# Arctic in Rapid Transition (ART)

A network to study the spatial and temporal changes of biogeochemical cycling and ecological functions in the Arctic marine and coastal permafrost realm

Running for the PYRN award — Permafrost Researchers Young Network — @ 4th European Conference on Permafrost

## ART Core Group


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## ART in four points

- An Integrative, international, interdisciplinary pan-Arctic network
- Aims at studying the spatial and temporal changes in biogeochemical cycling and ecosystem functions in the Arctic marine and coastal realm
- Was developed and is still steered by early-career scientists
- Brings together scientists working in different geographic and disciplinary areas who share a common interest in improving our understanding of Arctic change

***Write your ideas and suggestions here:***

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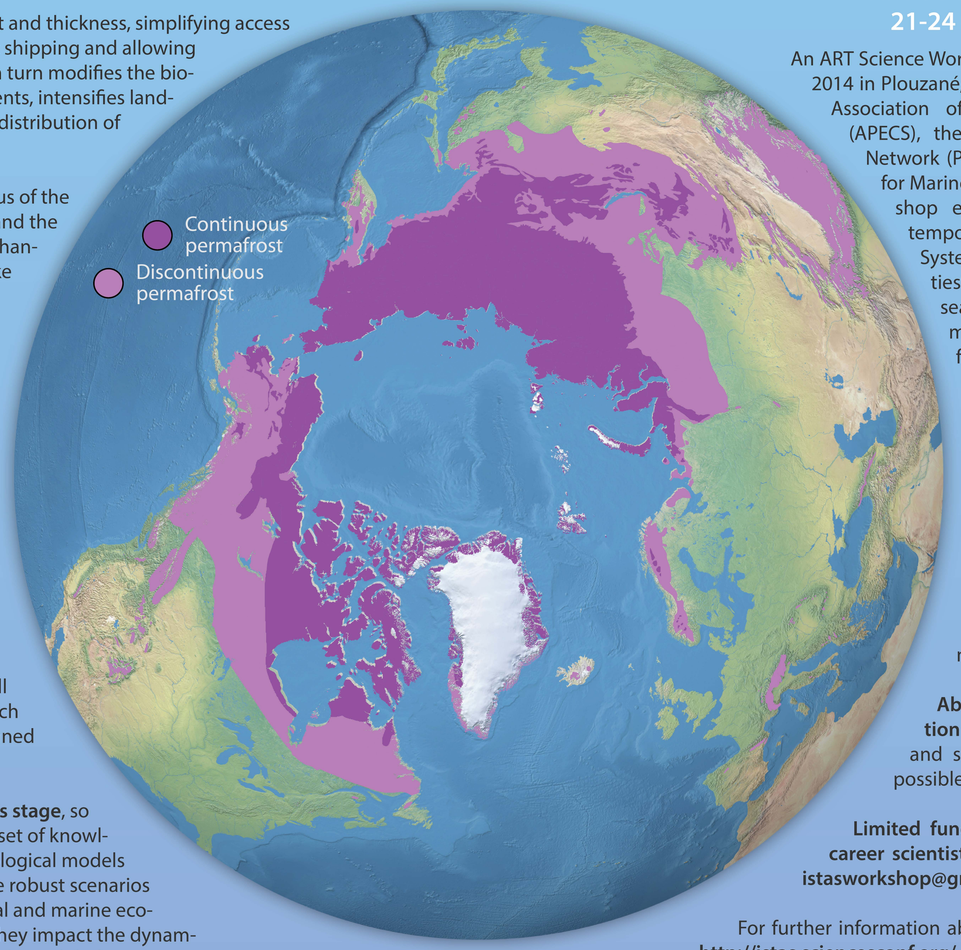
## Background

Arctic sea ice is declining rapidly in extent and thickness, simplifying access to oil and gas fields, enabling trans-Arctic shipping and allowing storms to erode permafrost coasts. This in turn modifies the biogeochemical cycling of carbon and nutrients, intensifies land-ocean interactions, as well as it shifts the distribution of harvestable resources.

Scientific knowledge of the evolving status of the Arctic Ocean, its surrounding land areas and the process-based understanding of the mechanics of change are urgently needed to make useful projections of future conditions throughout the Arctic region. Since 2012 **ART is an official network of the International Arctic Science Committee (IASC).**




### 3-step process

The **first phase** of ART (2010-2014) focuses on developing a **formal network** to bring together scientists working in different geographic and disciplinary areas who share a common interest in improving our understanding of Arctic change.

The **second phase** of ART (2014-2018) will be centered on active **data collection,** such as through the TRANSSIZ expedition planned on the RV 'Polarstern' in 2015.

The **third phase** of ART will be a **synthesis stage**, so that the legacy of ART will be a coherent set of knowledge, which would feed into physical-biological models at various scales in order to develop more robust scenarios regarding the future state of Arctic coastal and marine ecosystems, their productive capacity, how they impact the dynamics of greenhouse gases, as well as their role in global processes.

## ART Science Workshop 21-24 October 2014

An ART Science Workshop will be held 21-24 October 2014 in Plouzané, France, in collaboration with the Association of Polar Early Career Scientists (APECS), the Permafrost Young Researchers Network (PYRN) and the European Institute for Marine Studies. This international workshop entitled "Integrating spatial and temporal scales in the changing Arctic System: towards future research priorities" (ISTAS) will aim at drafting research priorities from an early to mid-career perspective that will feed into the third **International Conference on Arctic Research Planning (ICARP III)** in Toyama, Japan in 2015. This workshop will bring together about 60 early career, mid-career and senior scientists from different Arctic research areas including cryosphere, terrestrial, marine, atmosphere, and socio-economic topics to ensure knowledge transfer across generations and disciplines.

**Abstract submission and registration are now open.** Please register and submit your abstract as soon as possible as the amount of space is limited.

**Limited funding will be available for early career scientists.** For questions, please contact: **istasworkshop@gmail.com**

For further information about the workshop, please go to: **http://istas.sciencesconf.org/**


## Partners

- International Arctic Science Committee (IASC)
- International Arctic Research Center (IARC)
- Association of Polar Early Career Scientists (APECS)
- International Conference on Arctic Research Planning (ICARPIII)
- Permafrost Young Researchers Network (PYRN)

*Towards future research priorities*

**www.iarc.uaf.edu/ART**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