



## **H2020 - Research and Innovation Action**



### **APPLICATE**

Advanced Prediction in Polar regions and beyond: Modelling, observing system design and Linkages associated with a Changing Arctic climaTE

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Milestone 18

# **Consolidated Clustering Plan**

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## **EXECUTIVE SUMMARY**

There are a number of European and international activities that are related to some of the activities planned in APPLICATE. Effective clustering will be needed in APPLICATE to facilitate coordination and exploit synergies. To ensure effective collaboration with partners from Europe, North America and the wider international community, this document contains a Clustering Plan that will be further developed together with the partners in the context of the APPLICATE project. The strategy employed here is to focus on a limited number of promising clustering activities that will be given full attention to make a difference.

## 1. INTRODUCTION

### 1.1. Background and motivation

Advancing polar predictive capacity in the Arctic and understanding the impact of Arctic climate change on the weather and climate in midlatitudes has attracted considerable attention in recent years. It is not surprising, thus, that there are numerous projects tackling these issues. The advantage is that there is a critical mass needed to make much needed progress. However, in order to avoid unnecessary duplication and exploit synergies, effective coordination—or clustering as it is called in this document—is needed. The clustering concept employed in the APPLICATE project is outlined in this Plan.

### 1.2. Organisation of the plan

The Clustering Plan is a living document that will be updated throughout the lifetime of the project. The actual Plan is described in section 2. It contains a list of partners along with envisaged activities for three classes of partners: European, North America and international. The Plan is followed by a concise summary of the risks that could possibly jeopardize effective clustering and a list of critical interdependencies. The document finishes with a list of references and a description of acronyms.

## 2. CLUSTERING PLAN

### 2.1. General activities

APPLICATE will be actively engaging in clustering. Rather than working with a large number of small individual partners, APPLICATE aims to cluster with major European and international projects and players (see Table 1 for details).

*Table 1: List of major partners for which clustering activities are carried out.*

Partner	Point of contact
<i>European partners</i>	
Blue-Action	Steffen Olsen and Daniela Matei
CRESCENDO	Colin Jones
EU-PolarNet	Nicole Biebow
ICE-ARC	Jeremy Wilkinson
INTAROS	Stein Sandven
INTERACT	Margareta Johansson
Nunataryuk	Hugues Lantuit
ARICE	Nicole Biebow
PRIMAVERA	Pier Luigi Vidale, Malcolm Roberts

<i>North American partners</i>	
SIPN	Cecilia Bitz
US CLIVAR Working Group on Arctic-Midlatitude Linkages	Judah Cohen and Xiangdong Zhang
NCAR	Marika Holland
ECCC	Gilbert Brunet and Bill Merryfield
<i>International partners</i>	
YOPP	Thomas Jung
Belmont projects	James Screen and Daniela Matei
MOSAIC	Markus Rex
S2S Prediction Project	Frederic Vitart
APECS	Gerlis Fugmann
GEWEX GASS	Gunilla Svensson

High-level coordination between the different activities is ensured by frequent communication between the coordination offices of the various projects, participation/representation to each other’s annual meetings, and organisation of joint events at international conferences.

## 2.2. Clustering activities with European projects

Effective clustering with the other European projects in particular is critical. For this reason, an EU-Arctic Cluster of projects has been established that comprises the seven projects (as of August 2017) as in Table 3.

*Table 3: Projects composing the EU-Arctic Cluster (as of August 2017)*

<b>Project name</b>	<b>Coordinator</b>	<b>Website</b>
APPLICATE	Thomas Jung (Alfred Wegener Institute)	<a href="http://applycate.eu">http://applycate.eu</a>
Blue-Action	Steffen Olsen (Danish Meteorological Institute)  Daniela Matei (Max Planck Institute for Meteorology)	<a href="http://www.blue-action.eu">http://www.blue-action.eu</a>
EU-Polar Net	Nicole Biebow (Alfred Wegener Institute)	<a href="http://www.eu-polarnet.eu">http://www.eu-polarnet.eu</a>
ICE-ARC	Jeremy Wilkinson (British Antarctic Survey)	<a href="http://www.ice-arc.eu">http://www.ice-arc.eu</a>
INTAROS	Stein Sandven (Nansen Environmental and Remote Sensing Center)	<a href="http://www.intaros.eu">http://www.intaros.eu</a>
INTERACT	Margareta Johansson (Lund University)	<a href="http://www.eu-interact.org">http://www.eu-interact.org</a>
Nunataryuk	Hugues Lantuit (Alfred Wegener Institute)	
ARICE	Nicole Biebow (Alfred Wegener Institute)	

Coordination of activities within the EU-Arctic Cluster is facilitated by regular communication between the various project offices, and a common calendar of major international events to identify opportunities for organisation of joint side-events. Some activities carried out within the EU-Arctic Cluster and other European projects as of August 2017 are summarised in Table 4.

