Presentation from

2015 World Water Week in Stockholm

www.worldwaterweek.org

Adapting to climate variability and change

Chapter 10

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World Water Development Report 2015

United Nations Educational, Scientific and Cultural Organization

International Hydrological Programme

50 years

SIWI WORLD WATER WEEK

2015 August 23 – 28

Stockholm, Sweden

United Nations Educational, Scientific and Cultural Organization

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Challenges:

Emigrant Lake during 2014 drought in oregon (USA)
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Climate change will affect the natural balance and water availability in several ways: changes in spatio-temporal patterns and variability of precipitation affect the replenishment of water resources.

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Challenges:

- Hydrological change is intense, impacted by both climate change and other anthropogenic change.
- Attribution is a challenge.
- Hydrological change raises multidimensional issues of water security, sustainability and development, which liaises with debates about Anthropocene, planetary boundaries.

Emigrant Lake during 2014 drought in oregon (USA)
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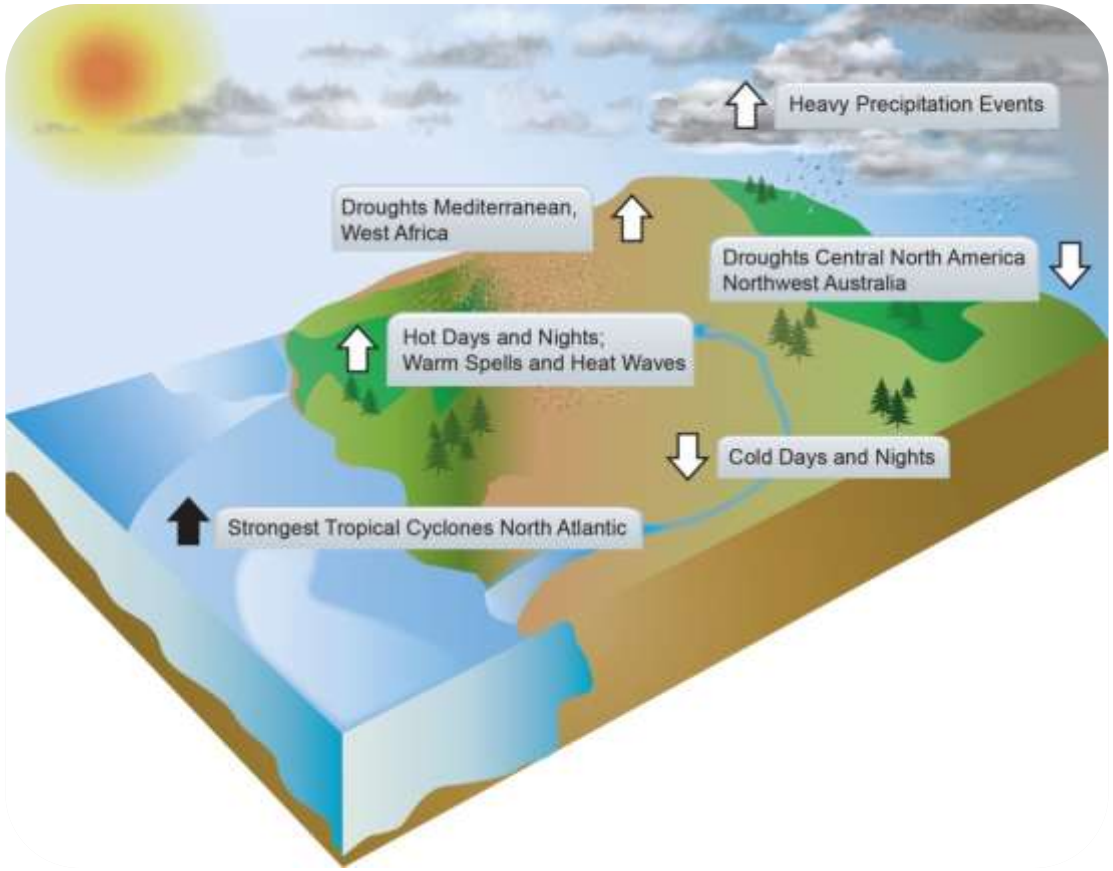
IPCC Fifth Assessment: Chapter 3 Freshwater Resources

Projected hydrological changes:

