People and the environment:
natural resources, use and management

Land use, water use and other forms of exploitation affect natural resources worldwide. A better understanding of causal relationships and changes in the wide variety of natural resources is necessary for management of our resources, now and in the future.

A better understanding of the relationships between biodiversity, ecosystem functions and society should contribute to management of **Biodiversity**. Research on **Water management** is needed to support policy options, e.g. by integrated monitoring and warning systems. Research will deal with the impact of climate change and sea level rise on water management, floods, droughts and water quality. Other regions, such as Sub-Sahara Africa, are facing problems of a different kind. Knowledge on sustainable land use, regional relations across geographical areas and related issues such as conflicts and climate change could support policy options for **Sustainable drylands**.

Netherlands Organisation for Scientific Research (NWO)

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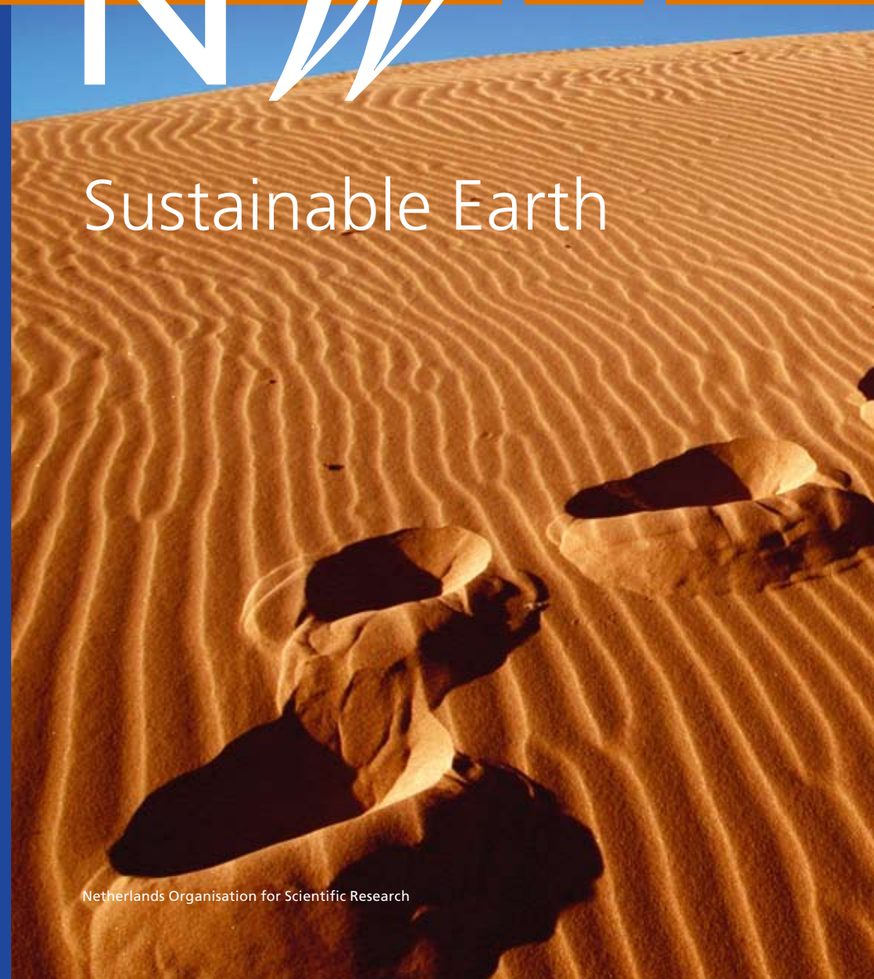
Sustainable Earth



Netherlands Organisation for Scientific Research

NWO

The Netherlands Organisation for Scientific Research (NWO) is an independent public organisation that supports innovative scientific research in all disciplines. Apart from NWO's primary task of encouraging excellent science and scientists, NWO also places emphasis on science that is relevant for society. Through a consultative process with scientists and stakeholders, a number of socially relevant and also scientifically challenging themes have been identified. One of the themes is **Sustainable Earth**. It focuses on the relations between energy, climate change, people and their environment and the sustainability aspects thereof. Research will be carried out in large multidisciplinary research programmes with a strong focus on relevance and use of scientific knowledge to policy and practice.

Fotograaf: Tomas van Dijk

In virtually every part of the world the effects of human induced environmental changes are becoming more noticeable: floods, droughts, extreme weather, desertification, deforestation and changing patterns in nature. The changes are affecting people's lives, economical development, public health and safety. Scientific reports like the Millennium ecosystem assessment, IPCC assessments and the Stern report express the gravity of the effects worldwide. Such scientific reports form the basis of the current political agenda and public attention, yet many questions remain unanswered.

With the theme **Sustainable Earth**, NWO wants to further strengthen the role of Dutch science in global change research. Through continuous interaction between practioners and scientists, NWO wants to contribute to evidence-based policies and interventions for international sustainable development. New knowledge may be used for policy recommendations, laws and regulations, improved infrastructure and technologies.

Energy and emissions

Sustainable energy technologies are important options for responding to the threats of climate change. Apart from developing sustainable technologies, research also needs to look at the social aspects of technology development such as consumer perception, rules and regulations.

In order to realise a **Transition towards a sustainable economy**, more knowledge needs to be gained on the governance structure of transitions, the development and models of European and international transitions. We urgently need more knowledge on **Sustainable energy supply and energy use**. Subjects to be investigated are analysis of energy saving, sustainable energy options including the effects of bio-energy,and options for (post-Kyoto) international cooperation and agreements.

Climate variability and change

Knowledge of the climate system needs considerable improvement to better predict in what way the climate is changing. We also need to know what the impacts of climate change are on nature, natural resources and society. Based on that knowledge proper policy decisions can be made to tackle the effects. Continued research on **Climate variability and climate models**, should contribute to a better understanding of the natural variability, physical processes and feed-backs in the climate system. Reducing uncertainties will lead to better predictions. Research on **Impacts of extreme events on nature and society** should improve our understanding of the risks of rapid climate change, of changes in extreme weather events, floods and sea level rise on the Dutch delta against the background of geological processes.