*Table 4: Clustering activities with other EU projects.*

Type of activity	Title	Dates, location	Partner projects
Workshop	Evaluating climate and Earth system at the process level	23-24 May 2017, Brussels	Blue-Action, PRIMAVERA and CRESCENDO
Session	Coordinators Day	22 June 2017, Brussels	Blue-Action, INTAROS and other projects with focus on the Mediterranean region
Workshop	Defining modelling requirements for upcoming EU calls	Autumn 2017, TBC	APPLICATE, Blue-Action, PRIMAVERA, CRESCENDO, ...
Side events	Arctic Circle 2017	13-15 October 2017, Reykjavik	EU-Arctic Cluster
Presentation	INTERACT Annual Meeting 2017	21-25 October 2017, Svalbard	INTERACT
Side event at EC Pavilion	COP23 Polar insights for climate action: Arctic science contributions to implementing the Paris Agreement	6-17 November 2017, Bonn	EU-Arctic Cluster
Side event	Arctic Change 2017 The European contribution to understanding the Arctic	11-15 December 2017, Quebec City	EU-Arctic Cluster
Annual Meeting	APPLICATE General Assembly 2018	15-17 January 2018, Barcelona	EU-Arctic Cluster PRIMAVERA CRESCENDO
Side event at POLAR2018	Title TBD. Side event at joint IASC/SCAR Conference	15-26 June 2018, Davos	EU-Arctic Cluster
Task Group	Data Management	Semi-regular meetings and telecons	EU-Arctic Cluster
Task Group	Stakeholder engagement	Semi-regular meetings and	EU-Arctic Cluster

Type of activity	Title	Dates, location	Partner projects
		telecons	
Task Group	Communication	Semi-regular meetings and telecons	EU-Arctic Cluster

### 2.3. Clustering with North American partners—Contribution to the Transatlantic Ocean Research Alliance

APPLICATE will “contribute to implementing the Transatlantic Ocean Research Alliance” through strong collaboration with coordinating bodies and numerous individual collaborators from the US (e.g. Sea Ice Prediction Network, NCAR, US CLIVAR Working Group on Arctic-Mid-latitude Linkages) and Canada (e.g. Environment and Climate Change Canada). A list of planned activities is given in Table 5.

Table 5: Contribution to the Transatlantic Ocean Research Alliance.

Activity	Leader	Action	Due date
US CLIVAR Workshop: Arctic change and its influence on mid-latitude climate and weather	Doug Smith	Design of coordinated multi-model numerical experiments in liaison with the international community	1-3 February 2017
Workshop: Understanding causes and consequences of Polar Amplification	Doug Smith	Development of a new CMIP6 MIP: Polar Amplification MIP (PA-MIP), to investigate the causes and consequences of polar amplification	11-16 Jun 2017
Invite relevant members of the US CLIVAR WG to APPLICATE GAs	Luisa Cristini		Annually
Represent APPLICATE in US CLIVAR WG meetings and teleconferences	Thomas Jung	Thomas Jung is member of the WG and will be attending upcoming meetings	Ongoing
Provide the APPLICATE consortium with regular updates on SIPN developments	Francois Massonnet Cecilia Bitz	Provide updates at regular teleconferences, give presentations at GAs, identify areas of collaboration	Ongoing
Contribute APPLICATE predictions to SIPN activities (also in the	Francois Massonnet	See D5.5 for details	May 2020



Activity	Leader	Action	Due date
context of the Sea Ice Outlook)			
Assessment of Arctic heat budget in climate models (with NCAR)	Ed Blockley	See D1.5 for details	Ongoing
Explore possible collaboration with two new Arctic ONR projects	Thomas Jung	Contact Scott Harper from ONR to obtain point of contacts, establish contact, explore whether there is scope for collaboration	Apr 2017

**2.4. Clustering with partners at the international level**

Further clustering activities are planned on an international level, some of which are listed in Table 6.

