climate changes spatial planning

Climate *changes* Spatial Planning
A Bird's Eye View

Climate *changes* Spatial Planning

The BISK[1] programme Climate *changes* Spatial Planning (CcSP) carries out research into climate change and how its consequences can be managed. It concentrates on impacts of and adaptation to climate change. The programme will also tackle the question of reducing greenhouse gas emissions from land use. The challenge for Climate *changes* Spatial Planning is to further develop the links between climate change, climate variability and spatial planning.

A broad consortium of government agencies, private sector companies, civil society organisations and research institutes are working together in the programme to ensure that we can respond adequately to the changing climatic conditions. The consortium[2] aims to facilitate the dialogue between the climate community and the policy-making and planning community by making climate change and climate variability one of the key guiding principles for spatial planning in the Netherlands. It is doing this by:

- providing government, the private sector and other interested parties with a high quality knowledge infrastructure on climate change and spatial planning
- stimulating the debate on making the Netherlands climate-proof
- developing innovative approaches to spatial planning and land use that anticipate and respond to climate change and contribute to a safe, sustainable and resilient socio-economic infrastructure in the Netherlands

The outcomes will enable policy makers to come to well-founded decisions on making the spatial structure of the Netherlands 'climate proof'.

Strengthening the knowledge infrastructure

In the Netherlands, 16.3 million people share 42,000 square kilometres of land, which is almost 390 people per square kilometre. This scarce space is used for many purposes: housing, employment, recreation, nature conservation and infrastructure. If these functions are to continue, new ways of managing land and water will be needed to adapt to climate change. Climate will therefore be an increasingly important consideration when making spatial planning decisions. The choices that will have to be made call for appropriate knowledge and expertise, but the knowledge infrastructure for delivering this is still inadequate. The programme is therefore working to equip the public sector, the corporate sector and the scientific community in the Netherlands with a workable, high-quality knowledge infrastructure tailored to the relation between climate change, climate variability and land use.

International embedding

Climate *changes* Spatial Planning is also contributing to the creation of an international knowledge network. Many of the projects in the programme are integrated into EU research programmes or other international programmes, such as the World Climate Research Programme (WCRP) and the International Geosphere–

[1] The BSIK is the Decree on Subsidies for Investments in the Knowledge Infrastructure *(Besluit Subsidie Investeringen Kennisinfrastructuur)*. The CcSP programme runs from 2004 to the end of 2011. It has a total budget of 90 million euros, including 40 million euros in BSIK subsidies.

[2] Vrije Universiteit Amsterdam, Wageningen UR, the Royal Netherlands Meteorological Institute (KNMI), Environmental Assessment Agency (PBL), the Energy Research Centre of the Netherlands (ECN) and the Netherlands Organisation for Scientific Research (NWO) have been coordinating the development of the programme since 2000, with input from government departments, the business community, civil society organisations, the provincial councils and other regional authorities.

Biosphere Programme (IGBP). CcSP participates in the international scientific and policy debate, for example in the Intergovernmental Panel on Climate Change (IPCC), the European Commission and the Conference of Parties to the United Nations Framework Convention on Climate Change (CoP UNFCCC) and is a member of the European knowledge network CIRCLE (Climate Impact Research for a Larger Europe).

The consortium

The programme consortium consists of more than 70 public, private, research and non-governmental organisations. By combining their expertise, they are able to tackle the full range and complexity of the issues. The participating research institutes are nationally and internationally at the forefront of their fields, enabling the programme to build on the best available knowledge and expertise.

Disseminating knowledge about climate and spatial planning

The consortium seeks to generate support for spatial planning measures designed to reduce greenhouse gas emissions (mitigation) and offset the risks posed by climate change and climate variability (adaptation). It does this by:

- undertaking projects to develop knowledge transfer methods and new forms of discussion
- making knowledge transfer an important element in each project and building in evaluation criteria, both before and during the projects
- embedding the programme in national and international research programmes
- carrying out projects with the end users and adapting the research to meet their specific needs
- developing study programmes and setting up a central website with project results
- organising symposia and conferences
- publishing results and making presentations at meetings
- cooperating closely with the Dutch policy programme Adapting Spatial Planning to Climate Change (ARK)

Hotspots

Hotspots have a special place in the Climate *changes* Spatial Planning programme. They focus on regions in the Netherlands that are already or will be affected by climate change and which face important spatial development or restructuring challenges. Research and practice are closely linked in these projects. An example is the Zuidplaspolder, one of the deepest polders in the country. The National Spatial Strategy designates the polder as a development area within the southern wing of the Randstad to accommodate a range of future development requirements, including greenhouse horticulture complexes and housing. Parts of the polder are vulnerable to land subsidence and because the area is situated next to the Hollandse IJssel river, which is connected to the main rivers in the delta, a breach of the dike could have serious consequences. In addition, climate change will increase the likelihood of flooding after intensive rainfall, drought and upward seepage of saline groundwater. Development in the polder will have to be laid out in such a way that future residents and businesses are not adversely affected by any of these impacts. The project is investigating the risks and exploring potential climate-proof development options. Other hotspots are Tilburg, Rijnenburg, the Biesbosch and the spatial vision for a climate proof Groningen.

