International Cryosphere Climate Initiative
www.iccinet.org

Submission to the Belém Mission to 1.5°C

June 30, 2026 *Contact: Ms. Pam Pearson, pam@iccinet.org*

The International Cryosphere Climate Initiative (ICCI) welcomes the opportunity to provide input to the Belém Mission to 1.5°C ahead of COP31.

ICCI fully supports the Mission's goal to align global action with the Paris Agreement, with a focus on the need to integrate ongoing and rapid cryospheric degradation into NDCs and NAPs, especially heading into the second Global Stocktake. With the threat of overshoot, such integration is essential to ensure effective measures that address needed mitigation and adaptation with sufficient speed and urgency. Given the largely irreversible impacts of cryosphere loss with overshoot, in particular sea-level rise and mountain water changes and loss, the Paris Agreement must be implemented swiftly, moving from high-level political statements to practical frameworks, especially in the energy, agriculture and transport sectors.

Implementation, and the Mission to 1.5°C must be based on the best available science, including that on cryosphere and cryosphere loss impacts. Current cryosphere science points to the importance of limiting all additional GHG emissions and related warming to ensure minimal overshoot of the lower Paris 1.5°C limit through reaching net zero GHG emissions by mid-century, and net negative emissions thereafter to return temperatures closer to 1°C by 2100, and below 1°C by the middle of the next century. We therefore would highlight the following:

1. Priority Action Areas to Support Ambition and Implementation of NDCs and NAPs:

Accelerating Paris Goals Through Pre-2030 and 2030-35 Implementation

Current global progress remains insufficient to prevent levels of cryospheric degradation that will create non-sustainable conditions across large tracts of low-lying and downstream regions by end of century. Decisive implementation is needed, in particular the redirection of fossil fuel subsidies to renewables, as well as to carbon drawdown and green technologies. The transition away from fossil fuels -- including a tripling of global renewable energy capacity by 2030 and doubling that (total 6x increase) by 2035 — is critical for both mitigation; and for ensuring adaptation remains within feasible limits throughout this century by heading off unsustainable levels of cryosphere loss. The Santa Marta Conference stands as a positive example of the leadership needed, and should be supported by the COP31 Presidency to enable this essential energy transition in a timeframe that averts significant loss and damage, especially to SIDS, LDCs, Indigenous, mountain-dependent and other vulnerable communities.

Incorporating Cryosphere Action Plans to Support NDCs and NAPs

The cryosphere is not explicitly incorporated into any NDCs or NAPs, yet has large impacts on the timing and efficiency of national mitigation and adaptation measures. For example, faster sea-level rise due to ice loss will decrease the efficiency of certain adaptation measures

(seawalls and other coastal protection) and even some mitigation measures, particularly nature-based (such as inundation of 'blue carbon' mangroves, or regenerative agriculture that fails due to water resource loss from snowpack and glacier decline). Cryosphere Action Plans, similar to Ocean Action Plans should be integrated into NDCs and NAPs to ensure these take into account cryosphere loss throughout these commitment periods and prioritize mitigation measures (such as those which reduce methane and black carbon, see below) that can avert such loss.

Prioritizing Measures with Strong and Specific Cryosphere Benefits

In addition to more rapid implementation, in recognition of the need to limit scale and duration of overshoot to prevent irreversible coastal and downstream damage from cryosphere degradation, certain mitigation measures may directly or indirectly preserve cryosphere. These include those directed at methane reduction (because these operate on near-term time scales, and might to some degree offset permafrost methane emissions); and fossil fuel or other transition measures that also decrease black carbon (electrification of diesel-based transport, especially in mountain regions or within the Arctic including marine transport; fire-free agricultural methods that prevent nearby wildfire ignition; very low emission woodstoves or conversion from domestic wood and coal stoves, etc.).

2. Strengthening International Cooperation to Enhance Ambition and Implementation

Transboundary Cooperation

Most cryosphere impacts are transboundary in nature, in particular sea-level rise, permafrost emissions, sea ice albedo loss, ocean current disturbances and perturbation of snowpack- and glacier-fed water basins. Recognizing and addressing these impacts on a regional basis, for example shared river basins dependent on snowpack and/or mountain glaciers; permafrost ecosystems where collapse has cross-border downstream effects; or the impact of black carbon from international shipping on central Arctic Ocean sea ice, will make mitigation and adaptation measures both more effective, and more sustainable and timely.

Monitoring, Especially Early Warning Systems

As global ice is lost, even under the most ambitious scenarios, the scale of potential destruction from cryosphere loss will grow. Enhanced cryospheric monitoring should become an essential portion of the Belém Mission to 1.5°C in order to protect investments, particularly infrastructure along glacier-fed river systems prone to sudden hillside collapse or glacial lake outburst floods (GLOFs), or that built on permafrost. Monitoring of key ocean currents and circulation systems, particularly around Antarctica and in the North Atlantic for the AMOC (Atlantic Meridional Overturning Circulation), as well as of the West Antarctic Ice Sheet could give essential warning of potential crossing of key thresholds leading to collapse (or "tipping points"), giving regional and global communities greater time to prepare for drastic shifts in weather patterns, more rapid rates of sea-level rise or growing downstream desertification with glacier and snowpack loss.