*Table 6: Clustering at international level.*

Activity	Leader	Action	Due date
Regular updates on YOPP at APPLICATE meetings and vice versa	Thomas Jung Luisa Cristini	Updates on YOPP will be part of all agendas, identify possible synergies in the different areas relevant to both initiatives	Ongoing
Engage with relevant projects resulting from Belmont Forum call on climate predictability and inter-regional linkages	Thomas Jung Doug Smith	Collaboration in the context of the Polar Amplification MIP	Ongoing
Development of Single Column Model (SCM) intercomparison studies together with GEWEX GASS	Gunilla Svensson	Workshop in Stockholm to discuss new SCM studies based on the results from GASS projects GABLS4 and Larcform1.	Nov 2017
Regular updates on MOSAiC at APPLICATE meetings and vice versa	Thomas Jung Gunilla Svensson	Updates on MOSAiC will be part of all agendas, identify possible synergies in the different areas relevant to both initiatives	Ongoing
Joint session at Arctic Frontiers 2018	Thomas Jung Luisa Cristini	Joint APPLICATE-MOSAIC-YOPP session	22-27 January 2018

Activity	Leader	Action	Due date
Town Hall	Luisa Cristini	Joint YOPP-APPLICATE Town Hall meeting at the EGU General Assembly 2018	8-13 April 2018
Polar Prediction School 2017	Gerlis Fugmann Jonny Day	A 10-days training course on polar prediction sponsored by the APPLICATE project and the YOPP. See D8.7 for details.	17-27 Apr 2018

### 3. RISKS AND INTERDEPENDENCIES

#### 3.1. Risks

The wide network of APPLICATE partners and team member involved in clustering activities ensures a variety of opportunities for collaborations with other projects and initiatives throughout the project lifetime.

*Table 7: Risks to the clustering plan*

Risk	Probability	Proposed risk mitigation strategy	Responsibility
Related European and international projects/activities are reluctant to engage in the clustering process	Low	APPLICATE will take a pro-active approach offering to organize, co-lead and synthesize clustering activities. Make use of existing links with any APPLICATE partner	Thomas Jung and Peter Bauer
Action leaders become unavailable	Low	The clustering plan will be updated regularly and action leader confirmed. Representation of APPLICATE at key events will be decided by the Executive Board before each event.	Thomas Jung and Peter Bauer

### 4. IMPLEMENTATION OF THE PLAN

The Clustering Plan will be implemented by the project partners and more specifically by the action leaders defined above. Clustering activities with other EU projects (e.g., EU-Arctic Cluster) will be led by the Coordinator and the Project Manager. The WP8 leaders will be ultimately responsible for ensuring APPLICATE collaboration with other international programmes and for the coordination and monitoring of the planned actions. The WP8 leaders will report to the project Executive Board on the implementation of the plan and more generally on clustering activities. The Clustering Plan will be updated regularly and

future updates are scheduled in time for the project periodic reports (April 2018, October 2019).

## 5. ACRONYMS

APECS	Association of Polar Early Career Scientists
Blue-Action	Blue-Action: Arctic Impact on Weather and Climate
CLIVAR	Climate and Ocean: Variability, Predictability and Change
CRESCENDO	Coordinated research in earth systems and climate: experiments, knowledge, dissemination and outreach
ECCC	Environment and Climate Change Canada
GA	General Assembly
GASS	Global Atmospheric System Study
GEWEX	Global Energy and Water Cycle Exchanges Project
INTAROS	Integrated Arctic Observing system
MOSAiC	Multidisciplinary drifting Observatory for the Study of Arctic Climate
NCAR	National Centre for Atmospheric Research
ONR	Office of Naval Research
PRIMAVERA	PRocess-based climate sIMulation: AdVances in high-resolution modelling and European climate Risk Assessment
SIPN	Sea Ice Prediction Network
S2S	Subseasonal to Seasonal Prediction Project
WGNE	Working Group on Numerical Experimentation
YOPP	Year of Polar Prediction