



SEA ICE IN THE EARTH SYSTEM: A MULTIDISCIPLINARY PERSPECTIVE

June 4-6 2019, Brest, France

Program

The conference will be held at Institut Universitaire Européen de la Mer (IUEM) at Plouzané (close to Brest, France), Amphi A.

Tuesday 4 June

Shuttle will be leaving place de la liberté at 8:45 (see practicals at the end of this document)

9h-10h: Registration and coffee

10h-10h15: Welcome and presentation of the meeting

Session 1: Sea ice zone dynamics, thermodynamics and biogeochemistry

Chair: Camille Lique

10h15-10h45: Robert Ricker (Invited)

Monitoring of the sea Ice cover in a changing Polar Environment using satellite remote sensing

10h45-11h05: Sara Fleury

Snow Depth and Sea Ice Thickness Observations from Satellite Altimeters

11h05-11h25: Catherine Prigent

Development of an innovative Sea Ice Concentration algorithm for the Copernicus Imaging Microwave Radiometer (CIMR) mission

11h25-11h55: Pierre Rampal (Invited)

On the Simulation of the Brittle Nature of Sea Ice in Next Generation Models: Why and How?

11h55-12h25: François Fribat (Invited)

Sea-ice biogeochemistry: from micro-environments to the scale of Antarctic sea ice

12h30-14h: Lunch

14h-14h20: Martin Vancoppenolle

Understanding and simulating sea ice thermodynamic processes at small and large scales

14h20-14h40: Bruno Delille

Gases in sea ice: update of recent findings, caveats and open questions

14h40-15h00: Justin Dodd

A Pliocene marine diatom oxygen isotope record of cryogenic brine formation in the Ross Sea, Antarctica

Session 2 : Drivers of sea ice variability and changes

Chair: Damien Cardinal

15h00-15h30: François Massonnet (Invited)

Challenges in the evaluation of large-scale sea ice models

15h30-15h50: Rym Msadek

Predicting sea ice extent on seasonal time scales

15h50-16h20: Coffee break

16h20-16h40: Nicolas Kolodziejczyk

L-Band Sea Surface Salinity in the Polar Oceans: a validation study

16h40-17h00: Anastasiia Tarasenko

Surface waters in the Eastern Arctic ocean and its marginal ice zone based on satellite and NABOS expedition in situ data

17h00-17h20: Casimir De Lavergne

Antarctic sea-ice trends sustained by vertical ocean heat redistribution

17h20-17h50: Peter Sutherland (Invited)

Wave-ice feedbacks in the Arctic Ocean

17h50-18h10: Guillaume Boutin

Coupling a spectral wave model with a coupled ocean-ice model: impact on lateral melting, effects on the ice edge and sea surface properties

18h30: Shuttle to place de la liberté and the harbor

19h30 : Dinner/cocktail on a boat

(Please note that the attendance is limited to those who have indicated that they would attend when they registered. Please let us know if there is any change)

Wednesday June 5

Shuttle will be leaving from Place de la liberté at 8:30

Session 2 : Drivers of sea ice variability and changes

Chair: Martin Vancoppenolle

9h-9h20: Xavier Crosta

Antarctic sea ice in the Pleistocene climate system: Drivers and feedbacks at different timescales

9h20-9h50: Anaïs Orsi (Invited)

Antarctic climate variability over the past 2000 years

Session 3: Impacts of sea ice variations on its environment

Chair: Martin Vancoppenolle

9h50-10h10: Mark Hague

Phytoplankton Phenology and Sea Ice in the Southern Ocean

10h10-10h30: Marcel Babin

The role of snow and sea ice in constraining the phytoplankton phenology in the Arctic Ocean

10h30-11h: Coffee break

11h-12h30: Poster session

12h30-14h: Lunch

Chair: Xavier Crosta

14h00-14h20: Florian Sevellec

Arctic sea ice decline weakens the Atlantic Meridional Overturning Circulation

14h20-14h50: Alexey Fedorov (Invited)

The mechanisms and impacts of the Atlantic Meridional Overturning Circulation slow-down induced by Arctic sea ice decline

14h50-15h10: Heather Regan

Dynamics of the Beaufort Gyre from satellite observations and a high resolution model

15h10-15h40: Jean-Baptiste Sallée (Invited)

How sea-ice shapes large-scale Southern Ocean circulation?

