

Panasonic

Panasonic Weather Solutions



Panasonic Avionics Corporation



TAMDAR

FlightLink Satcom

Wind

Temperature

Moisture (RH)

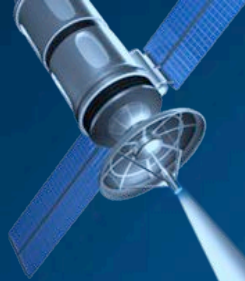
Icing

Turbulence (EDR)

Pressure Alt

GPS Alt

Each TAMDAR probe has **3 RH sensors** inside.







FLIGHT LINK

GLOBAL AIRCRAFT COMMUNICATION & TRACKING

Iridium / Ku-Band Satellite Communications
Broadband, Voice & Data

Aircraft Flight Tracking & Dynamic Event Alerting




4-D Atmospheric Data Capture and prediction,
TBO and CDA

  20  

AIRCRAFT

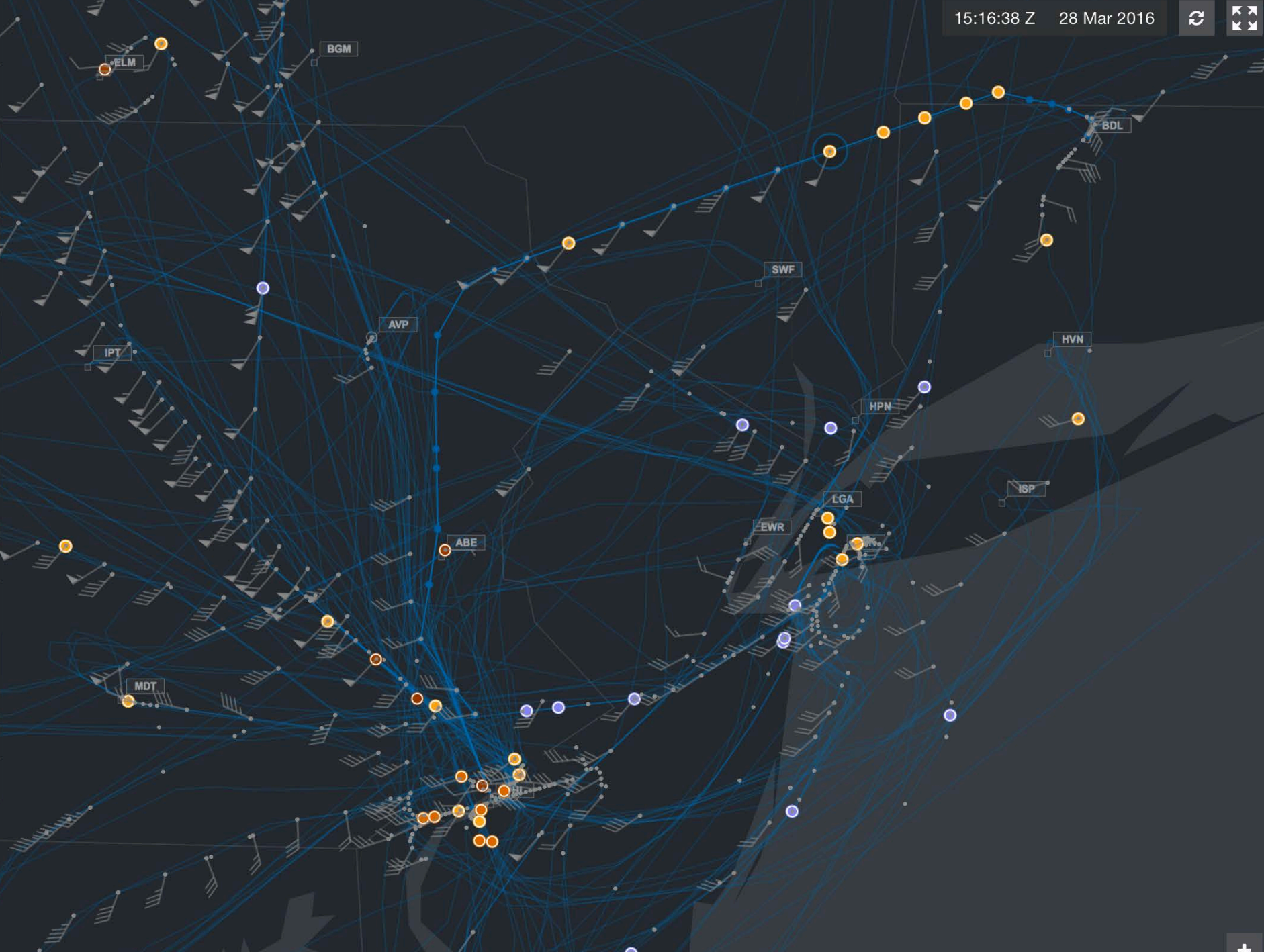
GPS Altitude	16,250 ft
Pressure Altitude	16,320 ft
Indicated Airspeed	192 kts

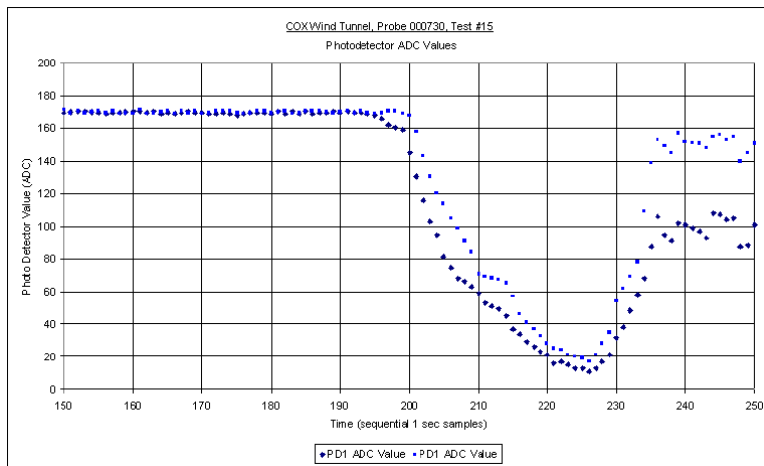
WEATHER

Wind	Turbulence	Icing
 50 kts 204°	 0.2 Peak EDR 0.0 Avg EDR	 None
Air Temperature	-10.6 °C	
Relative Humidity	100.0 %	

