# The Polar Ice Museum: From Greenland to South Baltimore

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**Abstract:**

*The Polar Ice Museum*: From Greenland to South Baltimore is a data-driven art and science project that transforms polar climate research into an immersive public experience. Developed through a University of Maryland, Baltimore County collaboration between the Imaging Research Center (IRC) and iHARP, an NSF-funded polar research institute. The project bridges complex scientific data and public understanding through interdisciplinary media art.

*The Polar Ice Museum* is conceived as an evolving platform that integrates virtual reality, multi-channel video, interactive sculpture, and live scientific data from sources including NASA.1 Its core experience is a virtual ice cave composed of three interconnected spaces that visualize global $CO_2$ levels, temperature change, sea-level rise, and non-human environmental processes such as solar radiation. Participants influence the environment through personal behavioral choices and embodied actions, linking individual agency to global climate systems.

By connecting polar data to local flooding risks in Baltimore's Chesapeake Bay region, the project emphasizes the tangible impacts of distant polar events on vulnerable communities. Through sensory immersion, interaction, and reflection, *The Polar Ice Museum* reframes abstract climate data as an emotional, embodied, and locally relevant experience, fostering empathy, awareness, and meaningful public engagement with climate instability.

**Keywords:**

Art and science collaboration, Climate change, Polar data visualization, Interdisciplinary research, Media arts, emerging technologies, Data-driven art, IRC, iHARP, NSF, NASA, Sea level rise, Global temperature, $CO_2$ emissions, Environmental visualization, Virtual reality (VR) art, Interactive installation, Multi-channel video installation, Immersive media, Chesapeake Bay, Participatory art, Carbon sensors, embodiment, Meditative environmental art, Speculative museum.