Séminaire vendredi le 4 mai 2018 11:00 / Seminar Friday May 4ᵗʰ 2018 11:00h

Sujet/Subject: Global Modeling and Data Assimilation with the Model for Prediction Across Scales

Langue/language   : Anglais/English

Conférenciers/Lecturers: **James P. Cipriani (The Weather Company, an IBM Business, Yortown Heights)**

Résumé/Abstract:

The Weather Company (TWC) has selected NCAR's Model for Prediction Across Scales (MPAS) as its next-generation global modeling system to replace *RPM* , which to date has been driven by the Weather Research and Forecasting (WRF) model. Research and development of the IBM *Deep Thunder* MPAS implementation began in January 2017, with experimental 144-hour forecasts at 15-km uniform resolution beginning in June 2017. The forecasts are initialized as cold starts using the 0.25-degree NCEP GFS analyses at 00Z, 06Z, 12Z, and 18Z, with the addition of NASA SPoRT 2-km SST and 4-km VIIRS green vegetation fraction data during pre-processing. While the primary objective is the development of an hourly updating, convective allowing forecasting system, all of the WRF-based solutions at TWC will first be replaced, with an initial focus on the 72-hour global 13-km domain.

Both the current operational framework and re-forecasting environment for ongoing MPAS development will be discussed. A brief summary of physics- and data-related aspects will be provided, showing the performance improvement for 2-m temperature and precipitation over 13-km WRF. Preliminary data assimilation specifications and impacts will be discussed, including conventional PrepBUFR and cell-phone pressures in a 3DVAR framework. Plans are in place for the enablement of a hybrid-EnVAR system, which will also be addressed.