POSITION

Coordinates	41° 54' 24.01" N 73° 47' 24.00" W
14:27:07 Z 28 Mar 2016	

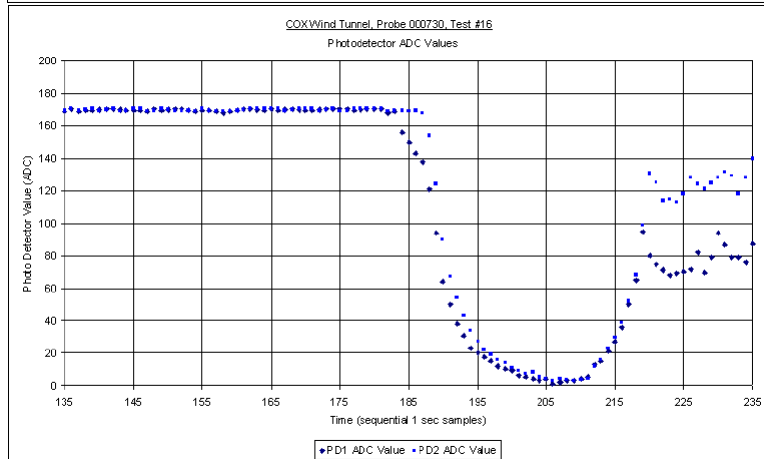




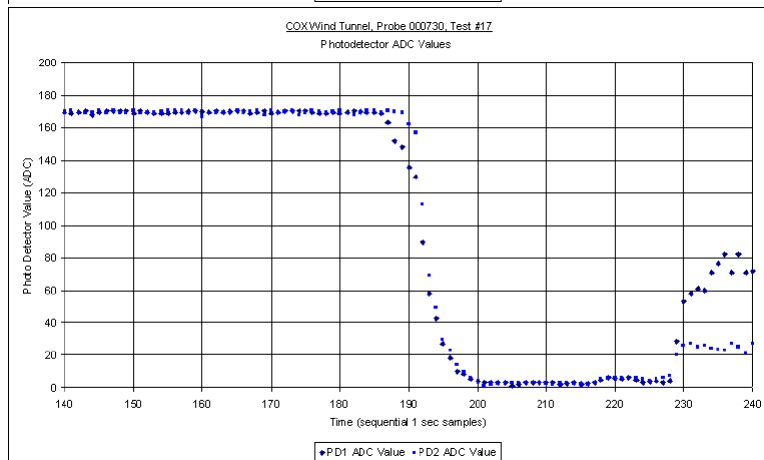
Plot of ADC (Voltage) values versus time (sequential 1 second samples)

MVD = 20
 TAS = 145
 Temp = -15
 LWC = 0.50
 Light

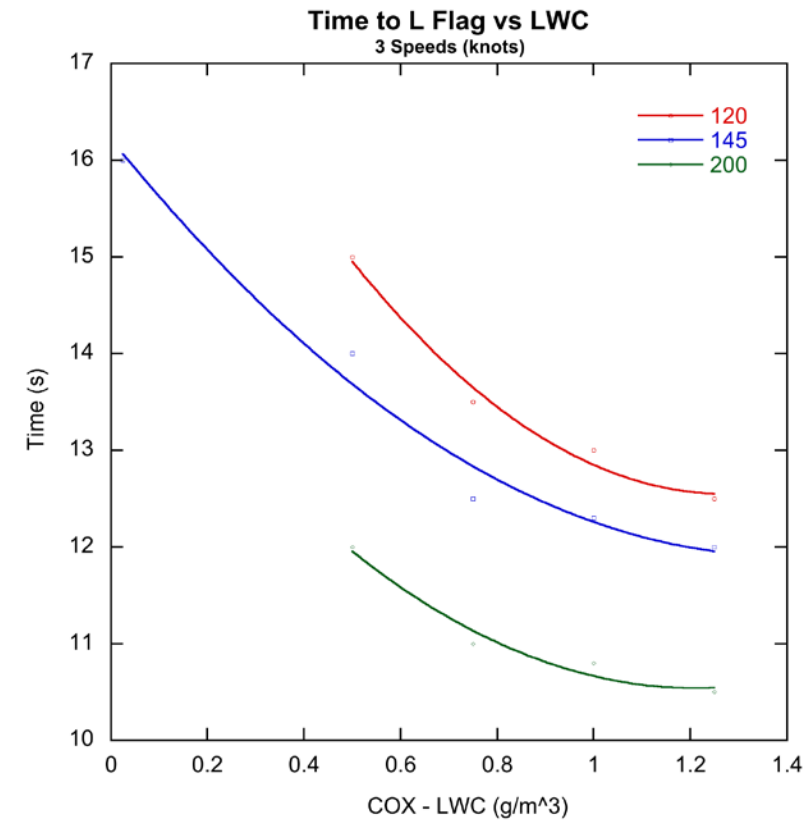
Intensity	Supercooled Water Content (g/m^3)
Trace	0 – 0.1
Light	0.1 – 0.6
Moderate	0.6 – 1.2
Severe	>1.2



