Séminaire ven 11 Déc 2009 11h / Seminar Fri Dec 11th 2009 11h

Conférencier/Lecturer:	William Burrows
	Cloud Physics and Severe Weather, EC
Sujet/Subject:	Dynamical-Statistical Models for
	Lightning Prediction
Présentation/Presentation:	Anglais / English
Lieu/Room:	Salle des vents (Dorval)

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

Résume/Abstract

Lightning prediction remains an inexact science because the physics of cloud electrification is not well understood. Numerical models exist but they are complex and not suited for operational use. Models for everyday use in public and aviation forecasts that extend beyond a few hours must be done by statistical or rule-based methods that infer lightning from NWP model output predictors. Models for spatially-continuous lightning probability prediction in three-hour intervals to 48 hours have run at CMC since 2003. New models were developed in 2006 to include 2 predictands:

1. "time-area coverage" of lightning (similar to probability), and

2. number of flashes per three-hours

Several derived predictors from deep convection parameterization and the environment in the GEM regional model are used. Model development is by tree-structured regression. The new models will be described and some verification statistics shown. Some features of 1999-2008 cloud-ground Canadian lightning climatology will be shown, and some new work on lightning nowcasts for areas beyond radar coverage will be described if time permits.