

## ORGANISATION

### SCIENTIFIC COMMITTEE:

Francisco Doblas-Reyes (co-chair, WGSIP and SPECS), Thomas Jung (co-chair, WWRP-PPP and Arctic ECRA), Frédéric Vitart (WWRP2S), Brian Mills (WWRP-SERA and WWRP-PPP), James Overland (IASC), Thomas Spengler (IAMAS-ICDM and IASC), David Bromwich (IAMAS-ICPM and WWRP-PPP), Cecilia Bitz (WCRP-PCPI), Hugues Goosse (WCRP-PCPI), Jonny Day (APECS), Claus Brüning (European Commission), Vladimir Ryabinin (WCRP), Carlo Buontempo (EUPORIAS).

### LOCAL ORGANISING COMMITTEE:

Virginie Guemas (IC3 and Météo-France), Neven Fuckar (IC3), Ramiro Saurral (CIMA and Univ. of Buenos Aires), Javier García-Serrano (IPSL), François Massonnet (UCL), Matthieu Chevallier (Météo-France).

### FURTHER INFORMATION ON REGISTRATION, ACCOMMODATION AND ORGANISATION:

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## SPONSORS

The workshop is supported by:

IC<sup>3</sup>, AWI, WWRP, WCRP, SPECS-FP7, ECRA, GFCS, EGU, European Commission



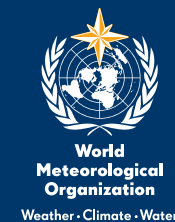
# Polar-Lower Latitude Linkages Workshop Barcelona

10 - 12 December 2014

Photos: G. Dieckmann, S. Hendricks, AWI



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## WORKSHOP DESCRIPTION

### “International workshop on polar-lower latitude linkages and their role in weather and climate prediction”

Objective: The aim of the workshop is to gain an overview of our current understanding of polar-lower latitude linkages and their implications for prediction and services and to formulate recommendations that will guide international future research activities.

Structure: The workshop will consist of key note talks by invited speakers, challenger talks, poster sessions, breakout group sessions and a plenary session.

	Wednesday 10 Dec 2014	Thursday 11 Dec 2014	Friday 12 Dec 2014
AM		Key note talks Poster session II	Breakout group sessions
PM	Opening Key note talks Poster session I	Breakout group sessions	Plenary session
Evening	Ice breaker	Workshop Dinner	

Attendees: Scientists and representatives from international programmes, prediction centres and funding agencies.

Expected outcome: Enhancing the scientific network on the topic of polar/non-polar connections and producing a set of recommendations that will be broadly disseminated as a report.

Three key topics will be covered in breakout groups. The outcome will be presented in a plenary session:

- 1) Atmospheric Polar/Mid-latitude Linkages: Processes and Mechanisms
- 2) Oceanic Polar/Mid-latitude Linkages: Processes and Mechanisms
- 3) Implications for prediction and services

## KEY TOPICS

1) There have been increases in severe weather and climate events in mid-latitudes of the Northern Hemisphere in the last decade, including heat waves, flooding, and cold winters. During the same period, major changes have taken place in the Arctic including loss of sea ice and reduced late spring snow cover. While forcing of atmospheric changes in the Arctic are clear, attribution of mid-latitude extreme events to the Arctic changes is difficult and controversial due to short record lengths and the largely chaotic flow at mid-latitudes. Compared to the Arctic, the changes in the Southern Hemisphere are more limited. Nevertheless, sea ice and ocean surface temperature display larger interannual variations that could potentially influence the development of large-scale modes of atmospheric variability such as the Southern Annular Mode and, thus, the mid-latitude conditions.

2) Much focus has fallen on polar-mid-latitude atmospheric linkages in recent years with the polar oceans having received relatively little attention. However, the polar oceans have played an important role in dramatic events of the past such as the ‘great salinity anomalies’ of the North Atlantic that resulted in shifts in the strength of meridional overturning circulation. Furthermore, changes in the heat storage of the Southern Ocean influence the state at the surface on interannual to multi-decadal timescales. This indicates that skill in predicting important mid-latitude variables could be harnessed from oceanic processes at seasonal-to-decadal timescales.

3) The presence of atmospheric and oceanic teleconnections linking the polar regions with the lower latitudes is expected to have implications for mid-latitude prediction across a wide range of time scales. Relatively, poor observational coverage in the Arctic, for example, may have a detrimental influence on forecasts skill over North America and Europe. At the same time, sea ice provides a source of memory and therefore could lead to enhanced extended-range predictability in lower latitudes that might not be fully exploited in existing forecasting systems. A better understanding of the links is key to obtain insight where and to what extent future investments in forecasting system development in polar regions (e.g. observing system and coupled models) can provide benefit for the prediction of weather and climate in lower latitudes and hence different service sectors such as energy and agriculture.

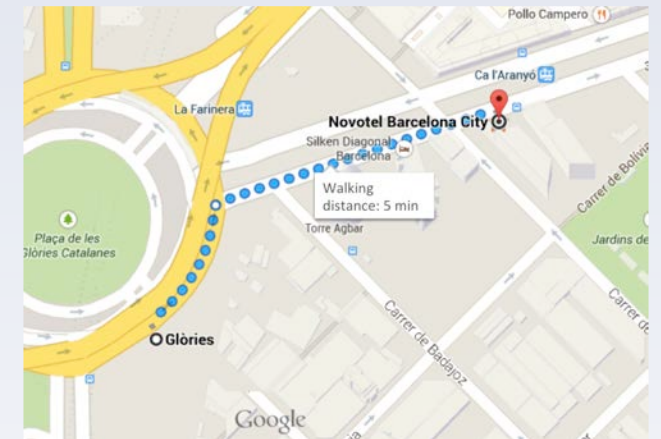
## VENUE & REGISTRATION

Novotel Barcelona City Hotel  
Avenida Diagonal, 201  
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Travel:

From Barcelona airport every 5-10 min. by AEROBUS to Plaça de Catalunya. From there by Metro L1 to Glòries. 5 min. walk to Novotel. (Tram T4, bus lines 7, H12, N7)



Registration & accommodation:  
<http://polarprediction.net/linkages>

Outreach:

Selected talks will be broadcasted online. To register for the online presentations please refer to <http://polarprediction.net/linkages>.