MVD = 20
 TAS = 145
 Temp = -15
 LWC = 0.75
 Moderate



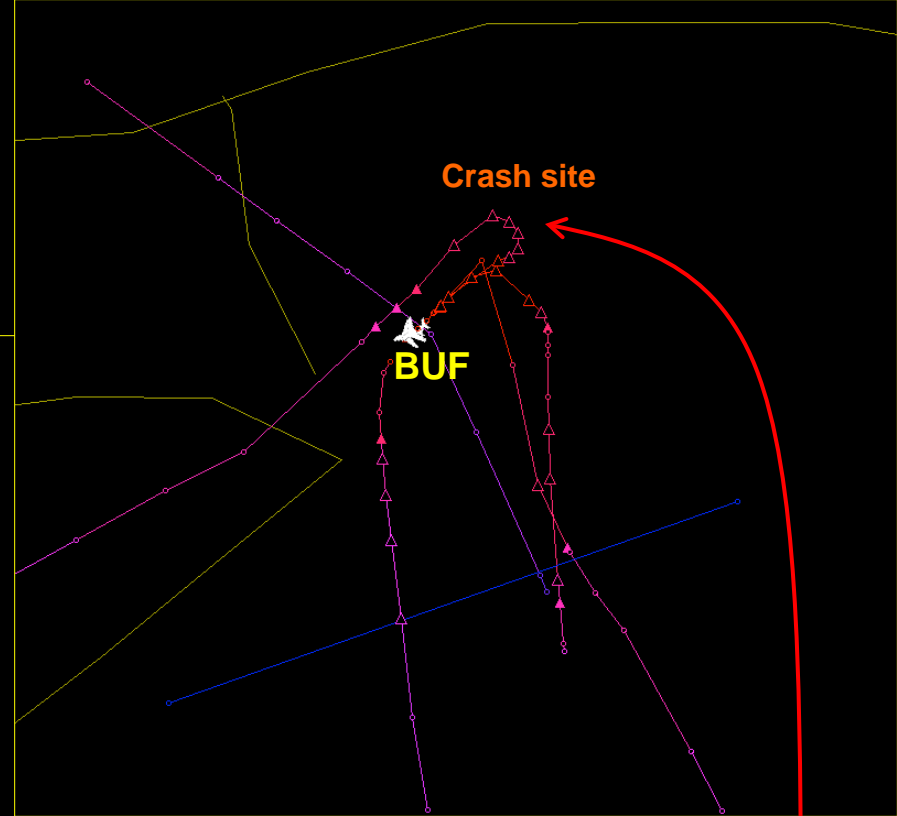
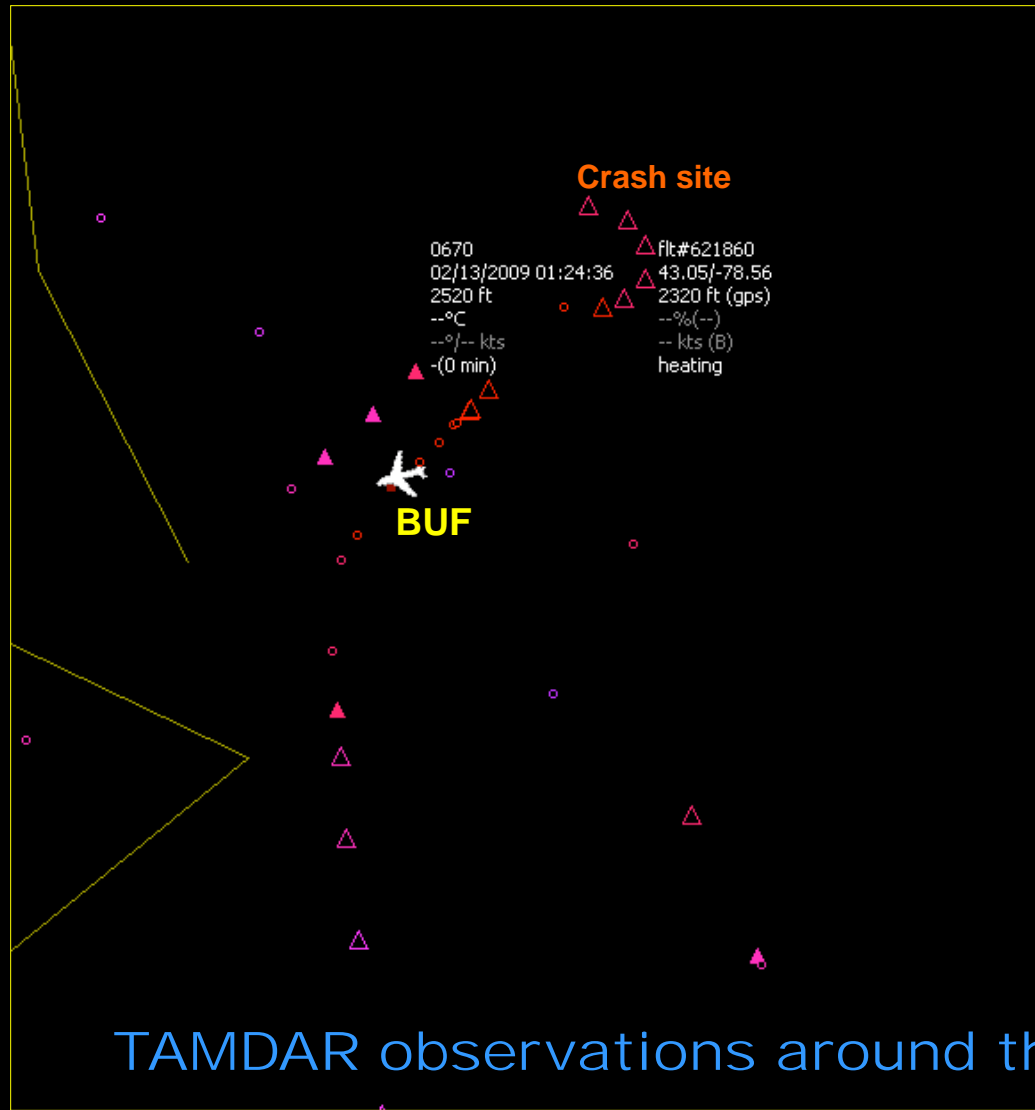
MVD = 20
 TAS = 145
 Temp = -15
 LWC = 1.00
 Severe



Icing intensity measurements

The 2 images show TAMDAR data from flights into/out of BUF +/- ~3h from 10 pm.

