

Cooperative research program "North Atlantic", WP 2.1



Aims and objectives:

- changes in the production of deep water in the Labrador Sea
- changes in the volume transport as the NAC and underlying water masses cross the MAR
- changes in the deep water export at 47°N
- any correlation to transport changes in the ocean interior ?
- any correlation to variability in LSW production?

Estimating the strength of the subpolar gyre at the MAR



- 4 bottom-mounted PIES, installed since 2006 at MAR
 - \rightarrow measure time series of acoustic travel time & bottom pressure variation
 - \rightarrow convert into velocity time series using GEM method

Existing observation components



- continue PIES at MAR, 2006-2012...
- add further PIES along 47°N, 2010-2012...
- redeploy BC mooring array at 47°N, 2009-2012...
- redeploy MAR mooring array, 2009-2012...
- continue tracer surveys, 2009-2012...
- planned: measure export in Flemish Pass, 2011- ...
- mooring array at CGFZ (Bower, WHOI), 2010- ...



- improving knowledge concerning LSW formation due to cooperation of various groups putting together data in key regions
- first measured time series of the strength of the subpolar gyre at the MAR now exist, correlation to LSW production needs long-term observations
- first components of AMOC array at 47°N in place, new components are planned in near future