

**DAMOCLES WP3 Oceans**  
**Workshop November 25, 2007 in Sopot**

**Objectives according to the DoW 2007:**

**WP3.1 Input Function**

To develop and implement the improved observational system with capabilities to monitor and predict the input of mass and heat to the Arctic Ocean.

To document and understand variations of the exchanges with the North Atlantic by observing fluxes through the major gateways connecting the Arctic and Atlantic oceans.

To identify the mix of local and remote forcings that controls the input of heat to the Arctic Ocean.

To develop and implement new cost-effective observing techniques in the Fram Strait which will complement and enhance the capabilities of the existing conventional array of moorings.

**WP3.2 Shelf /Basin exchange**

To observe and understand processes of importance for the oceanic interaction between shelf and the deep basins, including the transformation of waters and the variability in the strength and properties of the boundary current.

**WP3.3 Central Arctic Ocean**

To assess the Ocean heat flux from the Atlantic layer in the Central Arctic to the ice and the atmosphere.

To observe and to understand the variability of the circulation and properties of fresh surface mixed layer in relation to large scale atmospheric patterns

To observe the propagation of the Atlantic layer in the central Arctic Ocean. Mixed Layer dynamics. Cold halocline and Atlantic water layer vertical, spatial and temporal variability associated with the Arctic Ocean transpolar drift.

**WP3.4 Output to the North Atlantic and Global circulation**

Identify the “switchgear” that determines whether Arctic freshwater (fw) will pass directly to the Atlantic “conveyor” or curve eastward back into the Nordic Seas

Assess the scale and extent of changes associated with ocean fw fluxes, and their impact on the MOC

Agenda:

9:00		Ursula Schauer	Introduction	
9:20 – 11:00	WP3.1	Oystein Skagseth	“Transports from Svinoy to the Barents Sea”	<i>What forces the AO inflow variability? Is flow variability compensated between Barents Sea and Fram Strait or inside the straits? Is temperature variation just advected from the North Atlantic? If no answer yet what conclusions do we draw from the past in order to achieve answers in the future?</i>
		Waldemar Walczowski	"Variability of Atlantic Water summer properties and transport by the WSC"	
		Agnieszka Beszczynska-Möller	“Transports through Fram Strait”	
11:00-11:30	Coffee break			
11:30-13:00	WP3.2	Göran Björk	“Overview of the activities in WP3.2”	<i>Which are the processes? Can the exchange(s) be quantified? Do the exchanges change? If no answer yet what conclusions do we draw from the past in order to achieve answers in the future?</i>
		Ilker Fer	“Production and outflow of dense bottom water from Storfjorden”	
		Ilona Goszczko, Jan Piechura, Waldemar Walczowski.	"Shelf - basin exchange and water masses properties along the West Spitsbergen Shelf - some results from IOPAS summer Arctic Experiment".	
		Michiel Rutgers van der Loeff	“Tracer results during ARK XXII/2. (Ba, Mn, Al, Si, 234Th) in the light of shelf-basin exchange”	
13:00 - 14:15	Lunch			

14:15- 16:00	WP3.3	Ursula Schauer	“Can we balance the Eurasian Basin oceanic heat (better) with Damocles measurements?”	<i>Is the oceanic heat important for the ice? If no answer yet what conclusions do we draw from the past in order to achieve answers in the future?</i>
		Göran Björk	“Validation of 1-D coupled model and model results of ocean heat flux and net ice growth”	
		Jean-Claude Gascard	“Arctic Ocean warming reduces polar ice cap” by Polyakov et al.	
		Emmanuel Skarsoulis	“Brief assessment of the possibilities of an acoustic network in the Arctic”	
16:00 - 16:30	Coffee break			
16:30-18:00	WP3.4	Edmond Hansen, 20 min	“WP3.4 Output to the North Atlantic and global circulation: An Overview	<i>Can we get consistent FW fluxes numbers from the different mooring arrays? If no answer yet what conclusions do we draw from the past in order to achieve answers in the future?</i>
		L. de Steur and E. Hansen, 15 min	“Eleven years of observations in the East Greenland Current”	
		Keith Haines, Ruth Mugford and Greg Smith, 15 min	“Transports and water masses in the Arctic from ocean reanalysis 1988-2007”	