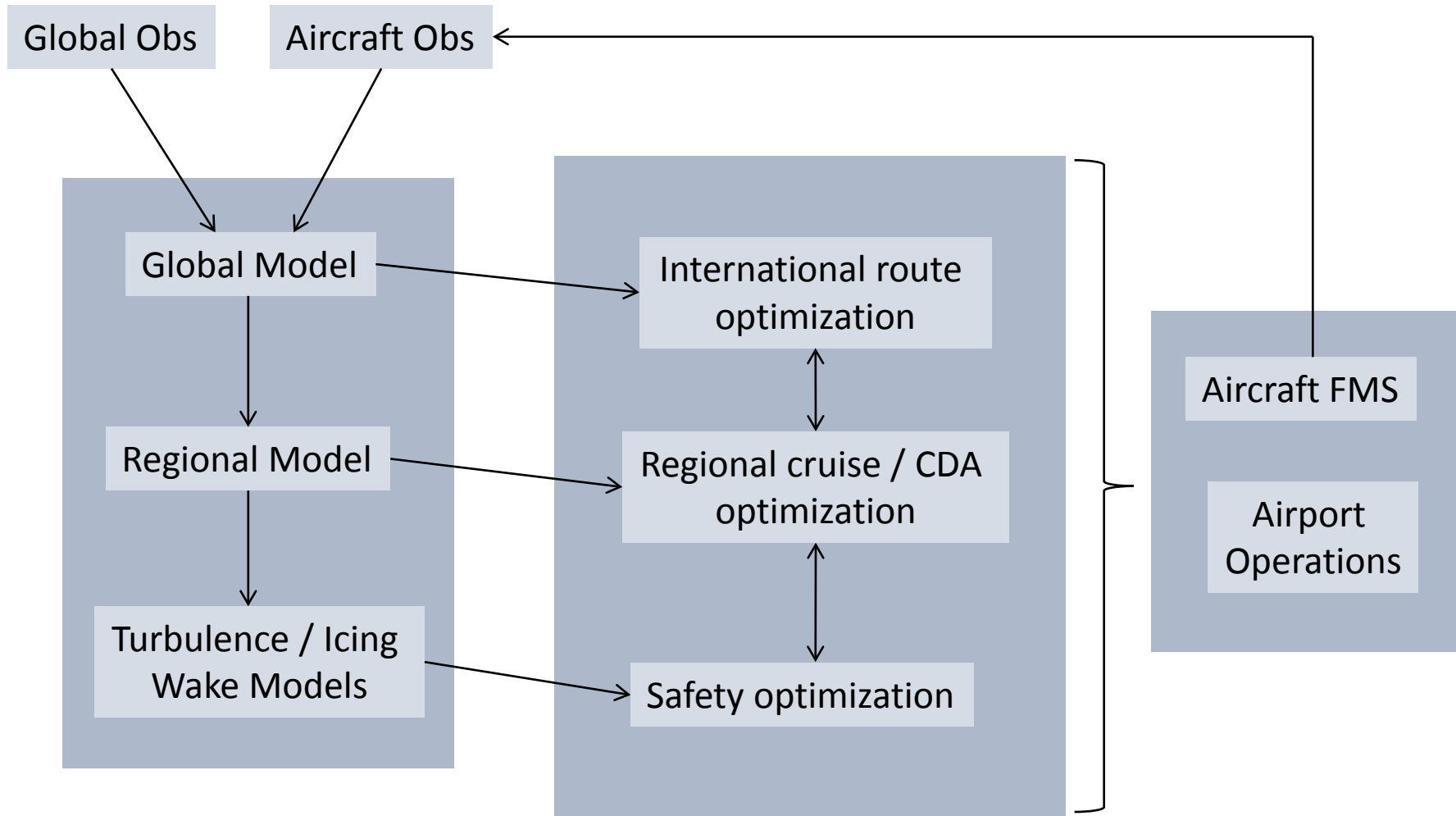
The solid triangles indicate icing, and the hollow triangles indicate icing with heaters activated.

