



## SUMMARY

An Arctic in Rapid Transition (ART) meeting with the European members of the ART Executive Committee Meeting was held June 25-26, 2012 at the Geological Survey of Denmark and Greenland in Copenhagen (GEUS). The main objective of the meeting was to finalize the expedition proposal for the German RV “Polarstern” in 2015 dedicated to “Transitions in the Seasonal Sea Ice Zone (TRANSSIZ)” in the European Arctic Ocean within the framework of ART. The first draft proposal has been sent to Prof. Karin Lochte (Director of AWI, Bremerhaven) in September 2011 and reviewed positively. Afterwards this first draft has been supplemented by specific science questions and a draft working plan after an ART EC meeting in November 2011, and a possible cooperation with AWI partners have been established during a meeting in March 2012 .

The participants decided to focus on one ART-lead “Polarstern” cruise, “TRANSSIZ 2016”, preferably in April/May 2016, with the topic “Linking past and present sea ice transitions in the European Arctic – Ecological and biogeochemical early spring process studies”. To study the autumn preconditioning the ART team will integrate with the “TransArc 2015” proposal led by Ursula Schauer, AWI, Germany.

The TRANSSIZ cruise will significantly contribute to improve the ability to answer the three main ART questions. Specifically the cruise will address on:

- the cryo-pelagic-benthic coupling from shelf to basin to develop, validate, and compare proxies for sea-ice.
- the environmental preconditions (e.g. nutrients, stratification) for productivity patterns and a shelf to basin transects to identify the potential annual primary production in a future ice-free ocean.
- the transition of winter to spring on ecosystem functioning and biogeochemical cycles as well as transitions across the last glacial cycle.