Séminaire 28 Octobre 2011 11h / Seminar October 28th 2011 11h

Conférencier/Lecturer:	Thomas Milewski (McGill Univ.)
Sujet/Subject:	Aspects of stratospheric ensemble data assimilation
Présentation/Presentation:	Anglais / English
Lieu/Room:	Salle des vents (Dorval)

wiki: https://wiki.cmc.ec.gc.ca/wiki/RPN_Seminars

iweb: http://web-mrb.cmc.ec.gc.ca/mrb/rpn/SEM/
web: http://collaboration.cmc.ec.gc.ca/science/rpn/SEM/index.php

Increasingly, ensemble data assimilation is being tested, implemented and recognized as a valuable tool for obtaining meaningful analyses of the atmosphere. The stratosphere is also gaining focus as a necessary component in numerical models of the atmosphere, either for its chemical climate or its dynamics that influence medium and long-range tropospheric forecasts. However, hardly do we see comprehensive models with data assimilation incorporating both the dynamical and chemical aspects in their stratospheric representation.

From perfect-twin Ensemble Kalman filter assimilation experiments using a fast chemistry-climate model, the feasibility and potential benefits of using ensemble assimilation in a stratospheric context are explored. Assimilation of temperature and ozone retrievals are used to look at the transfer of information from observed variable to the rest of the grid variables. The global behaviour of the system is analyzed as well as the particular spatial, temporal and multivariate components of these information transfers. This includes the impact of chemical data assimilation on dynamical variables, in part mitigating the absence of wind observations in the stratosphere. The choices in assimilation setup and covariance localization will also be discussed, as well as assimilation experiments in special contexts.