The MERINOVA project: MEteorological RIsks as drivers of environmental inNOvation in Agro-ecosystem management

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Devastating weather-related events have captured the interest of the general public in Belgium. Extreme weather events such as droughts, heat waves and rain storms are projected to increase both in frequency and magnitude with climate change. Since more than half of the Belgian territory is managed by the agricultural sector, extreme events may have significant impacts on agro-ecosystem services and pose severe limitations to sustainable agricultural land management.

The research hypothesis of the MERINOVA project is that meteorological risks act as drivers of environmental innovation in agro-ecosystem management. The major objectives are to characterise extreme meteorological events, assess the impact on Belgian agro-ecosystems, characterise their vulnerability and resilience to these events, and explore innovative adaptation options to agricultural risk management. The project comprises of five major parts that reflect the chain of risks: the hazard, its impact on different agro-ecosystems, vulnerability, risk management and risk communication. Impacts developed from physically based models not only provide information on the state of the damage at any given time, but also assist in understanding the links between different factors causing damage and determining bio-physical vulnerability. Socio-economic impacts enlarge the basis for vulnerability mapping, risk management and adaptation options. The perspective of rising risk-exposure is exacerbated further by more limits to aid received for agricultural damage and an overall reduction of direct income support to farmers. The main findings of each of these project building blocks will be communicated.

MERINOVA provides for a robust and flexible framework by demonstrating its performance across Belgian agro-ecosystems, and by ensuring its relevance to policy makers and practitioners. A strong expert and end-user network is established to help disseminating and exploiting project results to meet user needs. The research is funded by the Belgian Science Policy Organisation (Belspo) under contract nr SD/RI/03A.

https://merinova.vito.be