
Sustainable Water Management

Implementation Plan of the National Research Programme NRP 61

October 20, 2008

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What are National Research Programmes (NRP)?

The research carried out by National Research Programmes consists of targeted research that contributes to the solution of contemporary problems of national importance. Under the provisions of Article 6, paragraph 2, of the Law on Research of 7 October 1983 (as of 25. February 2008) the Federal Council selects the topics and foci to be researched in NRPs and mandates full responsibility for implementing the Programmes to the Swiss National Science Foundation (SNSF, Division IV).

Article 4 of the Federal Ordinance on the Law on Research of 10 June 1985 (as of 1 April 2008) describes the purposes and contents of NRPs as follows:

¹ National Research Programmes are a means to direct and support coordinated research projects that have a common goal. Where needed, National Research Programmes should strengthen scientific research capacities.

² Topics of research are appropriate for National Research Programmes if, in general,

- a. scientific research on the problem is of national importance;*
- b. Swiss research can make a significant contribution to the resolution of the problem;*
- c. solutions require research contributions from multiple disciplines;*
- d. the research goals cannot be met exclusively through basic research, through research within a specific section of the administration, or through industrial applications research;*
- e. research on the problem can be expected to produce research results that have practical applications within a five-year time period.*

³ The following criteria should be taken into consideration in setting forth the topics of National Research Programmes:

- a. the programmes can provide the scientific basis for decision-making by government and the administration;*
- b. the programmes can be conducted with international collaboration and are also of great interest to Switzerland.”*

1. Summary

The aim of the NRP is to develop scientifically supported foundations and methods for sustainable management of water resources, which are under increasing pressure. NRP 61 will determine the effects of environmental and social changes in Switzerland and identify risks and future conflicts associated with water use for Switzerland in the international environment. On this basis, the NRP will develop intelligent and forward-looking strategies for developing integrated and sustainable water resources management. The programme will have two research axes, which will be studied within three complementary modules of NRP 61.

The first research axis is devoted to water resources changes owing to climate change, land use changes and other anthropogenic changes affecting water resources and water quality, and hydrological extremes, and the effects of these changes on water resources and aquatic ecosystems.

The second research axis focuses on socio-economic factors and cross-sector strategies for sustainable water resources management in all use and protection areas, by implementing integrated water resources management and developing new adaptive water resources management systems.

The two research axes are to be linked in the following three modules:

Module 1	Hydrological processes and hydrological extremes
Module 2	Sustainable water resources management
Module 3	Socio-economic change

In all three of the modules, there should be a strong emphasis on interdisciplinary and transdisciplinary cooperation. This means that the changes in the hydrological processes must be investigated in connection with changing social requirements and the identification of risks and future use conflicts.

The target audience for the results includes the authorities responsible for use and protection of water resources and prevention of water hazards (the Swiss Confederation, cantons, and municipalities) and water users in the private sector and professional associations and environmental organizations that deal with water issues. Knowledge transfer to the world of practice should take place in particular through transdisciplinary projects – with inclusion of the crucial water actors in the research projects.

NRP 61 will operate with total funding of CHF 12 million, with a research duration of four years.

2. Introduction

2.1 Water resources – Future problems

Water resources for nature and people

Water is a central basis of life for people, animals, and plants. Ecologically fully functional waters play an important role in the maintaining and sustaining of the functionality of the water resources and the aquatic ecosystems (safeguarding water quality and biodiversity of the landscapes in Switzerland). In addition to the principal need for (drinking) water supply, society today depends on the natural resource of water in essential areas of life and the economy. Some examples are the sectors energy generation, industrial and agricultural production, the drainage capability of wastewater, and recreation and tourism. The availability of good-quality water in sufficient quantity has always been an engine of development of human societies. If this prerequisite has been lost or is no longer controllable, basic foundations of societal existence begin to erode.