15h40-16h: Jean-Yves Royer

Evidence of interactions between icebergs and blue whales from a soundscape analysis in Sea ice thermodynamics from small to large-scale Southern Indian Ocean

16h-16h30: Coffee break

Presentation of the national and international programs on polar activities

(Chairs: Damien Cardinal and Rym Msadek)

16h30-16h50: Marie-Noëlle Houssais

Presentation of the national polar research programs

16h50-17h10: Gilles Garric

Polar Regions provisions by the Copernicus Marine Service

17h10-17h30: Jennie Thomas

Enhancing multidisciplinary international science cooperation: The Cryosphere and ATMospheric CHemistry (CATCH)

17h30-18h30: Discussion

18h30: Shuttle to Place de la liberté

Thursday June 6

Shuttle will be leaving from Place de la liberté at 8:30

Session 3: Impacts of sea ice variations on its environment

Chair: Rym Msadek

9h-9h20: Claude Frankignoul

An observational estimate of the direct atmospheric response to the Arctic sea ice loss

9h20-9h40: Svenya Chripko

Northern Hemisphere autumn and winter atmospheric response to Arctic summer sea ice loss in the CNRM-CM6 climate model

9h40-10h: Louis Marelle

Simulating Arctic boundary layer ozone depletion events in a regional atmospheric model

10h-10h20: Camille Lique

Future emergence of deep convection in the Arctic and impact on the AMOC

10h20-10h30: Break-Discussion

10h30-11h: Coffee Break

11h-11h20: Diana Ruiz Pino

Increases CO₂ sink and acidification on Antarctic (Weddell Sea) and Western Arctic oceans

11h20-11h40: Nicola Elionor Sabata

Acidification since the last decade in the Pacific Arctic: pH and Alkalinity measured by an autonomous sensor

11h40-12h: Marie-Alexandrine Sicre

Biomarker and diatom fluxes in a one-year sediment trap experiment over the Northwind Ridge, western Arctic Ocean

12h-12h15: Closing remarks

12h15-14h: Lunch

14h: End of meeting

14h30: Shuttle to place de la liberté

List of posters:

Luc Barast

Impact of under-ice turbulence on wave attenuation and sea ice variability in the MIZ

Benjamin Barton

Water mass properties derived from satellite observations in the Barents Sea

Guillaume Boutin

Towards a better representation of wave-sea ice interactions in the Marginal Ice Zone.

Zoé Caspar-Cohen

Eddies and small-scale staircases and intrusions in the Canada basin from moored instruments

Fanny Girard-Ardhuin

Long-term sea ice datasets at Ifremer/CERSAT using microwave satellite sensors

Marie-Noëlle Houssais

A mechanism for winter sea ice opening to the north of Svalbard

Fanny Lhardy

On the role of sea-ice in setting the LGM ocean circulation : a model-data evaluation with carbon isotopes

Delphine Mathias

Sea ice monitoring using passive underwater acoustics

Gaetan Olivier

Impact of sea ice/snow distribution on the seasonal and inter-annual variability of ocean primary production and carbon export flux in Baffin Bay: a 1D modeling approach

Thomas Oudar

Respective roles of direct GHG radiative forcing and induced Arctic sea ice loss on the Northern Hemisphere atmospheric circulation

Didier Roche

Last Glacial Maximum Antarctic sea-ice distribution: a role for iceberg – sea-ice interaction?

Jean Sterlin

Role of atmospheric reanalyses and representation of melt ponds for global ocean circulation models

Anne Marie Tréguier

Eddy and seasonal variability of surface dynamics and fluxes in the Nordic Seas in a 1/12° ocean model forced and coupled to the atmosphere

PRACTICAL INFORMATION

General information

The conference will be held at Institut Universitaire Européen de la Mer (IUEM) at Plouzané, Amphi A.

