priorities including biodiversity and climate change and create opportunities to further apply and develop learning from existing partnerships, programmes and projects. |

1

Alblasserwaard (NL)

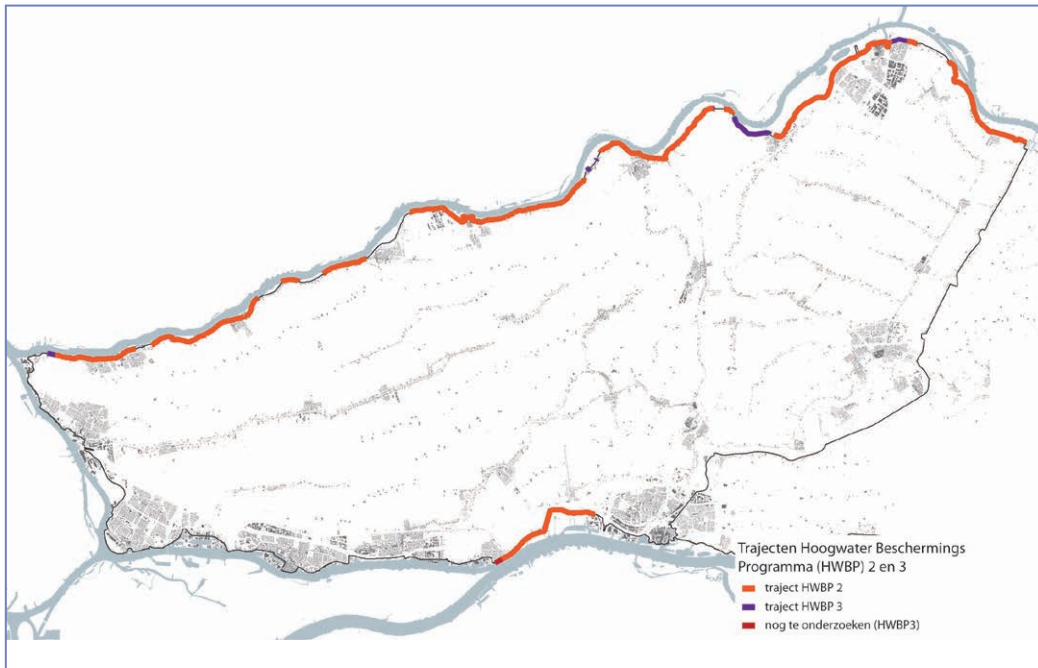
Provincie Zuid-Holland

WP3 A3

Catchment management

Transnational focus group
Danish Coastal Authority
Rivers Trust
Jade Hochschule

- Combining spatial/economic planning with reduction of effects of flooding
- Adopt evacuation models
- Calculation models and spatial plans that integrate evacuation



Resilience targets: 1 - 300.000 inhabitants
2 - 10 communities

2

Kent (UK)

