Societal aspects

Content

1. Relevance of the research programme for national and regional adaptation policies

This research program aims to provide the best information available on regional climate, now and in the future, for decision making and planning, including national and regional adaptation policies. For this purpose KNMI issued in 2006 a set of generic climate scenarios. They are frequently used in studies on the impacts of climate change in the Netherlands and adaptation to these changes. They provide guidance for the policy of local, provincial and national governments in the area of, among others, spatial planning, national security and water management.

This project is lined up with the development of the new generation climate scenarios that will be released in 2012/2013. As such, this theme within KfC will (better) enable society, by means of an active two way communication with the different hotspots, to influence the development of this new generation climate scenarios. It will sharpen the user requirements, and at the same time convey information about climate change (and impacts) to the users. By doing so, it will also prepare users for the upcoming update of the scenarios.

Information on climate is important for many long term decisions on infrastructure, spatial planning, economy, agriculture, ecology, etc. In the past we assumed climate to be stationary, but this assumption is no longer valid. To make long-term decisions cost-effective, an estimate is necessary of climate as it will evolve during the lifetime of the object. For any object the type of information that is critical to the decision is different. Sea dikes are dimensioned based on estimates of sea level rise and wind extremes; agricultural investments are based on estimates of availability of water and the return time of adverse weather extremes; investments in wind energy are based on estimates of average wind speed at the height of the rotator.

In many areas decisions are made based on so-called instruments (‘instrumentarium’), which are used to calculate the impact of specific political decisions or measures, for example the National Hydrological Instrument and the Deltamodel. A set of such instruments is also foreseen to support decisions and implementation of the National Water Plan, the Delta Programme and the ARK (‘Adaptatie Ruimte en Klimaat’) programme. The quality of the results of these instruments crucially depends on the quality of the climatological input data. This project aims to provide the best information available for decision making instruments and climate change impact models. For example, the Delta Programme will be supported by

the development of the Deltamodel. The focus of the Deltamodel is to evaluate the effectivity of climate adaptation strategies. The boundary conditions are both climate, water, agriculture, ecosystems and spatial planning. This kind of boundary conditions will be (partly) supplied by this Theme 6 project. Great effort will be put in providing the information in a range of formats appropriate for stakeholders work processes, and in communication on the data itself and its use. We aim to cover a wide range of disciplines within the project and invest in generic solutions for interfaces to other disciplines.

KNMI already provides practical information on weather and climate extremes, such as frequency tables for the occurrence of extremes and maps of return periods of extremes (average waiting times between the occurrences of extremes exceeding a fixed level). The knowledge generated in this programme will lead to improved climate information services. Knowledge of changes in climate is essential to manage climate-related risks to humans, ecosystems, infrastructure, etc. and develop resilience through adaptation strategies. Attention will be paid to translating the information on climate change and its impacts to national and local scales (use of high resolution climate models).

The different WPs will contribute to society as follows:

- WP1 and WP2 focus on the development of knowledge about the climate system itself, with special attention on those parameters that affect society most and require adaptation measures: extreme precipitation, drought, heat waves, (extreme) winds, and processes that could lead to rapid sea level rise.
- WP1 will provide a number of showcases of future high impact weather (conveying a full high resolution 3D picture of possible future weather events) and information on regional differences and local extremes (in particular for HS Schiphol, Rotterdam, Haaglanden).
- WP2 provides insight in uncertainties of projections of relevant climate parameters for Schiphol Airport, related to airport capacity management, and Major Rivers and Shallow Lakes and peat meadows, related to water management
- WP3 focuses on improving the consistency of couplings between climate and impact models, thus enabling better integration of impact projections of various disciplines (spatial planning, water management, agriculture, eco-systems, air-quality)
- WP3 will also study the effectiveness of various ways of coupling between climate and impact models for decision makers about adaptation measures.
- WP4 focuses on overview of available data and information, and interactions between disciplines, help/advice on the interpretation of data and improved accessibility of data/information on climate change and its impacts;
- WP4 will provide first insight in data and information availability related to climate change in neighbouring countries. This is especially relevant for border crossing subjects such as extreme low and high river discharges;
- The information disseminated trough WP4 will be delivered on various levels of detail. The summary levels provide the basis for information to policy makers
- Besides, there is the option to get additional data and information needed for the adaptation strategies (WP4.3).

2. Involvement of stakeholders

The full proposal is written on basis of assessments of the requirements from the stakeholders, hotspot, theme's etc and assessments of the knowledge that our international scientific environment can offer.
The KKF-team organized 3 meetings in 2009 where climate scientists and hotspot-representatives met to identify needs of hotspots of climate and climate impact information. On November 10 2009 a final user consultation took place for KKF-T, where all project leaders of the first tranch in KfC and the project leaders of the themes in the second tranch where invited. The information from this meeting will also be used in this theme. Beside this information on user requirements from the CS7 (Tailoring climate data) from the past 5 years is used for the set-up of the proposal, and the selection of the subjects per WP.
The project leaders from the other themes were contacted to identified possible problems in the need for climate data (no possibility to include the supply of all desired data in theme 6, but sometimes other options available) September 10-11, 2009 international workshop with European institutions that supply climate services: exchange of experiences.

