



# **AWAKE-2**

## **WP1 Project management and dissemination**

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Sopot 03.12.2015**

Institute of Oceanology, Polish Academy of Sciences is WP1 leader. Since the beginning of the project IOPAS has taken care of an effective, smooth and high quality performance of the AWAKE-2 project.

WP1 involves:

- administration of the project
- reporting
- provision of deliverables
- organization of meetings
- financial issues

# Tasks

- T 1.1 Project management (IOPAS)
- T 1.2 Financial and administrative project management (IOPAS)
- T 1.3 Project data management (NERSC)
- T 1.4 Dissemination and webpage (IOPAS)

Within this work package, the following actions were conducted by IOPAS in 2015:


- On the basis of results obtained in all work packages the annual report in January 2015 was prepared.
- From the beginning of the project, the webpage and the profile on Facebook is regularly updated.



# AWAKE-2

Arctic Climate System Study of Ocean, Sea Ice and Glaciers Interactions  
in Svalbard Area



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## *Database*

### I. Ocean


Hydrological data	
Open ocean	2000-2014 June - July
Fjord Hornsund	2001-2014 July
	2010-2014 April – September
Moorings	
Brepollen sill	2010-2011
	2013-2014
North Hornsund mouth	2010-2011
South Hornsund mouth	2011-2014



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DATABASE

**PUBLICATIONS**

## *Publications*

Ignatiuk D., Piechota A., Ciepły M., and Luks B., 2014, Changes of altitudinal zones of Werenskioldbreen and Hansbreen in period 1990 – 2008, Svalbard, AIP Conference Proceedings 1618, 275, doi: 10.1063/1.4897727.

Przybylak R., Arażny A., Rondli Ø., Finkelnburg R., Kejna M., Budzik T., Migala K., Sikora S., Puczko D., Rymer K. and Rachlewicz G., 2014, Spatial distribution of air temperature on Svalbard during 1 year with campaign measurements, International Journal of Climatology, vol. 34, issue 14, doi: 10.1002/joc.3937.

Wyszyński P., Przybylak R., 2014, Variability of humidity conditions in the Arctic during the first International Polar Year, 1882-83, Polar Research, 33, 23896, <http://dx.doi.org/10.3402/polar.v33.23896>.

Majchrowska E., Ignatiuk D., Jania J., Marszałek H., and Wąsik M., 2015, Seasonal and interannual variability in runoff from the Werenskioldbreen catchment, Spitsbergen, Polish Polar Research, vol. 36, no. 3, doi: 10.1515/popore-2015-0014.

Ignatiuk D., Błaszczuk M., Grabiec M., Majchrowska E., Pętlicki M., Piechota A., 2015, Nowoczesne metody pomiarowe i analityczne w glaciologii [w:] Absalon D., Matysik M., Ruman M. (red.) Nowoczesne metody i rozwiązania w hydrologii i gospodarce wodnej, ISBN 978-83-61695-26-4, ss. 227-245.

Głowacki, O., Deane G. B., Moskalik M., Blondel P., Tegowski J., and Błaszczuk M. 2015, Underwater acoustic signatures of glacier calving, Geophysical Research Letters, 42, 804–812, doi:10.1002/2014GL062859.

Pętlicki M., Ciepły M., Jania J.A., Promińska A., Kinnard C., 2015, Calving of a tidewater glacier driven by melting at the waterline, Journal of Glaciology, vol. 61, no. 229, <http://dx.doi.org/10.3189/2015JoG15J062>.

- At the beginning of May 2015 the Scientific Picnic of Polish Radio and the Copernicus Science Centre took place in Warsaw. This is Europe's largest outdoor event aimed to promote science where we had pleasure to present our Project to more than 100 000 people – adults, young people and children who were participated in this event
- At the end of May 2015 took place the Scientific Picnic in Sopot organized by IOPAS, where the AWAKE-2 project was presented to thousand of visitors, mostly school children.

# Scientific Picnic in Warsaw





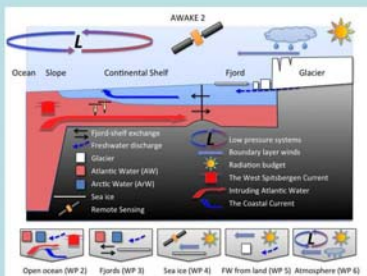
# Scientific Picnic in Sopot



## AWAKE-2



Badanie wzajemnych oddziaływań pomiędzy oceanem, lodem morskim i lodowcami w arktycznym układzie klimatycznym w rejonie Svalbardu

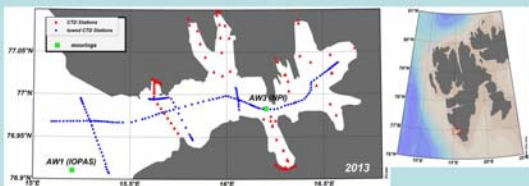


Schemat przedstawiający zależności pomiędzy oceanem, atmosferą i kriosferą w rejonie Svalbardu (autor F. Nilsen)

Arktyczne fiordy, będące ogniwem łączącym ląd z oceanem, są bardzo wrażliwe na ocieplanie i wykazują najwcześniejsze zmiany środowiskowe, wynikające z antropogenicznych oddziaływań na klimat.

