

ATS/CIRA Colloquium

Dan Lindsey and Steve Miller

From CIRA

**GOES-16: A New Era in Geostationary
Satellite Observations**

Hosted by Chris Kummerow

Friday, Aug. 25, 2017

ATS room 101

Discussion will begin at 11:15 a.m.

Refreshments will be served at 10:45 a.m. in the weather lab

After dodging a close-call with Hurricane Matthew, GOES-R was launched from Kennedy Space Center in Florida on 19 November 2016. Upon reaching geostationary orbit a few weeks later, it was officially christened as GOES-16, the first in a series of next-generation satellites operated by NOAA. The primary earth-viewing environmental instruments of GOES-16 are the Advanced Baseline Imager (ABI) and Geostationary Lightning Mapper (GLM). The ABI provides significantly improved spatial, temporal, and spectral resolution over previous-generation GOES imagers, while the GLM is a first-of-its-kind optical lightning detector in geostationary orbit.

Since the ABI opened its nadir door to the world and began collecting first-light imagery in early January of this year, CIRA has been assisting NOAA with the checkout and initial analysis of data from the ABI and GLM. Imagery from the ABI includes 500-m visible resolution and up to 30-second temporal sampling, allowing unprecedented observations of phenomena such as supercell thunderstorms, tropical cyclones, wildfires and their smoke plumes, and even sea ice (among others). Data from GLM come as real-time streaming lists of flash information, provided at the base granularity of “events”, “groups” of events, and “flashes” comprised of the groups, at roughly 10 km spatial resolution.

This seminar will highlight some of the initial data from the GOES-16 ABI and GLM and discuss potential research areas made possible by these new geostationary observations. Multispectral imagery capabilities from the ABI will be showcased as a way of communicating visually the rich information content. Data from interesting case studies are being saved and combined with data from other sources such as Numerical Weather Prediction (NWP) model fields and surface observations, including radar. These new data are a potential goldmine of information supporting research in the Atmospheric Science Department.

Link to colloquia page: <https://www.atmos.colostate.edu/colloquia/>