Séminaire mercredi le 13 décembre 2017 11:00 / Seminar Wednesday Dec 13th 2017 11:00h

Sujet/Subject: ECCC's Modeling Contribution to the Year of Polar Prediction (YOPP) Experiment: The Canadian Arctic Prediction System (CAPS)

Langue/language : Anglais/English . part II: Français /French

Conférenciers/Lecturers: Jason Milbrandt (RPN-A) and Paul Pestieau (CCMEP-Operations)

Résumé/Abstract:
The Year of Polar Prediction (YOPP) will run from mid-2017 to mid-2019 as the core phase of a ten year (2013-2022) Polar Prediction Project (PPP), an initiative of the World Meteorological Organization's World Weather Research Programme (WWRP). Canada has been an active contributor to the inception of PPP and ECCC is well represented on its Steering Committee and many Task Teams.

In support of ECCC's NWP modeling contribution to YOPP, MSC has been running (since November 2017, in a user account) a high-resolution (3 km) real-time experimental NWP system covering a large region of the Arctic. The atmospheric model component – the Canadian Arctic Prediction System (CAPS) – is a GEM-based deterministic prediction system, very similar to the HRDPS. CAPS will soon be coupled to the Regional Ice Ocean Prediction System (RIOPS). The coupled system will provide a contribution to various scientific experiments that are part of YOPP and will serve as a new prototype for the km-scale NWP system in the Canadian Arctic.

A proposal will be made to implement CAPS in CMC operations and to use model guidance from this system to replace that of the current HRDPS-north. (A subsequent proposal will be made to switch on the coupling between CAPS and RIOPS.) In this presentation, an introduction will be given as an overview of YOPP and to offer context to the current planning and contributions from ECCC to this important project for Canada.The CAPS configuration will be described and comparison to the current HRDPS-north will be made. In addition to some minor changes to the model configuration and integration times, the major difference between CAPS and the current HRDPS is the introduction of the Predicted Particle Properties (P3) cloud microphysics scheme, which is responsible for parameterizing the grid-scale clouds and precipitation. An overview of the P3 scheme will given, emphasizing the relevance of including P3 in CAPS and in other MSC prediction systems in the future.