

Assessing and monitoring hydro-meteorological and climate risk is an investment in safety and well-being

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AN EFFICIENT GOVERNANCE MODEL FOR WEATHER AND CLIMATE RISK ASSESSMENTS

In a constantly changing world, the management of hydro-meteorological and climatic risks can be improved by introducing a common governance model for climate risk assessments. The proposed model uses timely and coherent information on societal development, hazards, exposure and vulnerability. This information is synthesized into climate risk assessments that are updated at regular intervals.

The governance model strengthens the base of a safe and functioning society and improves adaptation to climate change because it

- provides a comprehensive knowledge base for the management of hydro-meteorological and climate risks and reduces their economic, health and environmental impacts;
- harmonizes climate risk assessments in different administrative sectors;
- provides a means of coordinating climate risk and other risk assessments;
- is suitable for different levels of administration and different actors and
- supports national and international reporting.

The ‘Assessment of Weather and Climate Risks in Finland’ (SIETO) project has produced a national weather and climate risk assessment, focusing in particular on the vulnerabilities of different sectors to hydro-meteorological and climatological hazards. The analysis included natural resource dependent sectors (e.g. agriculture and forestry), energy, transport, finance and health. The risk assessment of the SIETO project was used to develop the governance model for future risk assessments.

The results of the project support the implementation of the National Climate Change Adaptation Plan 2022 and provide material for the national, EU and global level governance frameworks of weather and climate risk management. The results will also be utilized for, inter alia, the National Risk Assessment 2018 coordinated by the Ministry of the Interior.

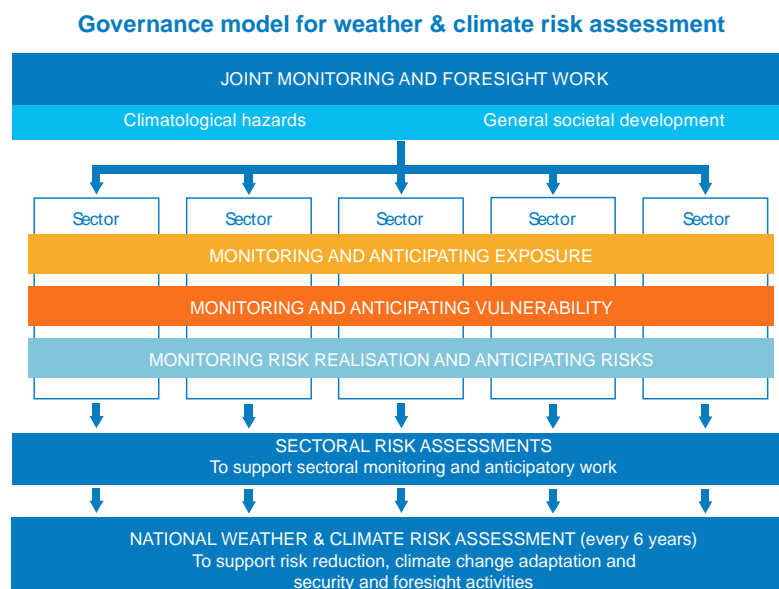
RISK ASSESSMENT IS EVERYBODY’S BUSINESS: THE GOVERNANCE MODEL

The governance model is designed to produce sector-specific risk assessments from interoperable basic data; ultimately combining them cost-effectively into a national climate risk assessment. It can also guide regional and municipal risk assessments. It is suitable for assessing the consequences of harmful weather events, emerging risks and cross-border effects.

The proposed operational model consists of

- 1) cross-sectorial, joint monitoring and anticipatory work that monitors and anticipates hydro-meteorological and climate hazards, and general societal development with the help of scenarios
- 2) sector-specific risk assessments in which exposure, vulnerability and risk realisation and management are assessed
- 3) a joint, synthesising, climate risk assessment that merges sector-specific risk assessments into a national climate risk assessment.

The climate risk assessment is linked to the preparation and evaluation of policy measures. It utilizes scenarios on societal development for exposure and vulnerability assessments and provides a knowledge base for developing climate change adaptation measures and governmental security and foresight activities.



COORDINATION, IMPLEMENTATION AND REPORTING

The governance model requires nationwide coordination. The Monitoring Group on Climate Change Adaptation consists of experts from key ministries, research institutes and stakeholders and would be the appropriate body to coordinate the work on the joint national climate risk assessment. Each sector would be responsible for its own risk assessments, but the model would ensure that monitoring and forecasting information of risk management is common across sectors.

The model suggests an update of the national climate risk assessment every six years. It is thus possible to integrate the climate risk assessment with the National Risk Assessment, which is carried out every three years in accordance with the national Security Strategy for Society.

The operational model also provides input for other reports and assessments that are required by, for example, the Climate Act, the Monitoring Mechanism Regulation (MMR) of the EU, reporting on the planned implementation mechanism of the Sendai Framework, the EU Civil Protection Mechanism, the National Rescue Service Reform and the UN Framework Convention on Climate Change.

EVALUATION OF CLIMATE RISKS REQUIRES DATA AND CONSISTENT MONITORING

The information needed to monitor and evaluate hydro-meteorological and climate risks is collected extensively in Finland, but its organization and availability requires improvements. Risk management can be developed by assessing the development of the risk factors (hazards), their direct and indirect impacts and how different population groups and regions are affected by the impacts. The approach of the model is that the information needs, and management of climate risk assessments can be largely integrated in existing systems that different actors maintain, for example, the rescue and preparedness sector and regional risk assessments.

To make full use of the governance model and to produce increasingly reliable risk assessments, the following actions should be taken to improve data availability

- data and information systems should be made interoperable
- spatial information should be widely included in data
- new data collection methods should be used and explored, including citizen observations and remote sensing
- access to private sector information should be developed
- data on materialised hydro-meteorological and climate risks should be collected more systematically and comprehensively
- long-term monitoring, particularly in the natural resource sector, should be maintained and developed.

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Assessment of weather and climate risks (SIETO) project is part of the implementation of the 2017 Government plan for analysis, assessment and research.

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