Effects of climate change

With the developing debate on climate change, also in Switzerland the future of water supply and water disposal and sustainable safeguarding of the resources have moved into the spotlight of public interest. Climate projections clearly indicate changes in temperature, precipitation, and evapotranspiration in the Alps and thus in Switzerland. This has consequences for the regional water balance, water stores in lakes and glaciers, groundwater, and water flows in the ecosystems. The changes in the dynamics of climate and the global water balance are leading increasingly to local to regional heavy rainfall that at short notice delivers extremely high amounts of precipitation. As a consequence of these changes, it has to be expected that, first, the availability of water will in future be subject to stronger fluctuations; second, there will be more frequent and more extreme floods; and third, there will be effects on water quality and the biocenoses in bodies of water. The different kinds of water-related functions will then be no longer guaranteed (or no longer guaranteed at any given point in time) to sufficient extents. The drought in the year 2003 showed the use conflicts that can occur in an extreme year even in Switzerland. To prevent short supply and conflicts, we therefore need new strategies that are oriented as far as possible to a close-to-natural water cycle and to sustainable use of water. Areas for action that open up are, for example, water use in agriculture and a reorientation in settlement development, soil sealing, settlement water management, and land use generally.

Challenges

Utilization of water resources and flood protection are increasingly coming up against the limits of nature and technology and economic constraints. Water scarcity along with rising water use pressure will lead to more use conflicts in the future. In addition, it must be considered that the values and needs of society in Switzerland and in Europe are in part undergoing rapid change (recreation needs, use of water for artificial snow for ski runs, among other things), while problematic developments in water resources management are continuing (for example, increasing soil sealing). The cost pressure accompanying the opening up of the market can make sustainable solutions more difficult also in water management. Water uses, flood protection, and prevention of water pollution lead to numerous, in part conflicting demands on the

management of our water resources. It can be assumed that previously used management strategies for resolving complex conflicts of this kind are coming up against limits even in Switzerland, which in a global comparison has more abundant water. The strategies were often used for spatially limited areas and/or were too strongly oriented to needs in particular sectors. In execution there is a lack of overall and integrated perspectives for the management of water resources.

Interactions between nature system and social system

The effects of the anthropogenic system on natural processes are becoming increasingly more diverse and are taking place in more rapid succession. Despite successes in water and resource conservation, water resources continue to be threatened by widespread water control structures, intensive use of water power, the increase in water temperatures, and pollution through chemicals. Through this, the natural systems have become increasingly vulnerable. An example of this is the decline in fish stocks in rivers and streams by two-thirds over the last 30 years. Added to this already strained situation is the new stimulus of the increasing climate change. With its dimension and the factor of the time in which it forces change, this factor is becoming a ruling factor in the interplay between people, ecological balance, and the securing of our resources. In the race for sustainable water resources management, how we deal with the still very difficult to grasp climate change factor will be of decisive importance. It is essential to enter these effects into scenarios and model calculations so that evidence-based and above all practicable options for action for society in Switzerland can be derived that also do not disregard the international environment. This demands a change of perspective in the investigation of natural systems, their self-dynamics, and their sensitive reactivity.

Sustainable water management

It is to be assumed that the dimension of the climate changes that are already affecting considerably weakened (destabilized) systems is leading in Switzerland to the situation where natural systems are reacting unusually and with increasing self-dynamics and where it is virtually impossible to counteract this by management measures alone. Even the high-quality technology, considerable financial means, and sophisticated management measures that, except for local “catastrophes,” have kept the situation just barely controllable in Switzerland up to now are expected to soon have reached the limits of their possibilities. To assure sustainable water use, it has become unavoidable to start out not only from the demands but also from the potential of the water resources. The task of integrated water resources management is to achieve optimal use of water resources while protecting the lasting ecological resource function. Here it is also imperative to bear social equity and economic efficiency in mind. What is needed is a changed, integrated perspective on the function and potential of water and water bodies in our habitat as well as on technologies, methods, and solution approaches. It is definitely conceivable that new, intelligent management systems in the water management sector can tap even new natural potentials that have remained unutilized up to now or that newly form in the course of the climate changes.