To keep the stakeholders involved in the project the following actions are foreseen:

- Within WP4 regularly user consultation will be organized. The information from these consultations will be used for adjustments to the web portal from WP4.
- Within WP4 there are budget reservations for user questions and support (Climate Information Services, expert pool).
- The web portal from WP4 will be a tool for Knowledge Transfer. Information on requests from stakeholders (also from outside the KfC programme) will be exchanged with Knowledge Transfer.
- Various partners involved in WP3 and WP4 also participate in hotspot projects, a.o. KBS, Haaglanden, KBR, and other themes, thus making a connection and offering the possibility of constant feedback.
- in WP3 several cases will be studied, using the same time frame and the same climate scenarios and spatial scenarios. In addition, existing methods to describe the possible future developments will be tested to their applicability for adaptation design purposes.
- The choice of cases must fulfill the needs of our stakeholders. In the first phase of the project a stakeholders consultation will be held in order to make these needs concrete and come to choices.
- Stakeholders from the hotspots will be consulted and asked for feeback during the development of the show cases in WP1 and WP2.
- If needed we may also organize e.g. short courses, additional presentations

The consortium has ample experience with interaction with stakeholders.

- coordination in the project KKF-tailoring, where several meetings with stakeholders are organized. Feedback from this project will be used to adapt the climate information services in WP4.
- coordination of KKF during the earlier phase of KfC.
- co-workers working part-time as consultants on climate matters at the ministry of V&W.
- Organization of meetings with ministries, Water boards, representants of provinces, municipalities, etc. on user requirements in relation with climate scenarios (in 2009 and 2010).

Some participating institutes are regular supplier of climate information to stakeholders.

3. Knowledge transfer and valorisation

Knowledge transfer is an integrated subject in this theme, and has the following aspects:

1. transfer of knowledge between climate scientists (esp. WP 1 and 2);
2. transfer of knowlegde on climate change to the climate impact community (esp. WP3);
3. transfer of knowledge on climate change and its impacts to a broader community (esp. WP4);
4. transfer of knowledge on stakeholder needs to the climate research community and vice versa (all WPs).

The above shows that knowledge transfer is an interactive process. Transfer of knowledge between peers will occur through publication of scientific articles and attending national and international workshops and conferences where work will be presented. The second type of knowlegde transfer focusses on improving the transfer of data and information from climate research to climate scenarios to impact research. This is done by active participation of climate scientists and climate impact scientists in the various projects. That is, they actively participate in this program as described in this proposal.

The more challenging aspects of knowledge transfer is the interaction with the stakeholders and the broader community. This includes more than just making data available to stakeholders. It also includes providing background information on how the data are generated, which assumptions are used, giving an overview of available data, interactions between sectors, providing advice during the interpretation of data, etc. This will be done in two ways: A webportal will be developed with information on both data and the way data can be used. The web portal will pay special attention to providing overview of available data/informations, and to improved consistency between data/information from various disciplines. The web portal can be used as a tool by the existing Knowlegde Transfer component within KfC to help stakeholders from outside the KfC programme. Policy makers (and the general public) generally need summaries of the information. For these stakeholders we will cooperate with the project Bouwstenen NAS (geoportal, developed as part of the climate effect sketch books). Information from the webportal from Theme 6 will be used as the basis for information in the KfC Geoportal (project leader WP4 is partner in project Bouwstenen NAS in the first tranch).

However, a web portal cannot replace personal contacts between stakeholders and climate (impact) scientists completely. Therefore, the second way of interaction with stakeholders is an expert pool. This will be set up within WP4 and will address more specialized requests, e.g. not (yet) documented in the web portal, or where the direct input of one or more experts is needed. The experts available will have different background in climate and climate impact research. Finally, stakeholder workshops will be set up to obtain information on requirements for the climate (impact) researchers. Researchers need constant feedback on the stakeholder requirements and on the applicability of the supplied information.

Finally, publications in popular science magazines and presentations to specific groups of stakeholders and for the general public will help to raise awareness of climate change and adaptation studies.

Valorisation:

Observations data and output from climate and climate impact models will, where possible, be made accessible and can be freely used by third parties. The accessibility will be facilitated by the webportal, which will point to relevant data centres. Apart from software that is currently copywrite-protected, models developed in this theme can be freely used by third parties. Best practice methods can be made operational by third parties for consultancy purposes.