

Weather and Air Quality Forecasting Applications Workshop

July 22-23rd, 2019

Earth System Sciences Interdisciplinary Center, University of Maryland, College Park, Maryland
5825 University Research Ct suite 4001, College Park, MD 20740

Workshop Description

This two-day workshop will focus on current applications and future opportunities for NASA precipitation, cloud, and aerosol satellite data and products to support numerical weather prediction (NWP) and air quality forecasting activities. Hosted by the Global Precipitation Measurement (GPM) mission applications team, this invitation-only workshop will bring together representatives from operational agencies, companies and organizations with NWP modeling activities and air quality forecasting programs to discuss how GPM products could be better leveraged for NWP and forecasting efforts. The workshop will also include discussion of the Aerosol, Clouds, Convection and Precipitation (A-CCP) mission concept, and its potential for advancing NWP and Air Quality applications. A-CCP is currently undergoing a mission concept and architecture study as one of the Designated Observables identified in the National Academy of Sciences 2018 Earth Science and Applications from Space.¹

The main objectives of the workshop are:

- Technical presentations and discussions on how GPM data products and other data in NASA's current mission suite are being assimilated within NWP modeling and opportunities for future applications.
- Discussion of issues (challenges and barriers) related to the assimilation of satellite observations into NWP models (specifically for GPM) and opportunities for Air Quality forecasting
- Discuss how potential future measurements from the A-CCP concept study may be utilized by the NWP and Air Quality Forecast community, outlining the opportunities, needs, and challenges in directly using these satellite data products within this space
- Increase awareness of the needs of the NWP and Air Quality Forecast community for future research developments and collaboration.

Agenda description

Day 1: The day will start with an introductory session to outline current GPM status and products as well as outlining other relevant products from NASA's Earth science missions. There will then be a series of panels consisting of short presentations from participants with longer discussions after each. The day will conclude with a group discussion about the data needs, opportunities, and the view forward.

Day 2: The day will begin with an overview of the A-CCP study concept. The day's remaining program will be organized by thematic discussions on Weather and Air quality forecasting

¹ <https://science.nasa.gov/earth-science/decadal-surveys>

perspectives to highlight potential applications of A-CCP observing products within the applications communities. A goal for these discussions is to provide feedback on the A-CCP Science and Applications Traceability Matrix (SATM), which is an encapsulation of the goals and eventual implementation approach to the A-CCP mission. The outcome of the day will be a summary discussion that addresses the needs, opportunities, and barriers to the adoption and use of Earth observation within these application communities.

Workshop Outcomes

- 1) Series of highlights (PPT and other format) emphasizing how the NWP and Air Quality communities are using GPM and other relevant NASA products.
- 2) White paper that highlights the current status of NWP for assimilating GPM (and other relevant NASA EO data) into their models as well as the opportunities for future uptake given potential measurements that come out of the A-CCP concept study. Peer-reviewed article (tentatively for BAMS) will be an outcome from the white paper.
- 3) Workshop summary for EOS
- 4) Direct input to inform A-CCP's SATM and Applications Library documents

For questions regarding this workshop please contact Dalia Kirschbaum (dalia.kirschbaum@nasa.gov)

Lodging

[Courtyard by Marriott Greenbelt](#)

6301 Golden Triangle Dr,
Greenbelt, MD 20770
[\(301\) 441-3311](tel:(301)441-3311)

[Hilton Garden Inn](#)

7810 Walker Drive
Greenbelt, MD 20770
[\(301\)-474-7400](tel:(301)474-7400)

Parking & Transportation

Complementary parking is available at the Workshop venue. Transportation (via hotel shuttle) is provided from the hotels above to the venue.