Sustainable water provision management must consider two interlinked systems both as autonomous units and also as an interacting feedback loop: the natural systems (river/lake basins, aquifers, ecosystems, among others) and society as a socio-economic system that uses water resources and has impacts on water resources through management measures. The causal loop between the nature system and the

socio-economic system has become so complex that input or intervention from outside – for example, through anthropogenic measures – no longer evokes simple and foreseeable causal effects in the area of resources.

The research axes in NRP 61

For that reason, the research approach in the NRP will be expected, at the level of the particular natural system (for example, at the basin level), to develop scenarios that operate using a meaningfully marked out number of possible assumptions concerning the climate change and social change. The goal is early detection, within a broader spectrum of potentially changing framework conditions, of future destabilization of the natural processes or the increasing development of the natural processes' own self-dynamics in the water sector and identification of (1) areas that are reacting increasingly problematically to interventions and uses or (2) areas that possibly open up new possibilities of mining value.

In this NRP, in the two research axes Nature System and Social System application-oriented approaches of manageable complexity are to be developed and used in order to analyze the problems named above at the local and regional levels. The results must make possible a risk assessment for the future and be useable as decision aids. On this basis, concrete management measures can be designed.

The research topic of this NRP demands interdisciplinary and transdisciplinary cooperation among various disciplines in the natural sciences, engineering sciences, social sciences, and arts and humanities; the NRP also demands inclusion of practical applications, public/policy tasks, and social aims for the future. The NRP is actively promoting this cooperation by laying out the research topics in modules that are themselves inherently interdisciplinary and transdisciplinary in orientation. This aspect will be heavily weighted in the selection procedures and awarding of the research grants.

The fulfilling of the assigned tasks is important regionally and nationally for securing the future in Switzerland, and it also promotes prospective international cooperation with neighboring countries and specialized institutions.

On November 28, 2007, the Federal Council mandated the Swiss National Science Foundation (SNSF) to conduct National Research Programme 61 “Sustainable Water Management.” Funding of CHF 12 million was approved for the programme. The SNSF National Research Council named a Steering Committee to take over strategic management of the NRP. The Implementation Plan was approved by the Head of the Federal Department of Home Affairs on October 17, 2008.

2.2 The research field on the national and international levels

The frame of reference for NRP 61 is both national and international. In the context of the NRP 61 research field, there are numerous research projects and activities underway worldwide and especially in Europe that grant applicants should take into account when designing the research projects, so that parallel projects can be avoided and existing knowledge can be made use of.

A current list of ongoing research with links to Web sites is available at the NRP 61 Web site (www.nrp61.ch).

3. Goals of the research programme

The aim of the research programme is development of tools, methods, and strategies that make it possible to find answers to the future challenges of water resources management in Switzerland. This concerns the load-bearing capacity of the natural systems under changing environmental conditions, dealing with the risks and use conflicts from a comprehensive perspective, and efficient management systems for sustainable prevention in water management (Figure 1).

The research questions are to be approached through investigating adequate natural systems levels such as catchments. The units investigated (river/lake basins, aquifers, ecosystems, and so on) are to be understood as natural systems that stand in interaction with socio-economic demands and that affect the inputs/interventions. Climate change is an example of an input factor that is not yet understood in its effects. The objective will be to determine the reactions of the systems and units as well as their persistence and resilience, so that on this basis intelligent and forward-looking strategies for sustainable and integrated water resources management can be developed. Projects are sought that will be conducted in regions that are representative of hydrological/water management units or situations in Switzerland and in neighboring water systems – especially if it is possible to integrate also the water management stakeholders.

The research approach in the NRP will be expected, at the level of the natural systems (for example, river/lake basins), to develop scenarios that operate using a meaningfully marked out number of possible assumptions concerning climate change and further factors. In accordance with available studies, the management scenarios to be developed should be based on climate scenarios for the time period up to the year 2050. The object is early detection, within a broader spectrum of potentially changing framework conditions, of a future destabilization of the natural processes or the increasing development of the natural processes' own self-dynamics in the water sector and identification of (1) areas that are reacting increasingly problematically to interventions and uses or (2) areas that may open up new possibilities of mining value.