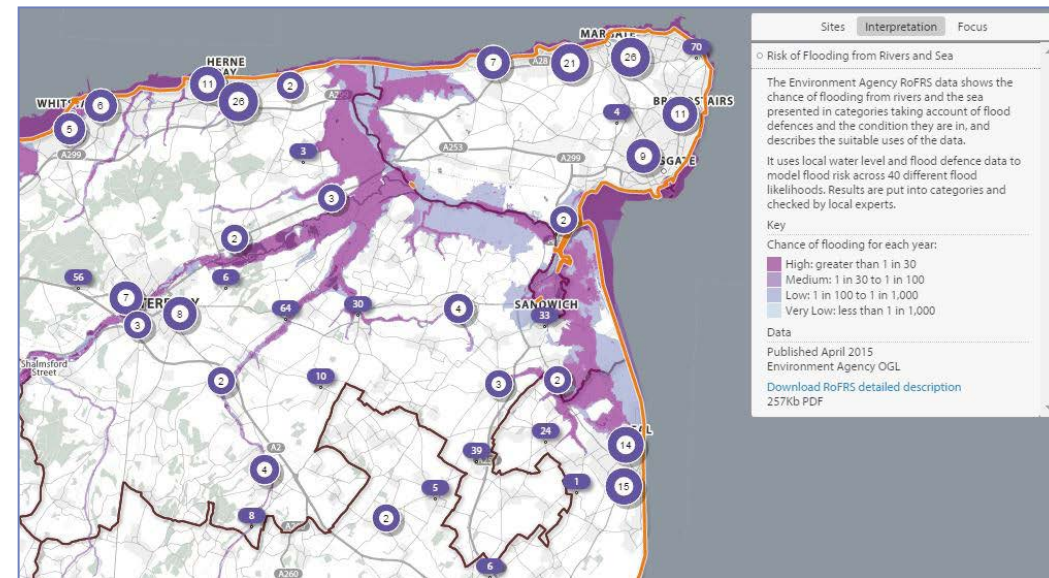
Kent County Council

WP4 A4

Applying MLS to Critical Health and Social Care Infrastructure and Service Delivery

Transnational focus group
Universiteit Gent
Veiligheidsregio Zeeland
Rijkswaterstaat

- Mapping critical health/social care infrastructure
- Stress test on health/social care infrastructure and service delivery (layer 2, 3 and 4)
- Joint qualitative assessment and adjustment of health emergency resilience plans and measures
- Adoptable health/social care flood resilience model



Resilience targets: 1 - 100 inhabitants
2 - 260 social/health care stakeholders

3

Upper Darent

The Rivers Trust, National Flood Forum

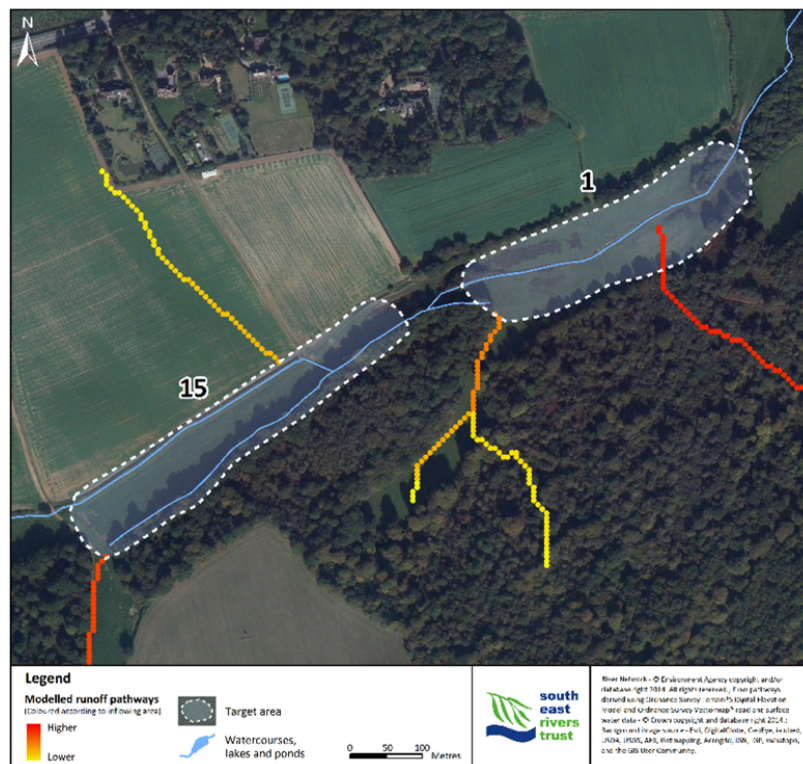
WP3 A3

Catchment management

Transnational focus group

Provincie
Oost-Vlaanderen
Universit t
Oldenburg
Provincie Zuid-
Holland

- Modeling and mapping of potential natural flood management solutions
- Develop solutions with landowners, communities and partners
- Design and deliver solutions to reduce risk
- Develop flood groups and local action plans



