



ECRA Collaborative Program

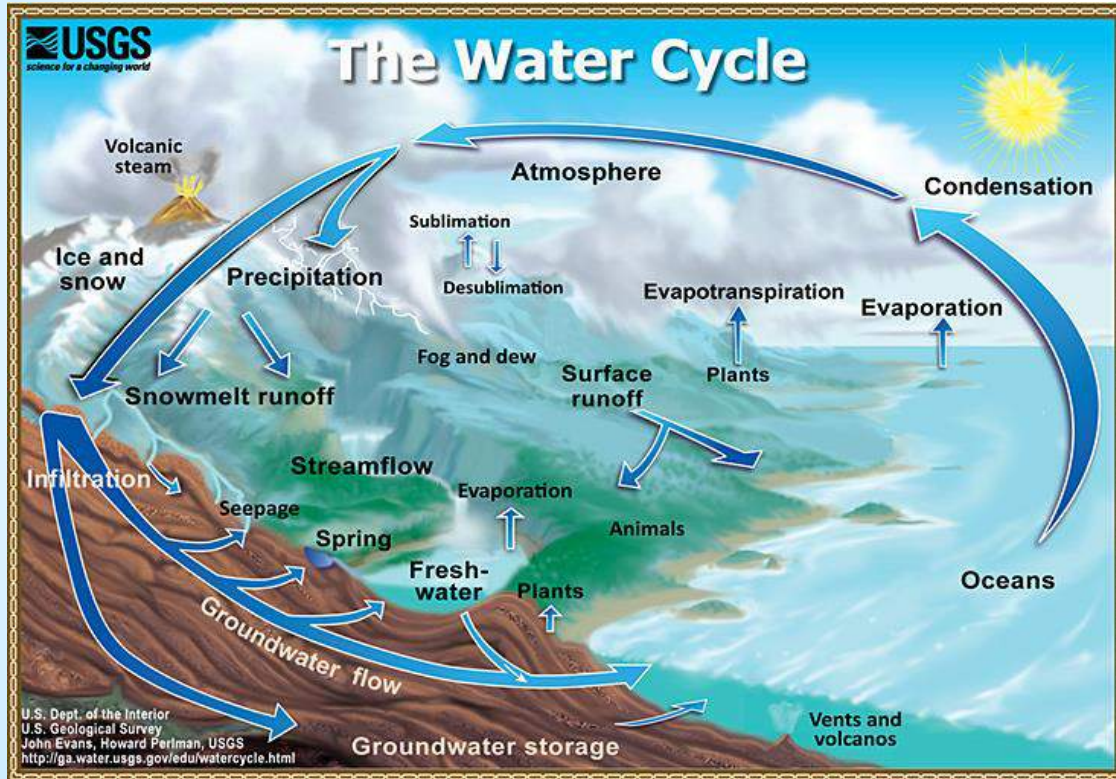
Changes in the hydrological cycle

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Changes in the hydrological cycle



This Collaborative Programme fosters the study of **changes in the hydrological cycle and its impacts at global and regional scales** and aims at