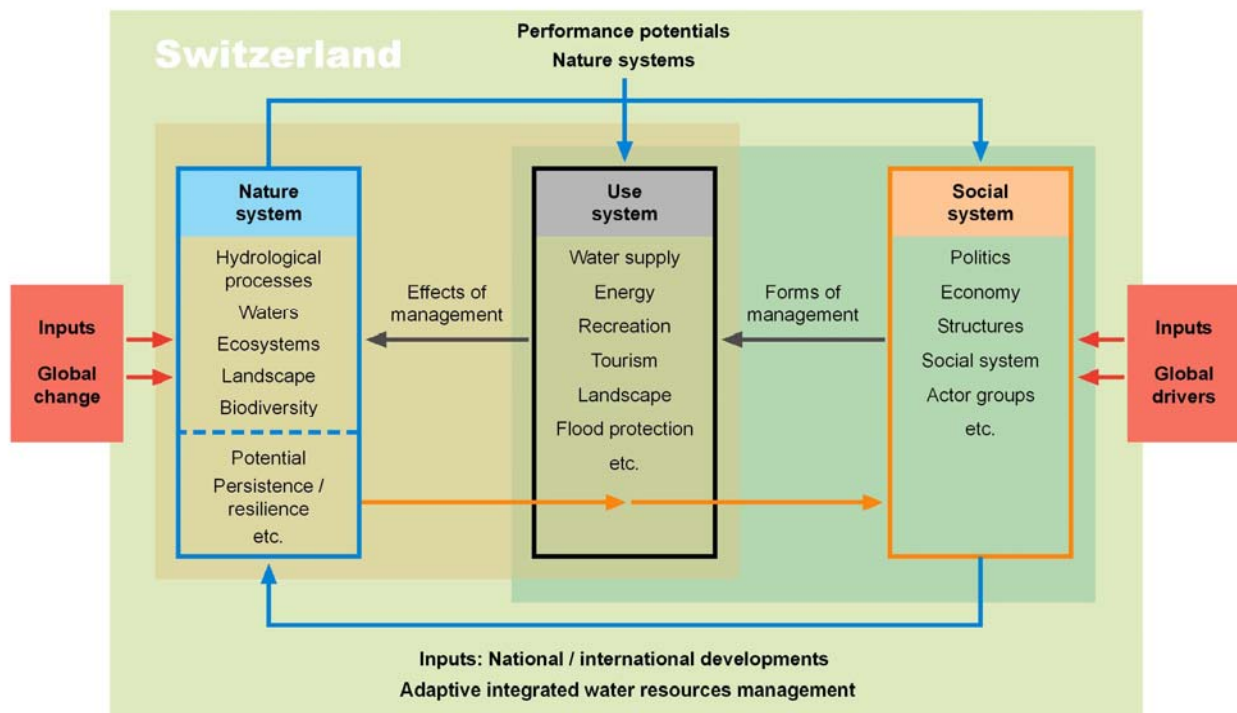


Fig. 1: Schema of the theoretical concept of NRP 61 “Sustainable Water Management”

For the two research axes, Nature System and Social System, which are to be viewed in an integrated way, the goals are the following:

First, the research should study changes in the water balance in connection with consequences of climate change and changing use structures.

Here, in addition to ecological implications, the projects should include also economic, social, cultural, and ethical implications. The goal is, among others, to determine (static) threshold values, (dynamic) “tipping points” or “nonlinear events,” and options for action, as derived from assumptions in scenarios. They will show whether in Switzerland traditional uses are still possible or whether new use concepts must be introduced, and under what conditions hazard events could be triggered (for example, landslides, floods, and so on). Previous research on climate change should therefore be connected in the framework of the NRP by means of systematic analysis of the challenges and action options in the area of securing water resources.

Second, the research should develop improved conflict resolution and management mechanisms upon the background of hydrological systems showing an increasingly dynamic response.