Resilience targets: 1 - 1.000 inhabitants

2 - 10 NG-stakeholders targeting 700 inhabitants

4

Lustrum Beck

The Rivers Trust, National Flood Forum

WP3 A3

Catchment management

Transnational focus group

Provincie Zuid-
Holland
Danish Coastal
Authority
HZ University of
Applied Sciences

- Modeling and mapping of potential natural flood management solutions
- Develop solutions with landowners, communities and partners
- Design and deliver solutions to reduce risk
- Develop flood groups and local action plans

Lustrum Beck Catchment (trib of Trees)



Resilience targets: 1 - 19.010 inhabitants

2 - 20 NG-stakeholders and 500 inhabitants

5

Southwell

The Rivers Trust, National Flood Forum

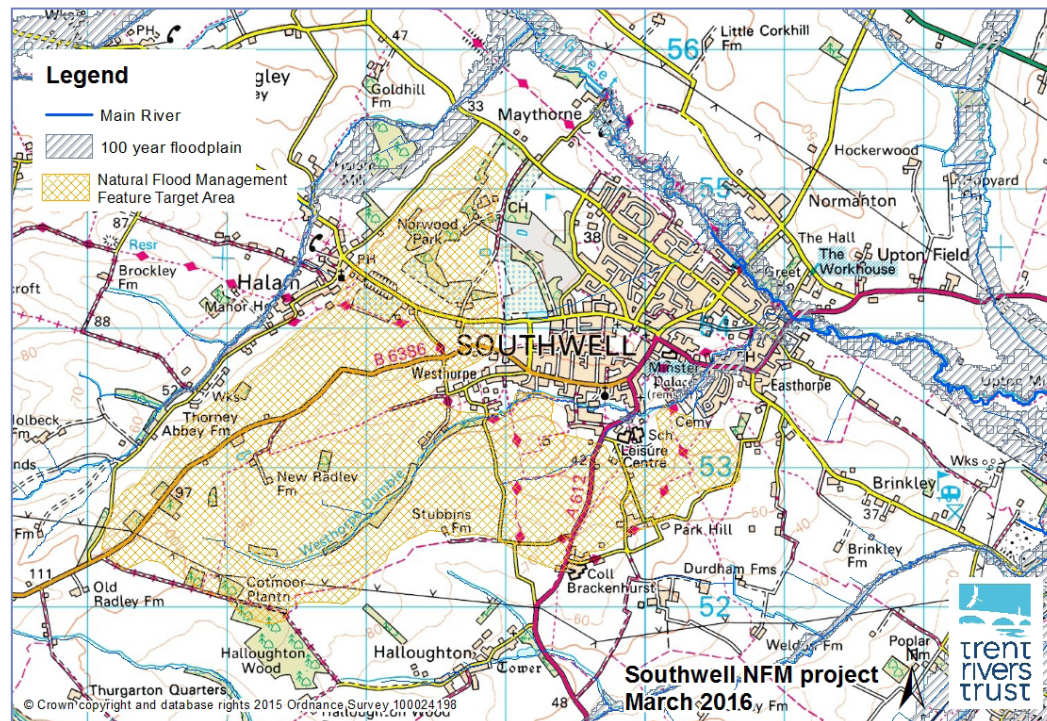
WP3 A3

Catchment management

Transnational focus group

Provincie Zeeland
Universiteit Gent
Jade Hochschule

- Modeling and mapping of potential natural flood management solutions
- Develop solutions with landowners, communities and partners
- Design and deliver solutions to reduce risk
- Support existing flood group to develop local action plan



Resilience targets: 1 - 6.000 inhabitants

2 - 8 NG-stakeholders targeting 500 inhabitants

6

Flood proof electricity grid

Provincie Zeeland

WP3 A4

Pilots vital infrastructure

Transnational focus group

Danish Coastal Authority
Provincie Oost Vlaanderen
Jade Hochschule
HZ University of Applied Sciences
Veiligheidsregio Zeeland