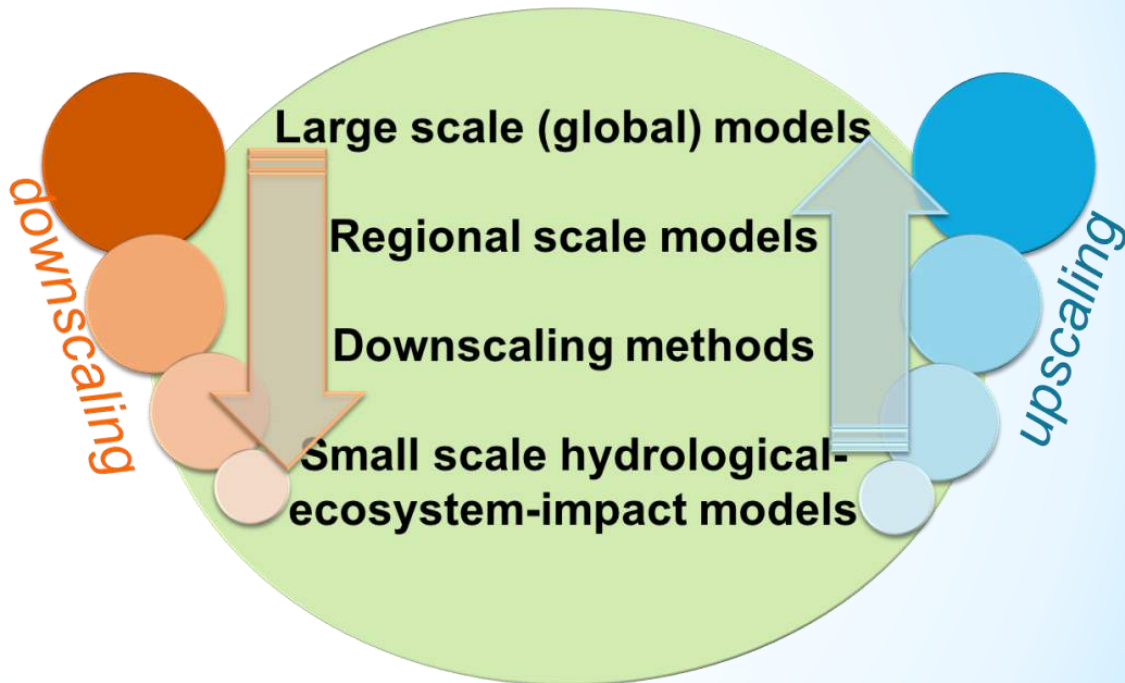
improving the scientific understanding of hydrological processes under modified climatic conditions and of their effects.

Changes in the hydrological cycle

- This ECRA CP studies changes in the hydrological cycle and its global and local impacts, including:
 - (i) extreme events such as floods and droughts
 - (ii) global precipitation changes and runoff
 - (iii) climate and hydrological/land surface interaction
 - (iv) climate change in hot spot regions: Mediterranean and Mountain areas
 - (v) societal challenges
- focus on impact-oriented research, vulnerable regions, and including socio-economic perspective → support adaptation and risk reduction strategies

Cross themes and research priorities

- Performance and limitations of numerical models
- Climate-hydro interface
- Impact-oriented research
- Climate hot-spots and vulnerable regions



- **Klaus Goergen**
(Research Centre Juelich (FZJ), Institute for Bio- and Geosciences):
“Integrated Simulation of the European water cycle including human water use”
- **Marc Zebisch**
(EURAC Research – Institute for Earth Observation):
“Earth observation of cryosphere and mountain hydrology”

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- To analyse the changes and uncertainties in the global water cycle we require **global data sets**
- **Long-term in-situ observations and satellite data**
- **Numerical models of the climate system**
to test and improve our understanding of the physical processes that drive the climate system, identify feedbacks, make future projections
- **Observations and models have strengths and uncertainties**
→ **integrated approach**

Climate Research in ECRA – The future of the Collaborative Programmes

Break-out workshops: Discussion and brainstorming on the future of the Collaborative Programmes

- Moderation: Lars Smedsrud & Gianmaria Sannino (room *The Arc*, here)
- Moderation: Birte Jørgensen & Elisa Palazzi (room *202*, 2nd floor)

Reminder: Sessions/meetings @EGU 2019 of interest for this CP

Mountain climatology and meteorology

Co-organized as AS4.47/CR1.13/HS11.22

Convener: Sven Kotlarski | Co-conveners: Andreas Gobiet , Elisa Palazzi , Wolfgang Schöner , Stefano Serafin , Ivana Stiperski, Tue, 09 Apr, 10:45–12:30 (poster) and 16:15–18:00 (oral)

Large Ensemble Climate Model Simulations: Exploring Natural Variability, Change Signals and Impacts

Co-organized as AS4.35/CL3.08/HS4.1.4

Convener: Nicola Maher | Co-conveners: Ralf Ludwig , Emma Aalbers , Sebastian Milinski
Wed, 10 Apr, 08:30–12:30 (oral) and 14:00–15:45 (poster)