W Arktyce, wewnątrz fiordu jest zwykle zdominowane przez lodowce oraz sezonowy napływ wód słodkich, a jego ujście znajduje się pod silnym wpływem ciepłych wód oceanicznych.

Lepsze zrozumienie wymiany pomiędzy fiordami a oceanem oraz procesów zachodzących w obrębie ich basenów ma duże znaczenie dla zrozumienia lokalnego klimatu. Ich reakcja na zmiany w atmosferze i oceanie stanowi klucz do zrozumienia przeszłości oraz do prognozowania przyszłości lodowców wysokich szerokości geograficznych oraz klimatu Arktyki.



Główny obszar badań - fiord Hornsund

AWAKE-2 jest multidyscyplinarnym projektem badawczym, który ma na celu zbadanie systemu klimatycznego Arktyki, gdzie ocean, atmosfera, lód morski oraz lodowce wzajemnie na siebie oddziałują.

Projekt jest skoncentrowany na zmianach klimatu w rejonie Svalbardu, gdzie lodowce i lód morski zmniejszają swoją powierzchnię, natomiast temperatura powietrza wzrasta. Wskutek tych procesów system ocean-fiord w ostatnich latach diametralnie się zmienia.

W projekcie badamy procesy, które mogą mieć wpływ na cały system klimatyczny Arktyki.



Automatyczna stacja meteorologiczna w Hornsundzie



Pomiary za pomocą sondy CTD (zasolenie, temperatura, głębokość)



r/v Oceania



Lodowiec Hansa



Photo by Grzegorz Borowski



Photo by Grzegorz Borowski

- 19-20 November 2015 conference for the projects which received funding from the Polish-Norwegian Research Programme took place in Sheraton Sopot Hotel. The AWAKE-2 project was presented in polar research session by Waldemar Walczowski.



# What will we have to do in the near future?

Deadline	Action	WP	Partner responsible
December 2015	Annual report	1	IOPAS
December 2015	The analysis of forcings of the AW variability in the WSC concluded	2	IOPAS
December 2015	The prognostic model for determination of dominating water masses on the shelf	2	UNIS
February 2016	The scientific paper in the peer reviewed journal focused on forcing mechanisms of the AW variability in the WSC	2	IOPAS
February 2016	Observational data on superficial mass balance of Hansbreen and estimation of glacier mass balance over entire Hornsund basin	5	US/IGF
April 2016	Final report	1	IOPAS
April 2016	Project completed successfully	1	IOPAS

Deadline	Action	WP	Partner responsible
April 2016	The scientific paper in the peer reviewed journal describing the mechanisms of water masses domination on the shelf	2	UNIS
April 2016	The contribution to the final report with results from all tasks focused on the main pathways of the warm Atlantic water towards the fjord system ready	2	IOPAS/ UNIS
April 2016	Hydrographic time series for 2000-2015	3	IOPAS
April 2016	Freshwater content time series for 2000-2015	3	UNIS
April 2016	Relative contribution of sea ice meltwater and glacier/river runoff for 2013-2015	3	UNIS
April 2016	A qualitative description of key parameters / processes that determine water mass distribution, freshwater content, and circulation patterns	3	IOPAS/ NPI

Deadline	Action	WP	Partner responsible
April 2016	A time series (2000-2016) of sea ice and dense-water production in Spitsbergen fjords	4	UNIS
April 2016	A qualitative description of the causal relation between sea ice cover, atmosphere and ocean temperature and wind forcing	4	NERSC/Met.no/UNIS
April 2016	Quantification of icebergs production from tidewater glaciers	5	US/IGF
April 2016	Quantification of total freshwater outflow from tidewater glacier including icebergs flux and expected trends for future.	5	US/IGF
April 2016	Organise a workshop with all project partners and external experts where the project results are discussed and conclusions identified	7	NERSC
April 2016	Prepare report/publication with synthesis of the results	7	NERSC

Thank you

for your attention !

