Terminal Ceiling & Visibility

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Terminal Ceiling & Visibility

- Purpose: Increasing effective NAS capacity through efficient commercial Traffic Flow Management
  - Avoid unused available capacity at transitions into and out of IMC
  - Manifested through efficient Ground Delay Programs (GDPs)
  - Target efficiency gains at high impact terminals where delay impact extends throughout NAS (e.g. downstream effect)

Annual C&V event frequency at high delay airports

Most Delays per 1000 Ops
1. New York Laguardia
2. Newark International
3. Chicago O'Hare Int
4. San Francisco Int
5. Boston Logan Int
6. Philadelphia Int
7. New York Kennedy Int
8. Atlanta Hartsfield Int
9. Houston Int
10. Dallas-Fort Worth Int

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Projects to Date

SFO Marine Stratus Forecast System

Northeast Winter Ceiling & Visibility
Recent Work: Improving tactical C&V forecasts

- Adapting approach used for development of precipitation phase forecast

- Exploit high resolution data
  - Radar, satellite, and frequent (1-min) surface obs
  - Relies on stable, statistically-derived diagnosis
  - Adapt track and advect technology

- Provide a stable, frequently updated forecast based on evolution of regional conditions
Benefiting from forecast improvements

- Traffic Flow Management policy must adapt to benefit from improvements to forecast and movement toward probabilistic representation

- In San Francisco…
  - TFM reluctant to proactively end delay programs
  - From individual ATM perspective, risk outweighs reward
  - Implies need for explicit (pre-defined), collaborative risk management of “missed” forecasts
  - SFO candidate trial platform for automated GDP algorithm

- Vision
  - Complete terminal forecast, including all capacity-restrictive wx (C&V, wind, wet runways, etc.)
  - Integrate operational information (runway configuration, airport acceptance rate, traffic demand)
  - Incremental step toward NGATS “Evaluator”