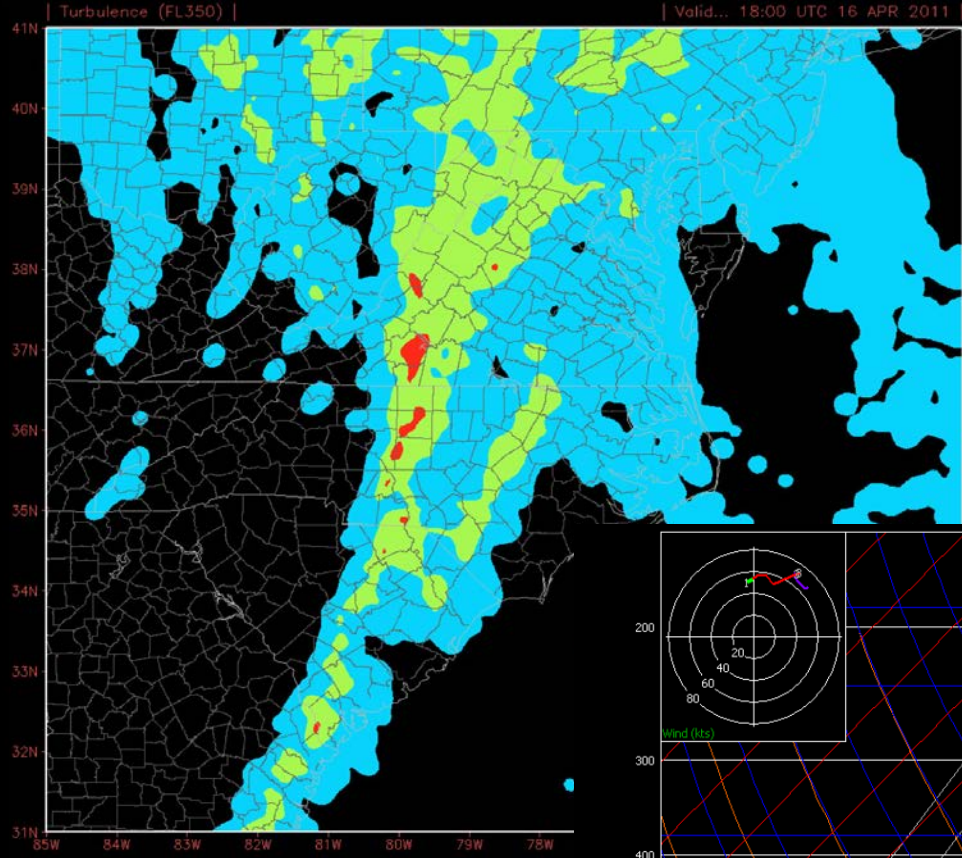
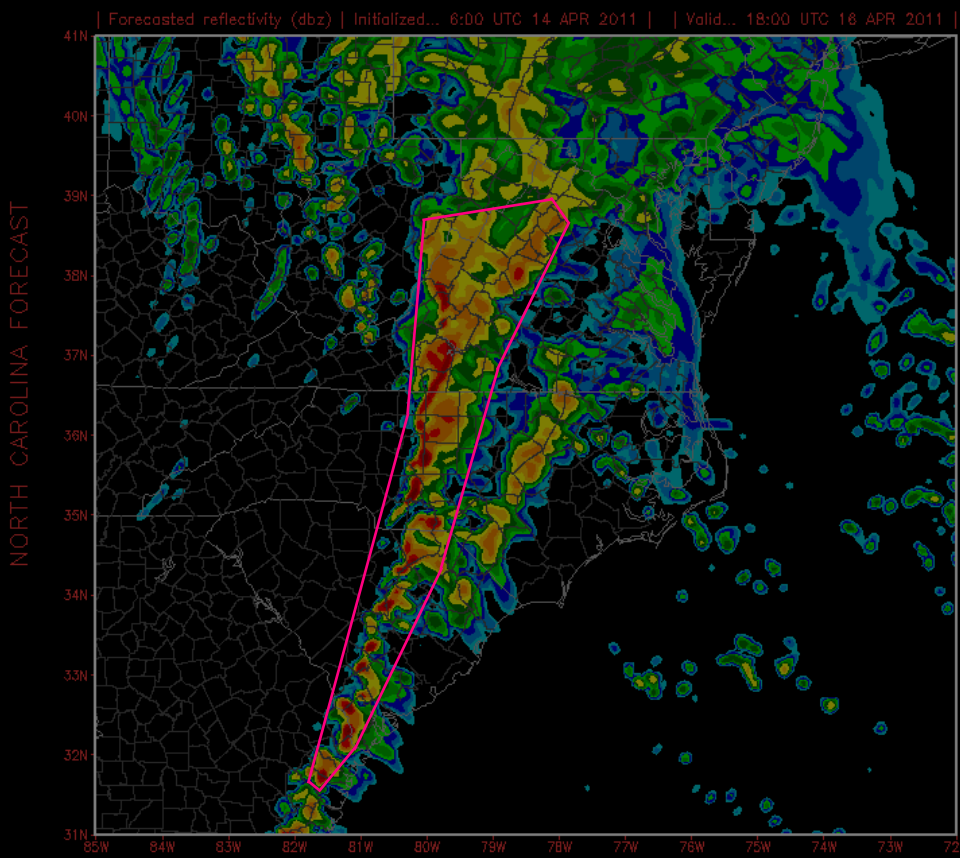


The TAMDAR heater *remains* activated throughout the descent, so the ice accretion rate is $> 0.02'' / \text{min}$.