Here, analyses should complement previous, mainly local/regional and sector-specific or use-specific research efforts. The analyses should be at a larger scale level – that is, also in national and international basins, by priority basins where “scarcity” in the broadest sense of the word takes place and thus where there is a genuine need for management of the resource. Here the research should focus on integrated water resources management using adaptive modeling. The place in the context of the great river basins (Switzerland as “water tower”) should be determined. The object is to capture the decisive socio-economic changes, to analyze their effects on the

water resources, and to develop solution approaches and action strategies for sustainable use. In doing so, problems should be also considered where Switzerland, with its policies and the measures that it takes, affects sustainable water use in other countries.

The topic of the research programme demands a much stronger interdisciplinary orientation and transdisciplinary cooperation than has been the case previously. This means cooperation among and across the natural sciences, engineering sciences, social sciences and the humanities and also inclusion of actors in the economy, politics, and society. The NRP should contribute towards mobilizing the social science and humanities research potential in Switzerland, which is important (and present in a latent form) for the issues in this research programme, and should include it more strongly in the task analysis and development of problem-solving strategies.

The implementation goals are to be achieved in that research institutes form appropriate working groups with actors in water management (water users, industry and trade associations, private agencies, federal and cantonal authorities, etc.) within the research modules.

In order to convey impetus – already at the start of the programme – for orientation of research projects towards synthesis, the projects should be laid out according to the modules described in section 4 and should be already cross-sector and interdisciplinary and transdisciplinary in design. The implementation strategy should be a part of the project design.

4. Main research topics

In accordance with the objectives, it is essential to determine changes in the water balance as well as the load-bearing capacity of the systems and units, so that on this basis intelligent and forward-looking strategies for sustainable and integrated water resources management for Switzerland can be developed. In the modules, both of the research axes should be taken into consideration. In the cross-section of the individual modules, there should be a range of individual projects representing the natural sciences and socio-economic and practical areas. The intention from the start is to lay out the research structurally as interdisciplinary and transdisciplinary. Further, the modules are designed such that there is a slight overlap in the topics. This ensures that the modules remain open, and through the issue focus of the research proposals the grant applicants can bring in their strengths and innovations.

Each of the three modules will have approximately CHF 3 to 3.5 million in available research funding.

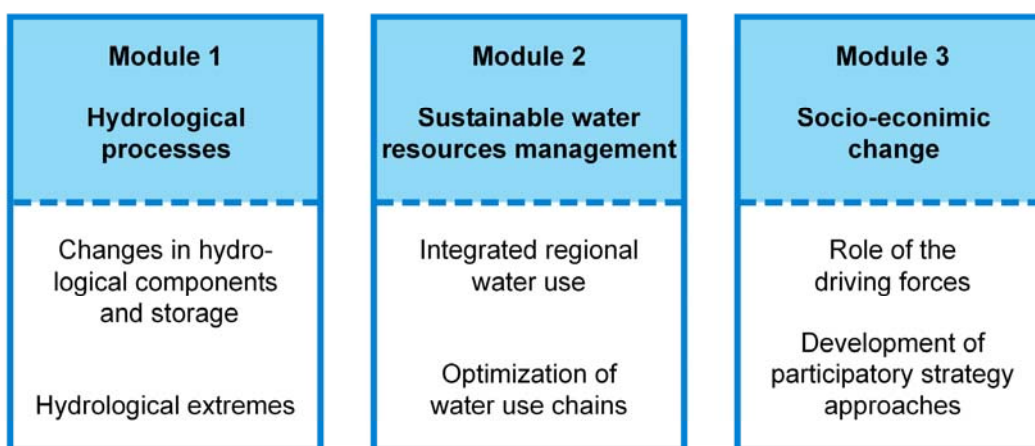


Fig. 2: The three modules of NRP 61 "Sustainable Water Management"

4.1 Hydrological processes and hydrological extremes – Analysis and management in river/lake basins and part-systems

Hydrological processes

- Quantitative and qualitative changes in the components of the hydrological cycle and the water store
- Potentials, persistence, and resilience of hydrological systems
- Interactions of changed water availability in the various systems
- Determination of the ecological and socio-economic consequences of changes as well as controllability, influenceability, and needs for action and approaches for integrated water resources management (IWRM)

