

Séminaire vendredi le 16 octobre 2015 11:00 / Seminar Friday October 16th 2015 11:00h

Sujet/Subject: Aerosols effects on the microphysical properties and the impact to Numerical Weather Prediction

Langue/language : Français/French

Conférencier/Lecturer: Caroline Jouan_(RPN)

Résumé/Abstract:

Precise numerical treatment of the effects of aerosols on cloud systems has proven challenging due to the complexity of aerosol-cloud-precipitation interactions. This study describes the implementation, sensitivity tests and results of a new representation of aerosols into the two-moment Milbrandt-Yau (MY2) bulk microphysics scheme using the Global Environmental Multiscale (GEM) NWP model. The scheme has been updated in order to incorporate a climatology of aerosols, that can serve as Cloud Condensation Nuclei (CCN), to initialize the concentration of cloud droplets in the model.

High-resolution (2.5-km horizontal grid spacing) simulations, using the 3D GEM atmospheric model over various domains in North America, were performed to test the scheme and examine the sensitivity of aerosols effects on short-term weather forecasts, including sensitivity experiments using different aerosol number concentration.