TAMDAR observations around the time of the Colgan crash

Panasonic Aviation Forecasting





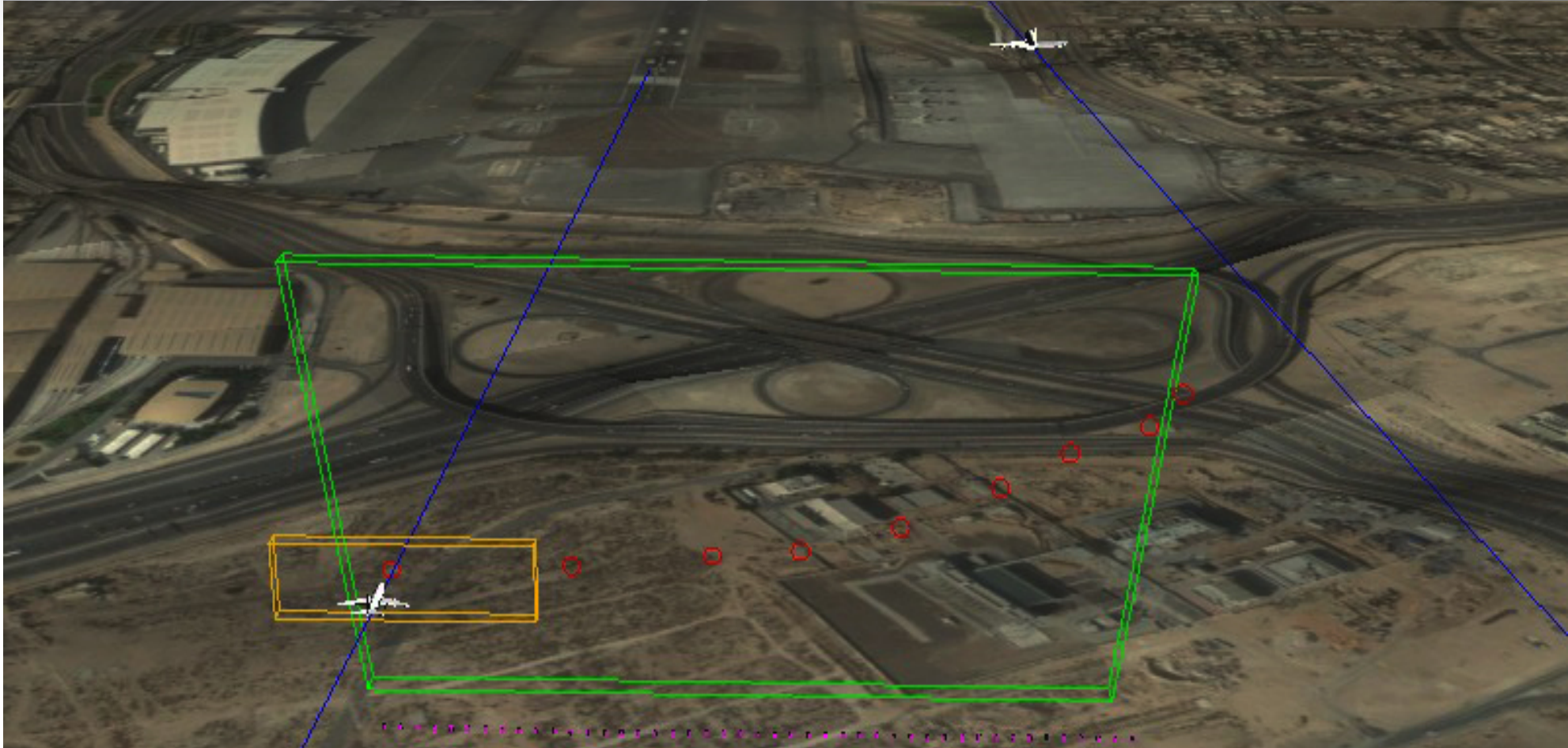
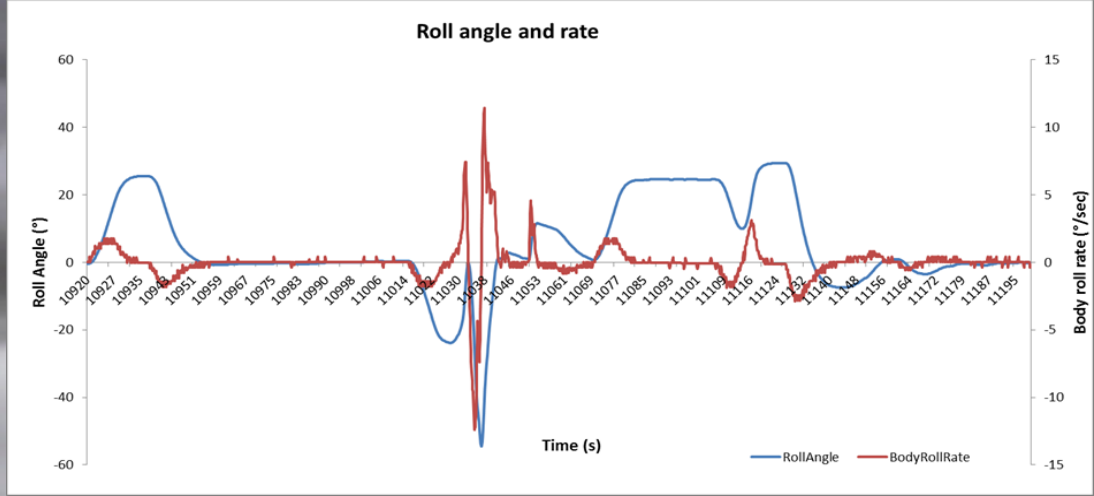
Turbulence forecast model output FL350



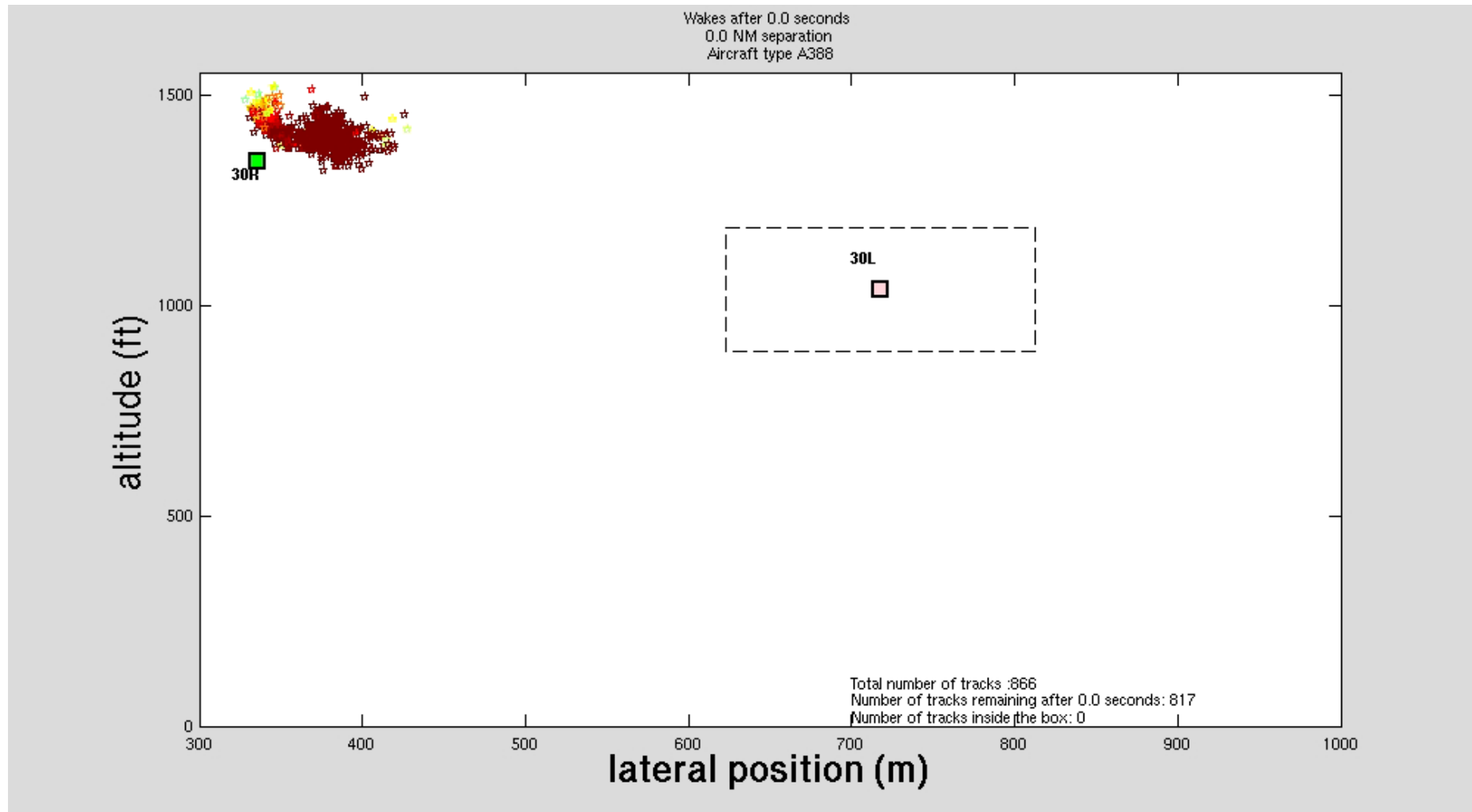
Polygon-based avoidance tool for dynamic flight route optimization

