

THE ICE CIRCLE

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The Ice Circle's Role

The Ice Circle is a global collaborative platform encouraging and supporting a multidisciplinary response to the state and impact of rapidly changing snow and ice regimes. As necessary, it will leverage focus and funding on issues relating to ice and snow with a view to generating global awareness, profiling research outcomes and supporting local action that could reduce vulnerability to disasters, mitigate forces causing ice melt, and help peoples and communities to adapt.

Impact of the Decline of Ice and Snow

In the last two decades, ice and snow regimes around the globe have dramatically declined. Glaciers are disappearing, permafrost is thawing, snow cover is retreating and if the current rate of sea ice losses continues, the Arctic will soon be ice-free in summer for the first time in human history.

These and other changes to ice and snow — collectively described as the cryosphere —are of concern to all of humanity by affecting global hydrological systems including oceans. The distribution of snow, ice and water plays a critical role in temperature and moisture in the Earth's atmosphere, governing major weather patterns, regulating sea level and salinity, and dramatically impacting transportation, urban and rural settlements, commerce and geopolitics. The release of methane as a permafrost thaw will affect the global carbon balance.

The retreat of ice and snow represent a particular challenge for Arctic communities and important mountain regions including the Himalayan mountains, the Tibetan plateau, the Alps, the Andes and Rockies, the East African Highlands, and the Pamir Mountains in Central Asia. Water from glaciers, ice and snow is an important component of watersheds, affecting agricultural, municipal and domestic water use for almost one-fourth of the global population.

Declining snow and ice in mountains and retreating glaciers can create hazardous conditions risking lives and property. Examples include avalanches, floods and glacier lake outbursts which can have dramatic impacts on populations in heavily populated lower-lying rural areas. Another example is northern infrastructure damage caused by thawing permafrost, ice edge loss, and coastal erosion.

Snow and ice are defining characteristics of all ecosystems in which they occur. Their decline is therefore significantly affects ecosystem structure and biodiversity in polar regions, mountains and adjacent watersheds, and the global hydrological cycle including oceans.

Gaps in knowledge and institutional capacity

Despite the wide ranging consequences brought about by changes to ice and snow regimes worldwide and impacts on the global hydrologic cycle, no international entity serves as a focal point for information on and response to these changes. Instead, there is diffuse

responsibility, and overlapping institutions and processes and those entities that are responding have limited capacity to act at global level.

The Ice Circle

The Ice Circle proposes to bridge the existing institutional gaps by offering an integrated and wide-ranging response to the challenge created by the loss of ice and snow and relevant changes to the global hydrological cycle. It is suggested that the Ice Circle have three core functions and five thematic windows.

A) International Forum and Platform

The Ice Circle will foster collaboration across disciplines and borders in the communication of scientific research and adaptive strategies. As a forum, it will enable sharing of experiences between all actors affected by the decline of the cryosphere. By so doing it will empower local communities through sharing of adaptive best practises and support the development of effective policies, action programmes and other solutions. Its platform will offer a new and effective paradigm to streamline information flow between scientists and decision makers. This cooperation will take place through electronic collaboration platforms as well as in physical space.

B) Voice and Information Hub on Ice Related Issues

The Ice Circle will work to ensure that issues and voices relating to the cryosphere are supported and represented in relevant international discussions with policy makers, in particular discussions on water and oceans, environment, and development. It will support high-level communications and advocacy in specific countries and regions to promote appropriate responses to changes in the cryosphere and hydrology. It has been suggested that the Ice Circle should have a role in supporting a proposed UN sponsored international year dedicated to ice, snow, water and changes to the cryosphere and global hydrological shifts. To improve information access for private and public actors, the Ice Circle could be a hub on the relationship between snow, ice and water, global systems and humanity.

C) Multi-Donor Trust Fund

The Ice Circle proposes trust fund to support programmes around the globe that are notably designed to generate awareness, support and strengthen research, assessments of vulnerability, and the introduction of effective adaptation and mitigation measures.

Thematic Windows of the Ice Circle

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REGIONS	Window 1	Window 2	Window 3	Window 4	Window 5
	Awareness Raising	Adaptation Programs	Knowledge Partnerships	Supporting and Profiling Research and Data Collection/Monitoring	Mitigation Programs
Arctic Antarctica Africa Americas Asia Europe	Public awareness campaigns aimed at informing the public on issues relating to ice, snow and water in polar and mountainous regions and other affected regions.	Support to policies and programs to enhance resilience of livelihoods affected by changes in ice and snow regimes.	A) Support global and regional partnerships with academic and research institutions on ice and snow melt, changing global and local hydrology, impacts of Short Lived Climate Pollutants, etc. B) Enable academic research students from across the globe and across disciplines working on topics relating to snow, ice and water changes to connect and share findings.	Supporting research in high-altitude regions and the polar regions notably through better monitoring, climate / atmospheric modelling, and data collection for improving global hydrometeorological models. Profiling scientific results for outreach and policy purposes.	Support policies and projects at local, regional and global levels on co-benefits from Short-Lived Climate Pollutants reduction.

The Ice Circle will draw upon and support existing scientific and political initiatives related to the cryosphere and hydrology, water, and oceans to leverage attention on snow and ice issues under a changing climatic and hydrologic regime. The Ice Circle is planned for an initial period of three to five years with the specific aim of bringing the cryosphere and hydrology into the mainstream of development and climate adaptation and mitigation agendas.

Secretariat for Ice Circle

It is suggested that the Ice Circle have a secretariat and small staff governed by a management board. The aim is to have the secretariat and the Ice Circle supported through the multi-donor trust fund. The trust fund would be designed with suitable conditions to achieve desired objectives, and could be administered by the World Bank, thus providing legal and fiscal protections for trust donors and beneficiaries. It is suggested that the Ice Circle be guided by an International Steering Committee that provides strategic guidance; a Technical Advisory group that ensures that the Ice Circle communications are scientifically accurate; and a Committee of Financing Partners who provide financial support and guidance.