

ATS/CIRA Colloquium

Belay B. Demoz
from University of Maryland

Hosted by Amanda Back and Emily Fischer

3 p.m. Thursday, March 9
ATS 101 and Zoom

The PBL Profiling Decade?
The Struggle for a Boundary Layer Profiling Network In the US

The critical need for planetary boundary layer (PBL) profiling network in weather forecasting has been known since the mid-80's and may be even before. Since that time, there have been so many studies that asked for the establishment of a national network of profiling observations of the thermodynamic and dynamic properties. The 2009 National Academy Committee report "Observing the Weather and Climate from the Ground Up: A Nationwide Network of Networks" is perhaps the best known and made the case for a thermodynamic profiling of the immediate atmospheric layer PBL. Since that report, the call for profiling of the PBL has increased from all corners of the funding agencies including the recent Decadal Survey report by NASA. Despite the clear and demonstrated need and the many "screams", we have not progressed far in establishing a nationwide PBL profiling capability yet. The few instrumented profiling networks that exist (e.g the New York State profiling Meso-net station and the UMBC-led ceilometer lidar network) and others need to be expanded and a coordinated and systematic study of the value of the measurement to forecasting improvement made. I will discuss what has been done and some of my group is contributing to the narrative and improving the science with the limited network we have. I will address challenges, promises, and prospects of future weather and climate profiling network.

Colloquia page: atmos.colostate.edu/colloquia