

**33rd International Geographical Congress, IGU
Beijing (China), 21-25 August 2016**

Commission for Water Sustainability (C12.40)
Proposed sessions

(i) Water pollution and health impacts

This session invites abstracts covering the following topics:

Pollution

- > Case studies from urban, mining, industrial, rural areas
- > Known and emerging contaminants
- > Natural vs. anthropogenic pollution
- > Associated sediment and floodplain soil contamination
- > Point and non-point sources of pollution
- > Aquatic contaminant mobility (pathways, transport mechanisms, sinks)
- > Water purification and remediation
- > Waste water as a resource

Health impacts

- > Epidemiological case studies
- > Exposure pathways
- > Effects on human health and ecosystems
- > Chemical, biological and radioactive contaminants
- > Emerging pollutants (pharmaceuticals/ drugs, nano particles, EDC, REE...)
- > Setting guidelines: quantifying health risks, costs-benefit analyses, uncertainties

(ii) Water availability between floods and droughts

This session invites abstracts covering the following topics:

Hydrological extreme events

- > natural vs. human causes of droughts and floods
- > human impacts on the hydrological cycle
- > local vs. regional vs. global impacts
- > statistics and frequency analyses of extreme events
- > human impacts on catchment-scale processes
- > modelling, prediction of flood and droughts
- > water monitoring (new technologies, crowd sourcing of data, data sharing, grid density...)

Water scarcity

- > Natural vs. economic water scarcity
- > Rural vs. urban water scarcity
- > Water allocation in arid regions
- > prioritisation among competing water users
- > water stress in urban areas
- > Man-made vs. natural water scarcity (overuse, groundwater mining ...)
- > Dams and transfer schemes as means to combat water scarcity: pros and cons
- > Water scarcity: source of conflict or co-operation?
- > International water trade (virtual/ embedded water, bottled water)
- > Alternative water sources (fog/rain water harvesting, artificial recharge, desalination ...)
- > Water demand management
- > Waste water treatment and re-use
- > Water: commodity or common good?
- > Water and food security
- > Sustainable water use

(iii) Water and Energy

This session invites abstracts covering the following topics:

Water for Energy

- > Water footprint of different energy sources (fossil fuel, nuclear, solar, wind, fuel cells ...),
- > Water use efficiency per E-type
- > Impacts of energy generation on water availability and quality
- > Water as source of energy: hydro-power, pumped storage schemes, geothermal, heat pump systems, tidal plants, river turbines: advantages and risks
- > Sustainability: water vs. energy?

Energy for Water

- > Energy costs for drinking water supply and waste water treatment
- > Energy costs of water transfer schemes, global water trade
- > Harnessing heat energy from waste water

(iv) Water resources in Eurasia in the 21st century

This session invites abstracts covering the following topics:

Geographical focus

- > Surface and groundwater resources in Europe and Asia
- > However, topical contributions from other regions can also be accommodated

Themes

- > Case studies on hydrological processes and human interference
- > Integrated water resource management and associated challenges
- > Long-term trends of water availability and quality
- > Human pressure on local and regional water resources
- > Transboundary management of shared aquifers and river basins
- > Access to safe and sufficient water
- > Water and economic growth



Transformations to Sustainability Programme

The International Social Science Council (ISSC) is pleased to announce the launch of a new global research funding programme on transformations to sustainability.

The Transformations to Sustainability Programme will promote research on the fundamental and innovative processes of social transformations needed to secure effective, equitable and durable solutions to some of today's most urgent challenges of global change and sustainability. They include, for example, climate change, biodiversity loss, water and food security, energy production and consumption, rapid urbanisation and their complex interactions with persistent poverty, growing inequalities, and social discontent and are more urgent in developing countries.

The transformations programme will support researchers from the social, behavioural and economic sciences to take the lead in developing international Transformative Knowledge Networks that will:

- undertake research on the needs and opportunities for social transformation in concrete contexts of application
- bring together researchers from different disciplines and fields of science, as well as different regions of the world
- engage stakeholders in the co-design and co-production of solutions-oriented knowledge and the development of networks of mutual learning, and
- build capacity for international research collaboration and support early career social scientists.

This initiative is intended as a major contribution to the work of Future Earth¹, a global research platform that provides knowledge and support to accelerate transformations to a sustainable world. Future Earth is co-sponsored by the members of the international Science and Technology Alliance for Global Sustainability².



¹For further information: www.futureearth.info

²Membership of the Alliance includes the ISSC, the International Council for Science (ICSU), the Belmont Forum and International Group of Funding Agencies for Global Change Research, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Environment Programme (UNEP), the United Nations University (UNU) and the World Meteorological Organisation (WMO). For further information: www.stalliance.org