Hydrological extremes

- Risks and feedback loops of increase in floods and increase in scarcity and droughts with further warming of the atmosphere in connection with further modifications of the landscape and natural changes such as deposit in the Alps
- Effects and feedback loops of the increasing hydrological dynamics on changed water availability in the use systems (drinking and service water, water power use, agricultural use, and tourism) under consideration of modifications of the landscape
- Development of management strategies for avoidance and minimization of negative effects and minimization of risks in economic and social areas in Switzerland

4.2 Sustainable water resources management

Integrated regional water use – Analysis and management

- Integrated consideration of quantitative, qualitative, and functional aspects of water resources
- Integrated consideration of ecosystem performance and use requirements, such as drinking water supply, wastewater disposal, agriculture, industry, energy production, recreation, tourism, and so on
- Comparative studies on similar programmes (as to topics and regions) in international research
- Development of new strategies and cross-sector concepts

Optimization of water use chains

- Integrated consideration of the individual functions water power, energy, drinking and service water
- Integrated consideration of flood protection, irrigation, and ecosystems. Development of new alternatives
- Optimization of entire water systems under the aspect of targeted retention of the water and while maintaining the ecological functions of the waters
- Development of adequate control mechanisms such as measures, monitoring, evaluation, and planning for Switzerland within the international environment

4.3 Socio-economic change: Developments, consequences for water use, and adaptation strategies

- Role of the driving forces: International trade regulations, globalization of markets (such as agricultural or bioenergy markets), population growth/decline, migration, consumption habits, growth in the built environment and traffic surface area, sectoral economic developments, policy decisions concerning surface area utilization and land use for utilization of the changing water resources
- Identification of use conflicts and development of improved conflict resolution and management mechanisms and development of cross-sector strategies for sustainable water use at the basin level, using adaptive water management systems supporting sustainable development
- Development of participatory strategy approaches and their implementation

In the conducting of the research, the different projects and modules are to be networked with one another in order to produce synergies in content and procedures and in order to avoid duplication.

In Switzerland various research activities in the water research sector in the narrower and broader sense are already underway. To prevent duplication between NRP 61 and these other activities, the grant applicants must see to it that they coordinate with these projects. The list of ongoing projects, along with brief project descriptions, is available at www.nfp61.ch. The list includes contacts and partners at research institutions and in the federal government, the cantons, the economy, and non-governmental organizations (NGOs). In addition to the criteria of scientific quality, the projects were selected for the list based on consideration of ongoing practical application-oriented research.

5. Practical significance and target audience

In the coming decades, climate, economic, and social changes will lead to increased use conflicts in the water area also in Switzerland. The research programme is set out such that future risks and use conflicts will be identified and proposals for more effective and more efficient scientifically based management systems will be developed. NRP 61 thus focuses on an area of great social and practical significance.

This NRP aims to produce new findings that are both innovative and interesting for science in the narrower sense and also useful for practical application. All of the topic areas outlined require interdisciplinary and transdisciplinary cooperation, both within the natural and social sciences and also between research and practice. The user group of the research findings that will be produced is broad and comprises mainly public institutions in the areas of water provision, water and environmental conservation and spatial planning, energy industry, water utilities industry, industries with instream and offstream water use, tourism industry, agriculture, and NGOs.

This NRP is oriented towards precautionary research, for both public utilities industry and protection against water-related natural hazards (floods, droughts, water quality). The aim is through research to build a platform of knowledge and action strategies in good time, and to do so jointly with the relevant stakeholders. Stakeholders from all fields of knowledge are to be integrated in a problem-oriented way. At the same time, the NRP can provide new research impetus. Because Switzerland is an important Alpine country and the water tower of Europe, this NRP offers Swiss research a good opportunity to make its mark in an important research area and to demonstrate responsibility also for the users of water resources and responsibility in disaster prevention in surrounding countries and other mountainous regions of the world. This is the case all the more, as integrated water resources management as it is envisioned in this NRP is still in development internationally.

The practical benefit is evident, as climate change and increasing use pressure demand new approaches in management of waters in the sense of integrated water resources management. Through the climate change, together with the hydrological extremes (floods and droughts), even in Switzerland there will be increasing use pressure and conflict situations.