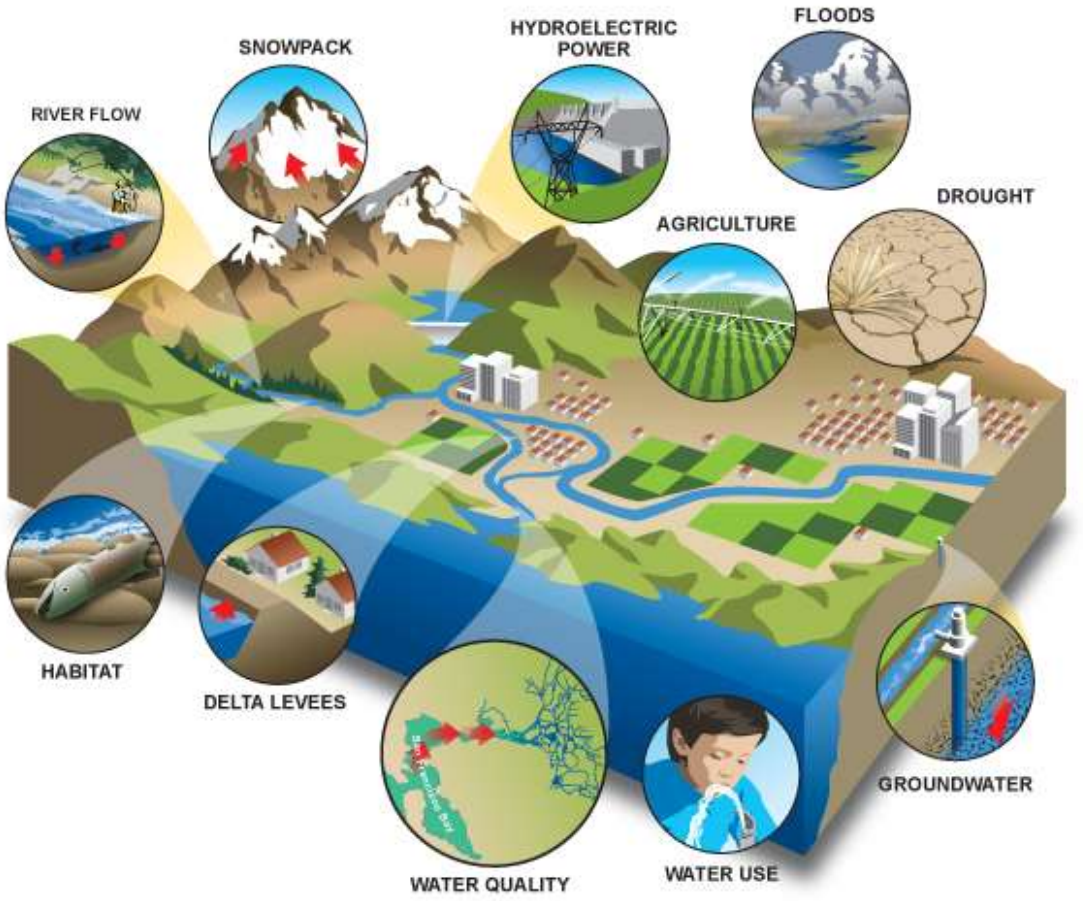
- Evapotranspiration, soil moisture and permafrost
- Glaciers
- Run-off and streamflow
- Groundwater
- Soil erosion and sediment load
- Water quality
- Floods and droughts



IPCC Fifth Assessment: Freshwater Resources

How will the availability of water resources be affected by climate change?

- Agriculture
- Energy production
- Municipal services
- Freshwater ecosystems
- Various other uses



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Challenges:

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Water resources within a river basin are determined by local and regional weather patterns and water uses, which are often poorly resolve by climate models , if at all considered.

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Data Issues

The scarcity of good quality and relevant data impacts the performance of socio-economic, hydrological and climate models, and thus limits the usefullness and credibility in supporting desicion making and policy formulation.

Responses and opportunities

Adaptation decisions need to be taken **NOW**:
approach of socio-climato-hydrological systems

•An adaptative approach focusing on robust strategies and low regret or no-regret solutions;

•Adaptative water management aims to move forward from a *predict-control-paradigm;*

•Enhanced monitoring and evaluation of weather and climate are a priority;

•Involving local actors in data collection and knowledge generation process is as important as capacity-building of technicians, water manager and policy makers to optimize the creation of actionable knowledge (citizen science).

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Thank you!

www.unesco.org/water