Séminaire ven 25 Fév 2011 11h / Seminar Fri Feb 25th 2011 11h

Conférencier/Lecturer:	Yongsheng Chen (U. York)
Sujet/Subject:	Mesoscale Ensemble Analysis and Prediction of High-Impact Weather
Présentation/Presentation:	Anglais / English
Lieu/Room:	Salle des vents (Dorval)

Abstract

The chaotic and multi-scale nature of high-impact precipitating weather systems, ranging from tropical cyclones to supercells, renders them to be the most difficult challenge to mesoscale prediction. Processes such as moist convection, crucial for mesoscale forecast accuracy, are represented only with limited fidelity in numerical models. In recent years, ensemble-based data assimilation and prediction systems have been developed to consider uncertainties in mesoscale forecasts. Ensemble predictions of high-impact weather initialized from the mesoscale ensemble analyses with storm-related observations assimilated have shown promising improvement.

A multi-scale ensemble data assimilation and forecast system, consisting of the Weather Research and Forecasting (WRF) model and Data Assimilation Research Testbed (DART) tools, has been tested in predicting various high-impact weather phenomena. In this talk, ensemble predictions of hurricanes and a severe convective storm will be presented. The capabilities of this system and its values in studying the dynamics and predictability of the convective systems will be discussed.