

Séminaire Vendredi 3 Octobre 10h30 / Seminar Friday October 03, 10:30 AM

Conférencier/Lecturer: Martin Charron, Mark Buehner, Louis Garand, Michel Roch, Saroja Polavarapu

Sujet/Subject: The new global GEM-meso-strato model and assimilation system: description and results

Présentation/Presentation: Français et Anglais/English and French

Lieu/Room: Grande salle du premier étage CMC

**NOTEZ SVP le début anticipé de cette présentation /
PLEASE NOTE the early start of this presentation**

Résumé/Abstract:

In order to better represent the stratosphere, operational models around the world have been raising their model lids into the mesosphere. For example, ECMWF raised its lid to 0.01 hPa (83 km) in Feb. 2006 and most other centres have lids at 0.1 hPa (65 km). There are two main reasons for this. First, nadir sounding instruments such as AMSU or AIRS are sensitive to temperatures up to 0.1 hPa, so the model domain should extend at least this far. Secondly, stratospheric dynamics are coupled to tropospheric dynamics, especially in the winter hemisphere so that improving the representation of the stratosphere can impact tropospheric forecasts. In this seminar, we will describe the new model and the measurements assimilated. Changes to the model also include a new radiative transfer scheme with a new ozone climatology, a non-orographic gravity wave drag scheme, and a simple parameterization of methane oxidation. New background error covariances were computed to enable analysis increments to be computed on the 80 model levels, including a modified approach that allows the vertical restriction of the impact from observations. Results from the new system show significant improvement of forecast scores on the medium range. This system will be proposed for operational implementation.