RDU TAMDAR flights prior to storms



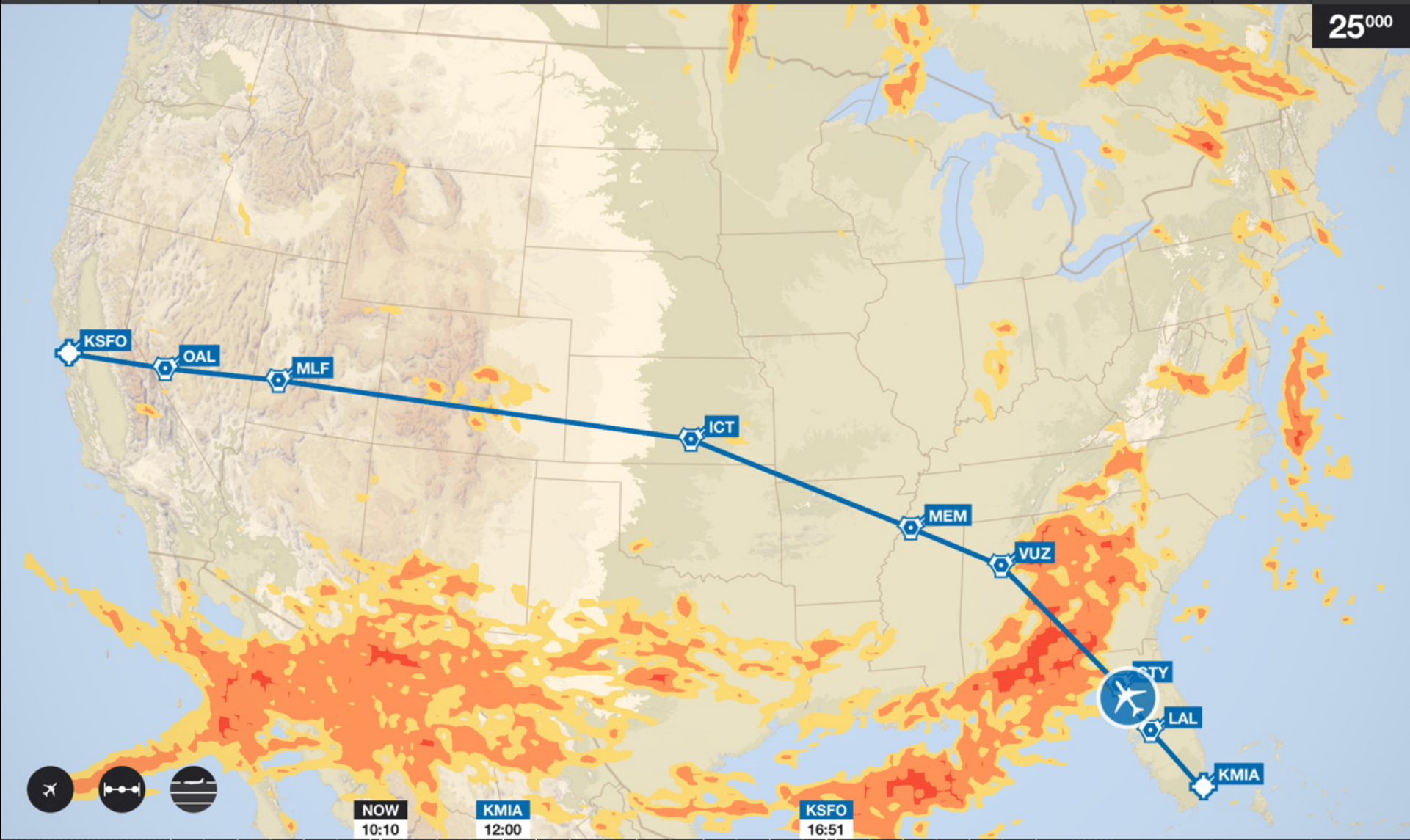


Panasonic-AVTECH Wake Vortex Prediction





25000



NOW
10:10

KMIA
12:00

KSFO
16:51

12³⁰ Z

PWS Fcst Turb

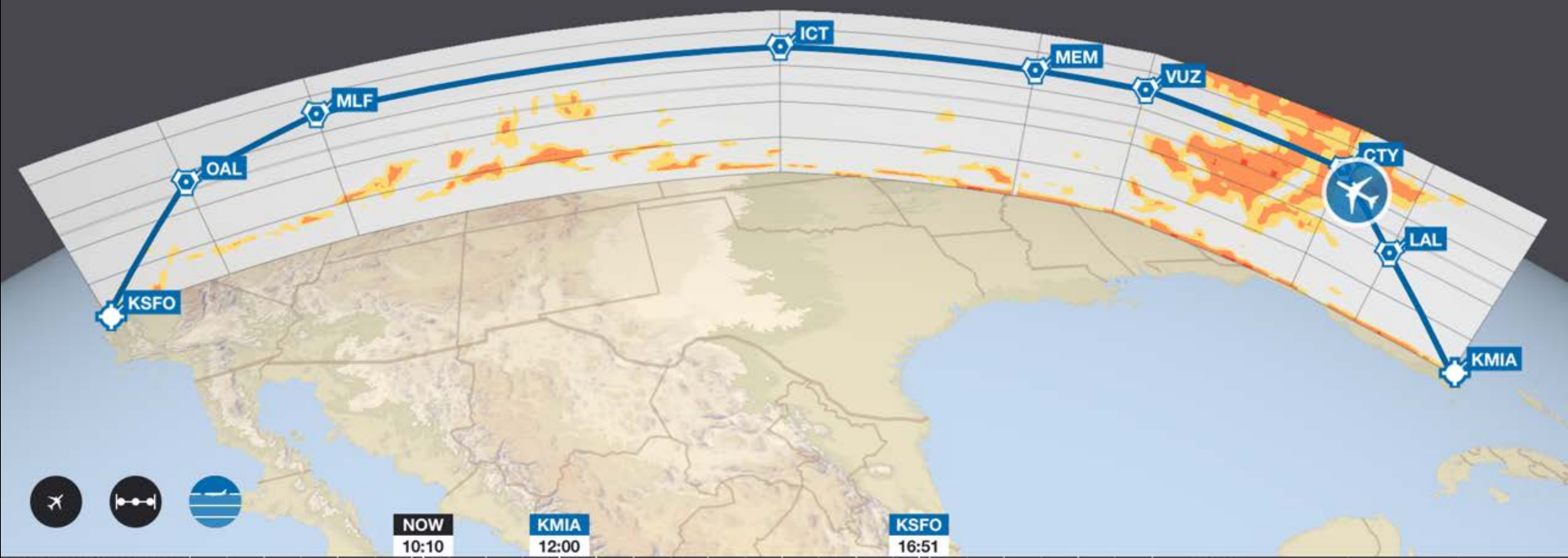




4DAERO
PWS Panasonic Weather Solutions



25⁰⁰⁰