- Inventory of requirements for a flood proof electricity grid
- Flood proof grid spatial planning measures (layer 2)
- Duplicable spatial measures model for resilient NSR electricity grids



Resilience targets: 1 - 381.182 inhabitants

2 - 1 electricity grid operator

7

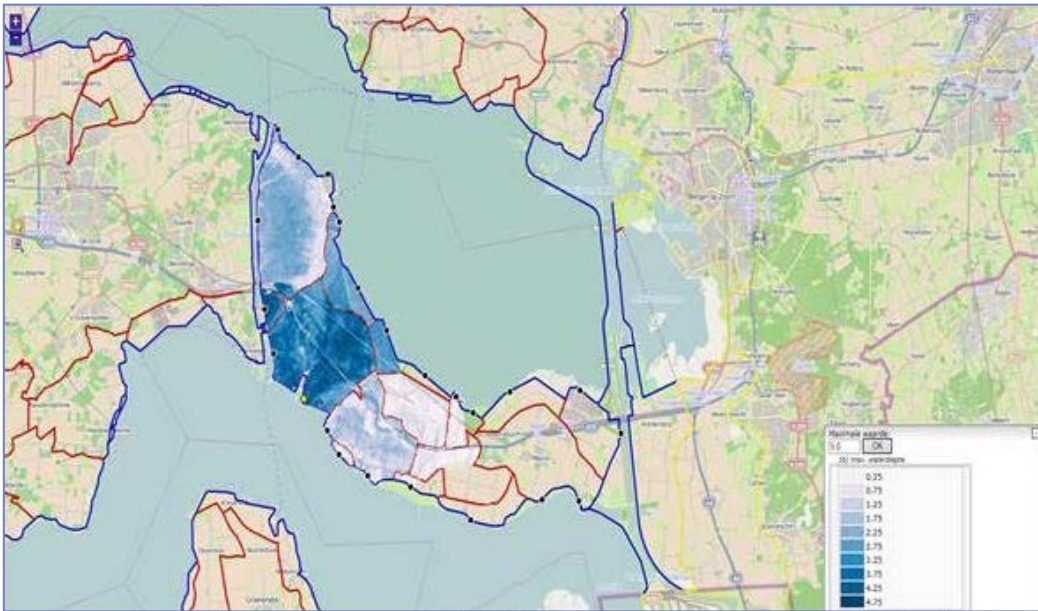
Reimerswaal

Provincie Zeeland, Rijkswaterstaat

WP3 A4**Pilots vital infrastructure****Transnational focus group**

Kent County Council
 Danish Coastal Authority
 Universitat Oldenburg
 HZ University of Applied Sciences
 Veiligheidsregio Zeeland

- Mapping of vital infrastructure (roads, rail, electricity) that submerges during a flood
- Inventory of submergence preventive spatial measures - cost/effectiveness - (layer 2)
- Adoptable (GIS) tool with submergence preventive measures for flood prone regions



Resilience targets: 1 - 22.260 inhabitants

2 - 2 infrastructure operators

8

Slogebied

Provincie Zeeland

WP3 A4**Pilots vital infrastructure****Transnational focus group**

Danish Coastal Authority
 Rivers Trust
 Universiteit Gent
 HZ University of Applied Sciences
 Veiligheidsregio Zeeland

- Mapping of industrial zone and workshops with businesses on consequences of flooding
- Exploration of use as area as evacuation area for nearby residential area
- Evacuation model that combines industrial and residential areas



