Infrastructure Thoughts

Friends and Partners of Aviation Weather
Summer Meeting 2017

Warren Qualley- Manager Meteorology

Infrastructure Needs from Gov't

- Basic data
  - Surface observations
  - Upper air observations
  - Land-based remote observations
    - Radar (NEXRAD, TDWR)
    - Space weather sensors
    - Volcanic Ash sensors
  - Space-based remote observations
    - GOES, POES, other satellites
    - Space weather sensors
- Space weather detection systems to alert for potential interruptions to communication, navigation, and surveillance
- Volcanic ash monitoring systems and automated dispersion models
- Wake turbulence avoidance

Southwest

Infrastructure Needs from Gov't (cont'd)

- Derived Data
  - Systems
    - E.g. ITWS, CIWS, MRMS, CoSPA, Wake Turbulence
    - From ADDS
      - E.g. GTG, Icing
  - Synoptic and meso-scale models
    - Including volcanic ash dispersion models

Southwest

Data from Airlines

- Over 100 Southwest Airlines aircraft are equipped with water vapor sensors
  - UPS Airlines and Lufthansa also have participating aircraft
- Several airlines provide thousands of wind/temp air reports
- Many other U.S. and foreign airlines provide wind/temp data to enhance global models
- Government agencies reimburse a portion of the communication costs for the data

BOTTOM LINE: CONTINUE WITH THIS PARTNERSHIP BETWEEN AIRLINES AND GOVERNMENT AGENCIES!

Southwest

Infrastructure Needs (cont'd)

- Agencies need to continue providing current infrastructure
- Cooperation between agencies generally good but can/should be improved; this is critical!
- Increased transparency needed
  - E.g. ASOS equipment status and ETR information needed

Southwest

Infrastructure Needs (cont'd)

- Suggest agencies be more open to commercial solutions to infrastructure
  - Observations (e.g. satellite)
  - Systems
  - Cloud storage and computing
  - Modelling
- Understand that policy will need to be addressed
- Commercial entities often more agile than agencies can be

Thank you!!