In addition to the wider public, which due to natural disasters has become sensitized for ecological issues generally in recent years, a great number of specific target groups are likely to show interest in this NRP topic:

At the federal level, a variety of federal agencies deal with water issues from different perspectives: the Federal Office for the Environment, Swiss Federal Office of Energy, Federal Office of Public Health, Federal Office for Spatial Development, Federal Office for Agriculture, and Swiss Agency for Development and Cooperation.

The cantons have sovereignty over water resources and are responsible for many tasks in water use, flood protection, and prevention of water pollution. Every canton has authorities and agencies that deal with water issues.

The municipalities are responsible for important tasks in (settlement) water management and work with water specialists (employees of the municipalities and commissioned private consultants).

In addition to the authorities, however, there are many energy suppliers, water power users, water companies, wastewater disposal companies, engineering and consulting firms, industry and trade associations, and environmental organizations that deal with issues that relate to water management.

6. Submission procedure

6.1 Basic procedures

The NRP 61 Implementation Plan and forms, rules, and instructions for submitting project proposals electronically via the Web portal “mySNF” can be found at www.snf.ch.

There is a two-stage submission procedure for NRP 61: Pre-proposals are submitted first, followed by invited full proposals. This procedure allows projects to be better coordinated and priorities to be established.

Pre-proposals and full proposals must be submitted electronically via the Web portal mySNF. To use mySNF, applicants must register for a user account in advance at www.mysnf.ch. User accounts are then valid for an unlimited time and allow access to all SNSF funding instruments. To meet the deadline for electronic submission of pre-proposals, applicants must register for a user account 14 days prior to the submission deadline at the latest. Hard copies sent in by post are accepted only by special exception and with advance express approval by the SNSF.

The duration of research projects is restricted to a maximum of 36 months. During the course of the programme and based on the Interim Reports, the Steering Committee will decide whether individual projects should be extended by a further 12 months.

Collaboration with research groups in other countries is welcome, if through cross-border cooperation demonstrated added value can be achieved or if the external impetus makes a substantial contribution to Swiss research as to content or methodology. To facilitate cross-border research, the SNSF has a special “DACH” (Germany, Austria, Switzerland) agreement with the German Research Foundation (DFG) and the Austrian Science Fund (FWF), with two options for financing projects with research partners in Germany or Austria: the “money follows cooperation line” and the “lead agency process.” Ways to fund the segments of a project that will be carried out in Germany or Austria will be discussed with the persons involved at the time of proposal submission.

The SNSF funds awarded are exempted from Value-Added Tax (VAT) (art. 33, par. 6). Under the National Research Programmes the SNSF does not issue contracts but instead awards grants for the promotion of scientific research in Switzerland.

6.2 Pre-proposals

The deadline for submission of pre-proposals is January 20, 2009. The pre-proposal should provide a description of the planned research project as well as the following information:

To be submitted electronically via the mySNF portal:

- Basic data and summary
- National and internal cooperation

- Cost estimates for personnel and material (budget)

Project description (please submit as a PDF file):

- Research topic and project goals
- Theoretical background and research questions
- Methods
- Time plan and milestones
- Expected benefit and possible applications of the results
- List of the five most important publications in the field
- List of the grant applicant's five most relevant publications

The project description must be submitted using the template document provided in the mySNF portal. The project description must be in English and the final PDF file should not exceed five pages in length. Along with the project description, the applicant must submit a short curriculum vitae (maximum 2 pages long; longer CVs and lists of publications will not be accepted).

The Steering Committee reviews the submitted pre-proposals and in consultation with external experts makes a final decision based on the review criteria outlined below. If the Steering Committee examines submitted pre-proposals and finds that the pre-proposals do not conform to the specific objectives of the research programme, it may recommend that the pre-proposals be turned down without additional expert review.

For joint projects, an application package containing individual pre-proposals may be submitted. However, it is important that the individual pre-proposals in the application package are written up such that they can be reviewed and judged individually.