Resilience targets: 1 - no inhabitants - industrial

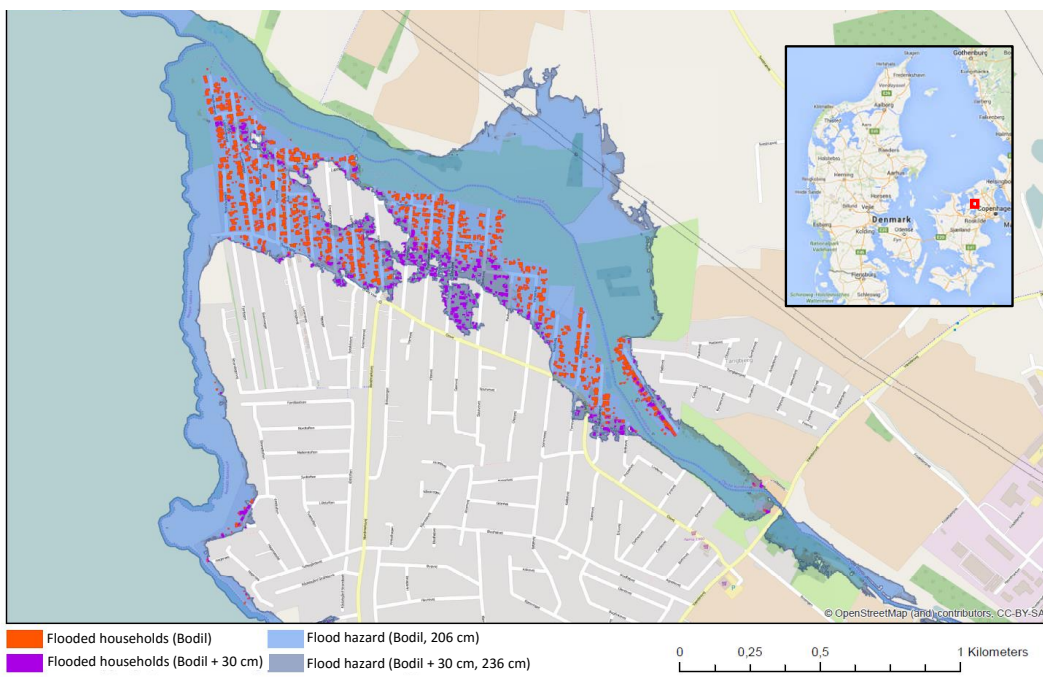
2 - 10 companies

9 **Roskilde**
Danish Coastal Authority

WP4 A6
Recovery after severe flooding

- Transnational focus group**
Kent County Council
Rivers Trust
HZ University of Applied Sciences
- Analysis of stakeholder recovery capacity after severe flooding
 - Improvement of stakeholder flood recovery process to reduce costs/resources (layer 4)
 - Adaptable flood recovery model that provides cost-effective best practices for flood prone areas

Flood Hazard in Jyllinge Nordmark, Roskilde during the stormsurge Bodil, 5th-7th Dec 2013

