



ATS/CIRA Colloquium

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Visiting ATS from NCAR

Lightning Impacts on Airline and Airport Operations

Hosted by Russ Schumacher

Friday, April 24, 2015

**ATS room 101; Discussion will begin at 11:15am
Refreshments will be served at 10:45am in the weather lab**

Thunderstorms and lightning pose a safety risk to personnel working outdoors. Airport and airline operators, therefore, employ safety procedures that include observations and warnings of the onset and duration of lightning hazards. Ramp closures are needed to ensure the safety of outdoor personnel servicing gate-side aircraft. Yet halting outdoor work delays air traffic and can cause ripple effects beyond the impacted airport.

The presentation will discuss observed impacts of lightning-induced ramp closures on departing and arriving air traffic across the United States and examine today's ramp closure decision-making process and associated uncertainties. The results demonstrate that ramp closures can have substantial impacts on air traffic. Moreover, varied sources of lightning information, a choice of safety procedure, and limitations on implementation effectiveness yield large uncertainty that operators have to appreciate for balancing personnel safety and operational efficiency.

Improvements are needed to better diagnose lightning threats and predict these threats into the near future to enable proactive decisions. Management of the envisioned future trajectory-based gate-to-gate flight operations will have to account for all possible delays and associated uncertainties, including those resulting from lightning-induced ramp closures.

Link to colloquium videos and announcement page: <http://www.atmos.colostate.edu/dept/colloquia.php>