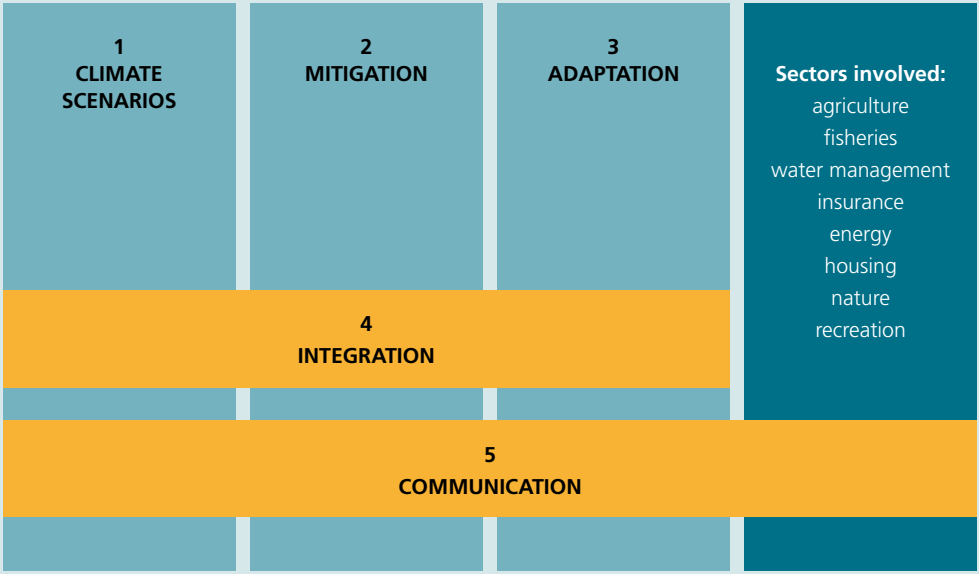
Zuidplaspolder (photo: Florrie de Pater) and water homes (photo: Dura Vermeer)

Structure of the programme and research questions

The programme consists of more than 60 research and communication projects, grouped into five main themes. The structure of the programme is shown in the chart. The research being carried out in the projects covers virtually all the sectors for which climate and spatial planning are relevant: wildlife and conservation management, agriculture, fisheries, coastal management, water management, land-based energy production, transport, housing, and banking and insurance.

Mitigation Two lines of investigation can be distinguished in this part of the programme. In the first, programmes are being developed to monitor greenhouse gas emissions from land uses. The second line of research is studying possibilities for reducing greenhouse gas emissions through spatial restructuring. The studies address questions such as:

- How can we design a low-emission spatial infrastructure or adapt existing infrastructure to minimise emissions?
- What are the spatial implications of renewable energy carriers such as biomass?



Main themes of the programma CcSP

Climate Scenarios In this theme researchers build a central knowledge base of regional climate data and scenarios that can be tailored to meet the needs of users. This research is exploring questions such as:

- Which climate scenarios will Dutch society have to deal with?
- How can regional climate scenarios be tailored to spatial planning issues?

Adaptation The research on adaptation investigates the consequences of climate change for land use and explores strategies for offsetting these consequences, especially by adapting the spatial structure. Among questions being explored:

- How can we ensure sufficient safety for the population and the built environment in the long-term?

- What design criteria are needed for the National Ecological Network if we also want to take climate change into account?

Integration The knowledge gained from the programme must be integrated.

- How can sectoral goals be embedded in an integrated adaptation strategy?
- What are the institutional and legal requirements for an effective and efficient climate policy at the national, regional and local levels?
- How can we weigh up and balance the various adaptation and mitigation measures?

These are the type of questions being investigated in the integration theme.

Communication The ultimate goal of the programme is to ensure that the knowledge gained during the programme is put into practice. To this end, the programme concentrated initially on raising awareness of the issues. In 2007 the focus shifted to knowledge transfer. Activities include developing courses for secondary schools and universities, publishing in scientific journals and professional magazines, organising debates and conferences as well as fostering knowledge transfer in projects carried out by researchers in partnership with practitioners. The programme is also developing special forms of dialogue.

Climate *changes* Spatial Planning

Programme Foundation
Board chair:
Professor Wim van Vierssen
KWR Water Research, Nieuwegein
The Netherlands

Vice-chair:
Professor Pier Vellinga
Wageningen UR, Alterra, Wageningen
The Netherlands/
VU University, IVM, Amsterdam
The Netherlands

Programme Council
Chair/scientific director:
Professor Pavel Kabat
Wageningen UR, Wageningen
The Netherlands
T: +31 317 48 6458
E: pavel.kabat@wur.nl

Programme Office
The Programme Office is located at the VU University Amsterdam, with a branch office at Wageningen UR.

Secretariat:
Climate changes Spatial Planning Programma Office
c/o VU University, FALW
De Boelelaan 1085, 1081 HV Amsterdam
The Netherlands
T: +31 20 598 8648
office@klimaatvoorruimte.nl

Director:
Kees Dorland,
c/o VU University, FALW, Amsterdam
The Netherlands
T: +31 20 598 7318
E: k.dorland@programmabureauklimaat.nl

Communication Officer:
Ottelien van Steenis
Wageningen UR, Alterra
The Netherlands
T: +31 317 48 6540
E: info@klimaatvoorruimte.nl

www.climatechangesspatialplanning.nl