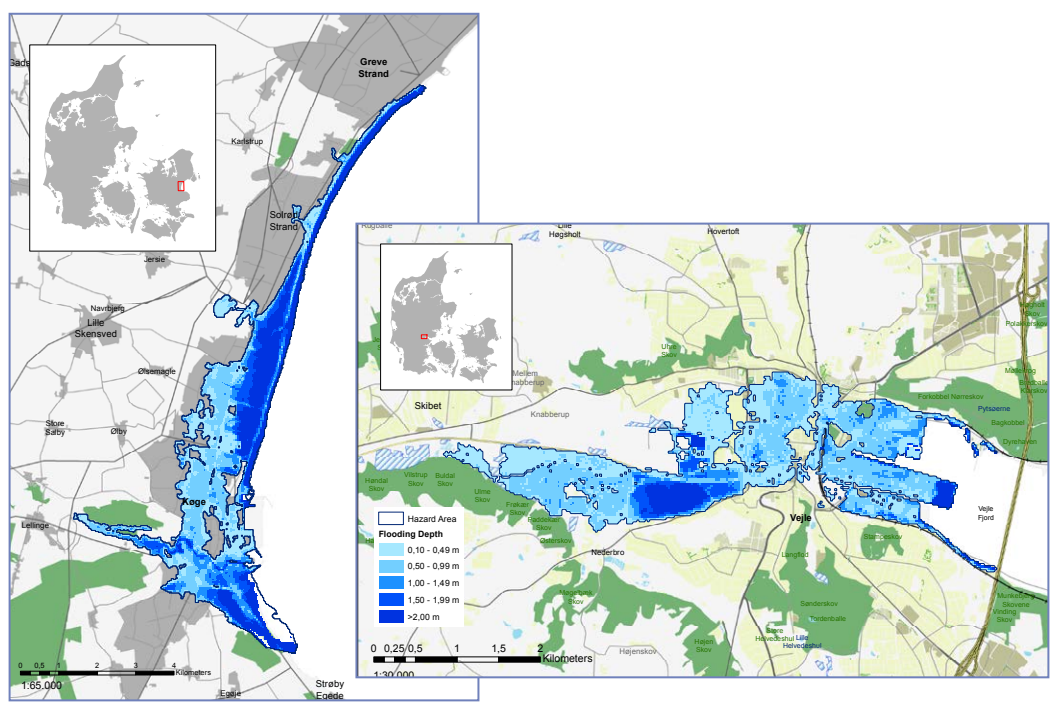


Resilience targets: 1 - approx. 600 inhabitants
2 - 11 homeowners associations

10 **Vejle & Solrød-Køge**
Danish Coastal Authority

WP4 A5
MLS concept applicability in areas without conventional flood protection

- Transnational focus group**
Kent County Council
Rivers Trust
Universität Oldenburg
- Apply Adaptive Dynamic Pathways Policy to test applicability of MLS for flood prone areas without conventional protection (layer 1)
 - Guidance and workshops for communities in region



Resilience targets: 1 - 25.000 inhabitants
2 - 40 businesses

11

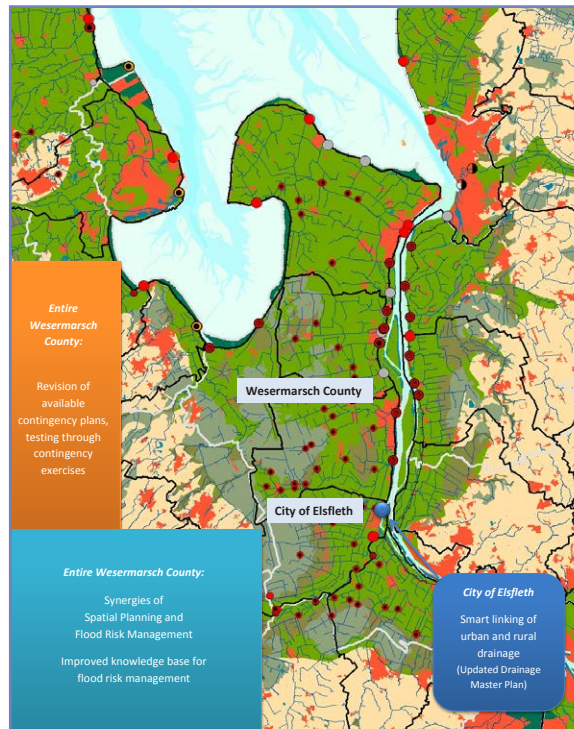
Wesermarsch Jade Hochschule, Oldenburgisch-Ostfriesischer Wasserverband

WP3 A2
Contingency exercises and planning

Transnational focus group
Provincie Zeeland
Danish Coastal Authority
HZ University of Applied Sciences

- Contingency planning workshops with regional stakeholders (layer 2 and 3)
- Contingency plan, spatial plan and exercises for flood prone areas
- Smart linking of urban and rural drainage

FRAMES – Pilot Areas Jade Hochschule (Wesermarsch Region)



Resilience targets: 1 - 89.000 inhabitants
2 - 20 regional fora

12

Ninove South-Burchtdam
Provincie Oost Vlaanderen

WP4 A3
Pilots community resilience workshops

Transnational focus group
Provincie Zuid-Holland
Danish Coastal Authority
Kent County Council

- Inventory of effective MLS measures in urban flood prone area
- Incorporating spatial, evacuation and recovery measures at Burchtdam site (layer 2,3 and 4)
- Community resilience business cases for flood prone urban areas