NOW
10:10

KMIA
12:00

KSFO
16:51

08

10

12

14

16

18

20

PWS Fcst Turb

12³⁰ Z



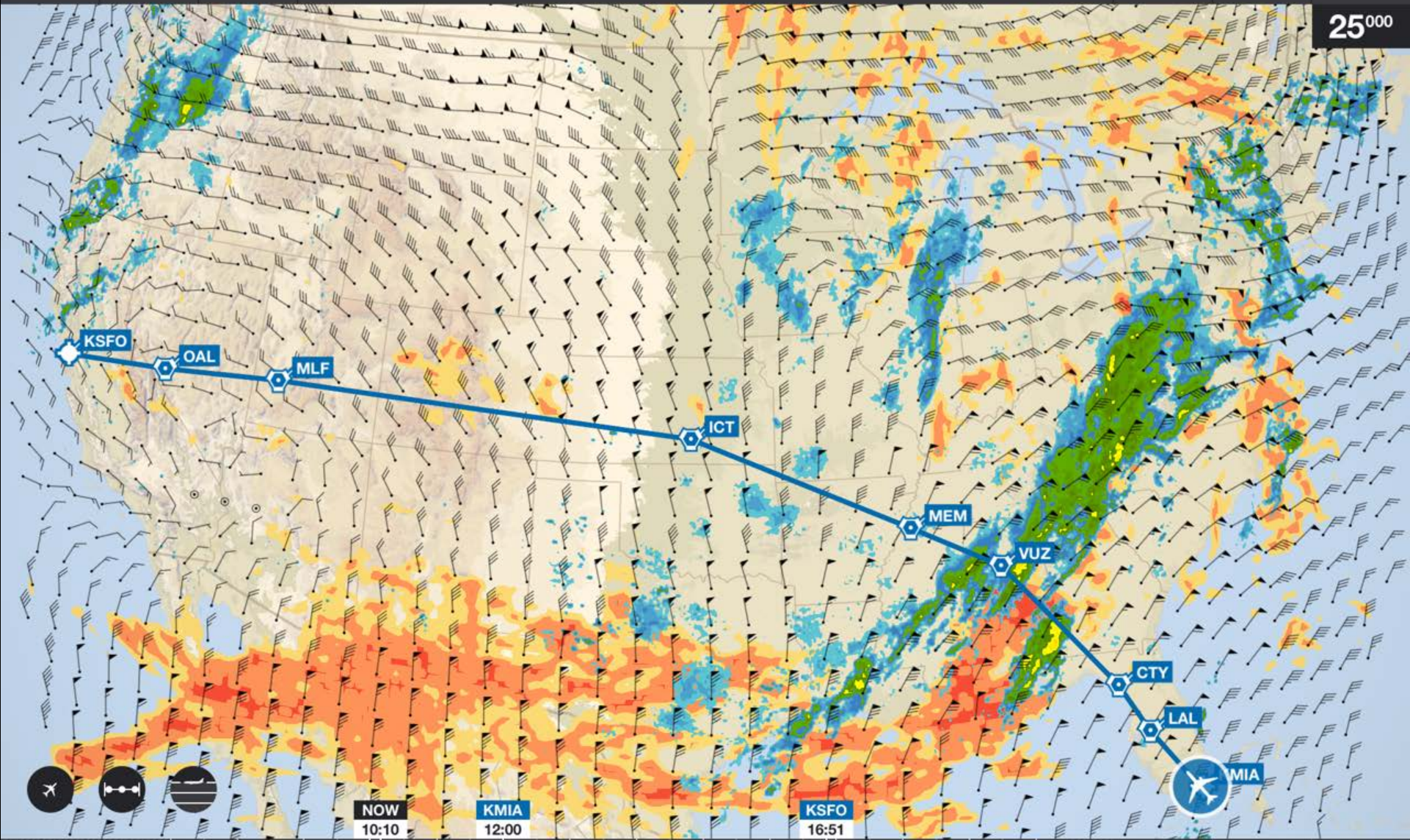


4DAERO

PWS Panasonic Weather Solutions



25000



NOW 10:10

KMIA 12:00

KSFO 16:51

08

12

14

16

18

20

PWS Fcst Turb
 PWS Fcst Winds
 Radar

10⁰⁰ Z