Lunches and dinner on Tuesday night (for those who have registered) are included (free of charge for all participants).

Contact

lefe-ice@sciencesconf.org

In case of emergency, you can reach Camille Lique's cell phone: +33 6 52 86 78 92 or Rym Msadek's cell phone: + 33 6 32 93 27 15

Presenters instructions

Oral presentations

Authors are kindly asked to upload their presentations directly in the meeting room during the break preceding their session .

Talks are 20 minutes (30 minutes for invited talks), including 3 to 5 minutes for questions. Speakers are kindly asked to respect the timing and start by general presentation of the context of their talk since each session is multi-disciplinary and attended by scientists with very different background

Posters

Posters can be displayed for the full duration of the meeting in the conference hall.

Poster dimensions: A0, Orientation: PORTRAIT

Viewing during coffee breaks. Authors are invited to be on stand-by close to their posters during the dedicated poster session.

Reaching Brest city center from the airport

Taxis await you on arrival of each plane:

- Airport to IFREMER: about 34€
- After 7 p.m : about 50€
- Airport to Brest center : about 20 €
- After 7 p.m : about 29€

Public transportation from the airport

The airport shuttle connects the Brest Bretagne airport with the tramway station at Porte de Guipavas. The price of a ticket is €1.60. This allows you to travel for one hour on any Bibus route (shuttle, tramway, bus). Tickets can be bought on board the shuttle from the conductor.

Reaching the workshop from Brest city center

IUEM, Rue Dumont d'Urville,
29280 Plouzané FRANCE

Please note that a shuttle will depart every morning from bus stop "Multiplexe" (see the program for the time everyday).



If you want to take **public transportations** to IUEM, you should follow these instructions

Take tramway A to "porte de plouzané". Then you will need to cross the street and wait for the next bus #13 to "plouzané mairie" and get out at "piccard". Finally you will have to walk straight up hill. IUEM is on your left after the hill.

Dinner on Tuesday

A cocktail will be held on the Brestoa (<https://www.lebrestoa.com/>). The shuttle will take the participants who have registered for the dinner directly to the harbor after the workshop, from where the boat will leave at 7:30 pm. Return to the harbor should be around 9:30pm. The harbor is only a short 20 min walk to the city center. Although we are hoping for good weather, please note that evening can be cold in June, and in particular at sea.

LIST OF PARTICIPANTS:

Fabrice Arduin *LOPS*
Marcel Babin *UMI Takuvik*
Luc Barast *LOPS*
Massimo Bellucci *IUEM*
Guillaume Boutin *NERSC*
Nathaelle Bouttes *LSCE*
Patrice Bretel *IPEV*
Guillaume Bridier *LEMAR*
Eva Bucciarelli *LEMAR*
Maria Cristina Caradonna
Damien Cardinal *LOCEAN*
Zoé Caspar-Cohen *LOPS*
Svenya Chripko *CERFACS*
Cédric Cotté *LOCEAN*
Xavier Crosta *EPOC*
Camille Daubord *SHOM*
Casimir de Lavergne *LOCEAN*
Bruno Delille *Université de Liège*
Justin Dodd *Northern Illinois University*
Antoine Dubois *LOPS*
Alexey Fedorov *Yale & LOCEAN*
Sara Fleury *LEGOS*
Claude Frankignoul *LOCEAN*
François Fribat *Max Planck Institute for Chemistry*
Fanny Girard-Arduin *LOPS*
Mark Hague *University of Cape Town*
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Camille Lique *LOPS*
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Claudie Marec *IUEM*
Louis Marelle *IGE/LATMOS*
François Massonet *UCL*
Delphine Mathias *SOMME - LIA BREST*

Laurent Memery *LEMAR*
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Gaetan Olivier *LEMAR*
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Frederic Planchon *LEMAR*
Catherine Prigent *LERMA*
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