Burchtdam



Resilience targets: 1 - 3.000 inhabitants
2 - 25 businesses

WP4 A3
Pilots community resilience workshops

**Transnational
focus group**
National Flood Forum
Danish Coastal
Authority
Kent County Council

- Setup of self-relational actor-networks using urban site as Urban Water Livings Labs
- Identification of key stakeholders for self-reliant water management
- Realisation of shared stakeholder method for self-reliant water management (layer 3 and 4)
- Adoptable model of bottom-up flood prone area as a living lab approach



Resilience targets: 1 - 15.000 inhabitants

2 - 100 workers / 15 stakeholders

Observer letter



Metropolregion Nordwest, Bahnhofstr. 37, 27749 Delmenhorst

To whom it may concern

Metropolregion
Bremen-Oldenburg
im Nordwesten e.V.

1. Vorsitzender
Landrat Jörg Bensberg

Geschäftsführerin
Dr. Anna Meincke

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Telefon 04221 99-1901
Telefax 04221 99-1900
info@metropole-nordwest.de
www.metropole-nordwest.de

Contact:
Dr. Anna Meincke
04221-99 1904
23/06/2015

Observer letter – FRAMES project

Dear Sir or Madam,

In my capacity of managing director of Metropolregion Bremen-Oldenburg im Nordwesten e. V., I support the FRAMES project proposal, being developed by the Province of South-Holland (lead beneficiary) for submission under the first call for applications of 2015 of the Interreg V B North Sea Region Programme.

The proposed project activities and results are relevant for our organisation. We will support the project through our participation in project activities like workshops and visits and we are prepared to review the project throughout the project execution.

Yours sincerely,

Metropolregion Bremen-Oldenburg im Nordwesten e. V.

Dr. Anna Meincke

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VR 201105
Amtsgericht Oldenburg

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**The Senator
for Environment, Urban Development and Mobility**

The Senator for Environment, Urban Development and Mobility
Contrescarpe 72 • 28195 Bremen

To whom it may concern



Jens Wunsch
Fon +49 421 3 61-54 79
Fax +49 421 4 96-54 79
E-mail
jens.wunsch@umwelt.bremen.de

Bremen, Germany, 24 / 02 / 2016

Letter of support – FRAMES project

Dear Sir/Madam,

In my capacity of project manager for Flood Risk Management of the Department for Flood Protection of The Senator for Environment, Urban Development and Mobility, I support the FRAMES project proposal, being developed by the Province of South-Holland (lead beneficiary) for submission under the second call for applications of 2016 of the Interreg V B North Sea Region Programme.

Bremen has to face potential threats from both, flood waters from inlands and storm surges from the North Sea. In the area of Bremen, 515,000 inhabitants, which equals 80% of the total amount of inhabitants, are potentially endangered by floods. To my knowledge this figures are unique for an individual site within the European Union.

Following the European Flood Directive, many sites have been reviewed in terms of flood risk. Being the directive a good instrument for larger scales, certain details fall through the cracks of being not relevant in terms of significance. On the other hand, Bremen follows the principle of an integrative approach to flood protection and therefore try to take the subject a step further. At present one of our aims is to create deeper knowledge of all activities, whether recreational or commercial, taking place in areas without or with lower level flood-protection infrastructure, such as allotment gardens and sport fields, and the possibly arising risks regarding to health and environment.

The proposed project activities and results are relevant for our organization. We will support the project through our participation in project activities like workshops such as the "FRAMES days", where required Stakeholder Meetings and visits. We are prepared to review the project throughout the project execution and we are willing to provide input whether trough experiences of a major city and its potential resources or any other inputs that might be helpful to the project.

Yours sincerely,

Signature:  Place: Bremen, Germany Date: 24 / 02 / 2016

Name: Jens Wunsch
Position: Project Manager Flood Risk Management
Company name: Free Hanseatic City of Bremen,
The Senator for Environment, Urban Development and Mobility