6.3 Full proposals

In a second stage, the Steering Committee invites submitters of favorably reviewed pre-proposals to submit **full proposals**. Invited full proposals must be submitted following the SNSF guidelines, in English, and electronically via the mySNF portal.

Based on external experts' reviews and internal review, the Steering Committee selects the projects that will be recommended to the National Research Council (Division IV; Presidial Board) for funding.

6.4 Selection criteria

The following are the review criteria for pre-proposals and full proposals:

- **Scientific quality and originality:** Theoretically and methodologically the projects must represent current state-of-the-art in the field and conform to international scientific standards of current research. Moreover, the projects must have an innovative component and clearly set themselves apart from ongoing research.

- **Interdisciplinarity and transdisciplinarity:** The projects, which are integrated in modules, must make it clear how interdisciplinary and transdisciplinary cooperation is going to be assured.
- **Feasibility and compliance with the goals of NRP 61:** The projects must match the main research topics as outlined in the Implementation Plan and comply with the overall framework of NRP 61.
- **Application and implementation:** National Research Programmes are explicitly required to produce research results that have practical applications. Priority is therefore given to projects that have high practical relevance.
- **Personnel and infrastructure:** Adequate equipment and personnel to carry out the project must be demonstrated.

The Secretariat of Division IV checks fulfillment of formal criteria before the proposal is sent on to review (see SNSF grant regulations). Proposals that do not fulfill the formal criteria are not reviewed.

6.5 Schedule and budget

The following schedule has been set for NRP 61:

Call for pre-proposals	October 20, 2008
Deadline for submission of pre-proposals	January 20, 2009
Review of pre-proposals	February – April 2009
Preparation and submission of full proposals	April – June 2009
Review of full proposals	July – October 2009
Start of research	January 1, 2010
Completion of research projects	End of December 2013

The funding for NRP 61 is CHF 12 million. This funding is planned to be allocated to the three research modules as follows:

Module 1	3 to 3.5 million
Module 2	3 to 3.5 million
Module 3	3 to 3.5 million
Implementation and administration	1.8 million

7. Personalia

Members of the Steering Committee

Prof. em. Dr. Christian Leibundgut (President), Institute of Hydrology, Albert-Ludwigs-University of Freiburg i. Br

Prof. Dr. Günter Blöschl, Institute for Hydraulic and Water Resources Engineering, Vienna University of Technology

Prof. Dr. Dietrich Borchardt, Department Aquatic Ecosystem Analysis and Management, Helmholtz Centre for Environmental Research UFZ, Leipzig

Dipl. Ing. ETH Ulrich Bundi, Swiss Federal Institute of Aquatic Science and Technology EAWAG, Dübendorf

Prof. Dr. Bernd Hansjürgens, Division of Social Science (ÖKUS), Department of Economics, Helmholtz Centre for Environmental Research UFZ, Leipzig

Prof. Dr. Bruno Merz, Director of Geoengineering Department, GFZ German Research Centre for Geosciences, Potsdam

Dr. Susanne Neubert, Department IV: Environmental Policy and Management of Natural Resources, German Development Institute Bonn

Prof. Dr. Franz Nobilis, Subhead (retired), Department Water Balance (Hydrographisches Zentralbüro), Government of Austria Federal Ministry of Agriculture, Forestry, Environment & Water Management, Vienna, and Institute of Meteorology and Geophysics, University of Vienna

Delegate of Division IV of the National Research Council

Prof. Dr. Nina Buchmann, Institute of Plant Science, Swiss Federal Institute of Technology (ETH) Zurich

Programme Coordinator

Dr. Barbara Flückiger Schwarzenbach, SNSF

Implementation Officer

N.N.

Representative of the Federal Administration

PD Dr. Stephan Müller, Director of Water Division, Federal Office for the Environment (FOEN), Bern

For the State Secretariat for Education and Research (SER), Bern

Dr. Claudine Dolt

Swiss National Science Foundation
Wildhainweg 3
Post office box 8232
CH-3001 Bern
phone +41 (0)31 308 22 22
fax +41 (0)31 305 29 70
E-Mail nfp61@snf.ch
www.snf.ch
www.nrp61.ch

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