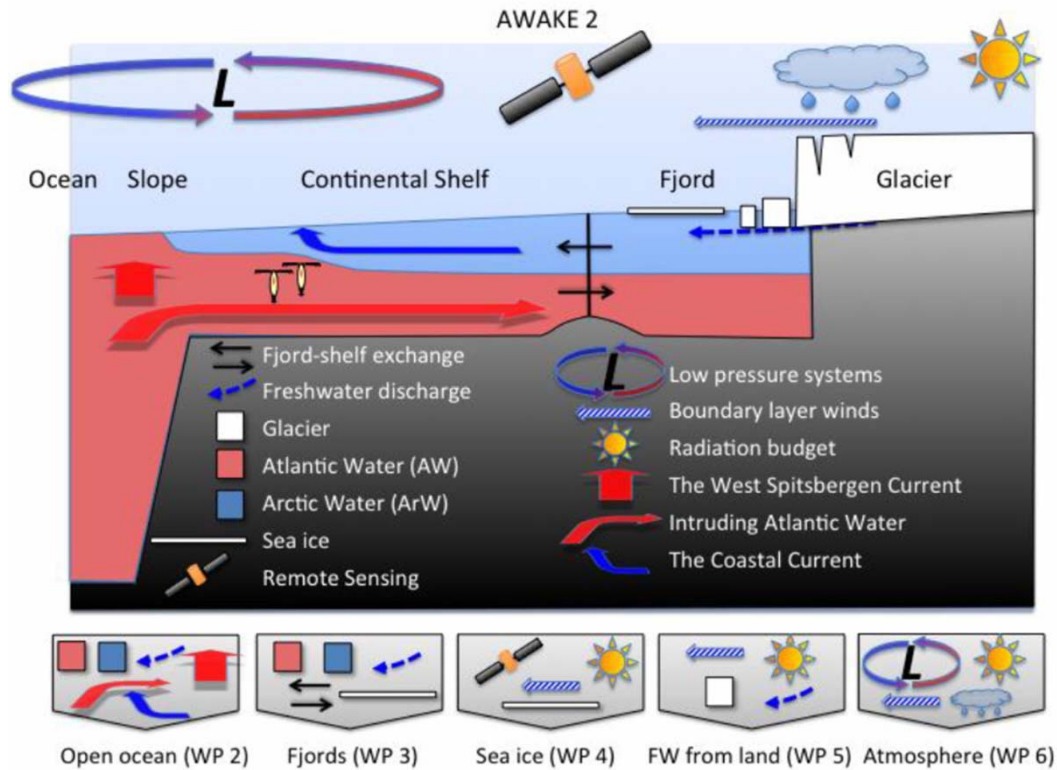


# WP3 Fjord oceanography



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and Arild Sundfjord (NPI)

# WP3 Objectives

## To understand the key parameters/processes that determine:

The interannual variability in

1. water mass distribution  
(Arctic Water versus Atlantic Water dominance)
2. freshwater content
3. and circulation patterns in Hornsund.

## To do this we will use:

- 1.+2. available historical data and new data to be collected on two cruises each year (July and September)
3. a high-resolution model (160 x 160 m horizontal resolution) with realistic water mass transports and heat fluxes, so that the oceanic contribution to glacier front melting can be properly assessed.

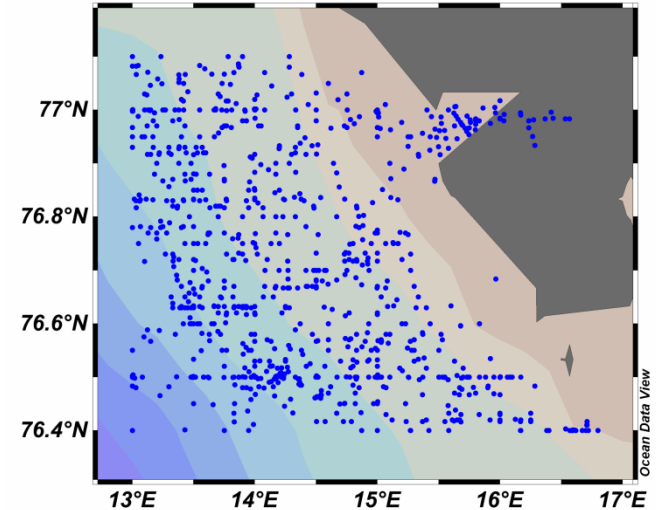
**To get a better understanding of the fjord-glacier coupling the area close to Hansbreen will be investigated weekly during summer.**



The planned field measurements will be carried out from early spring to autumn with an aim to obtain time series covering the glaciers melting season.

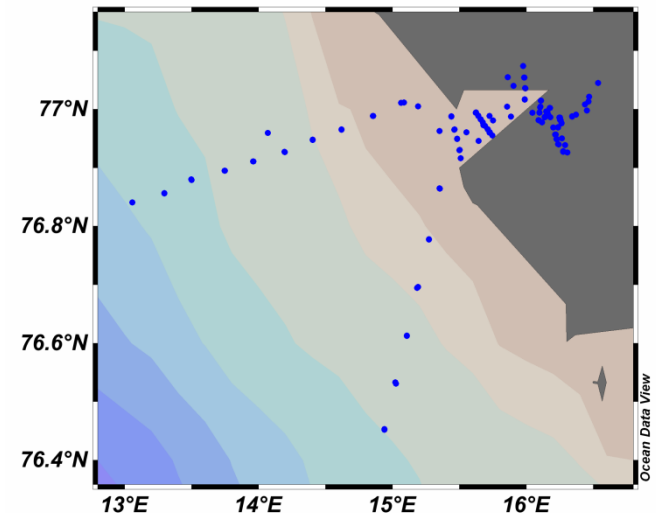
# Available historical data

- IOPAS: July 2001 – 2012  
– 2010-2012 (H, G, etc)
- UNIS data base



# New data

- IOPAS: July 2013 and 2014  
– 2013-2014 (H, G, etc)
- UNIS: September 2013 and  
April and September 2014



## WP3 Deliverables

- Hydrographic time series for 2000-2012 (16)
- Freshwater content time series for 2000-2012 (16)
  
- Hydrographic time series for 2000-2015 (36)
- Freshwater content time series for 2000-2015 (36)
  
- Relative contribution of sea ice meltwater and glacier/river runoff for 2013-2015 (36)

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- Relative contribution of sea ice meltwater and glacier/river runoff for 2013-2015.

## Water samples:

HM September 2013: 400

Lance April 2014: 96

HM September 2014: 365

IOPAS 2014 350

## WP3 Deliverables

- Hydrographic time series for 2000-2012 (16)
- Freshwater content time series for 2000-2012 (16)
  
- Hydrographic time series for 2000-2015 (36)
- Freshwater content time series for 2000-2015 (36)
  
- Relative contribution of sea ice meltwater and glacier/river runoff for 2013-2015 (36)
  
- A qualitative description of key parameters/processes that determine water mass distribution, freshwater content, and circulation patterns (36)

# WP3 Tasks

- T3.1: Fjord hydrography from historical and new data (IOPAS)
  - *By Agnieszka Prominska*
- T3.2: Freshwater content and distribution from historical and new data (UNIS)
  - *By Knut Ola Dølven (Master student)*
- T3.3: Arctic fjord circulation processes, observations, and modeling (IOPAS/NPI)
  - *By Arild Sundfjord*