

DCA23FA428

METEOROLOGY

Specialist's Factual Report - Attachment 2
NCAR Graphic Turbulence Guidance Nowcast (GTGN) Review
August 29, 2023

DAL 175 Accident

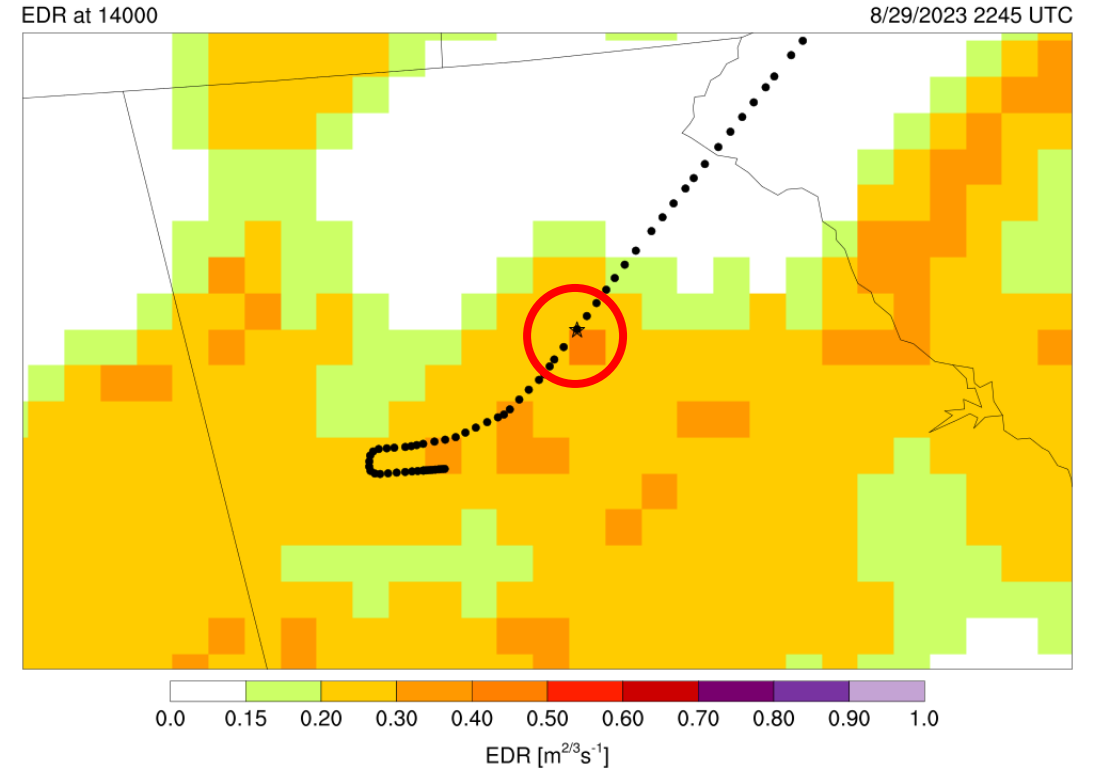
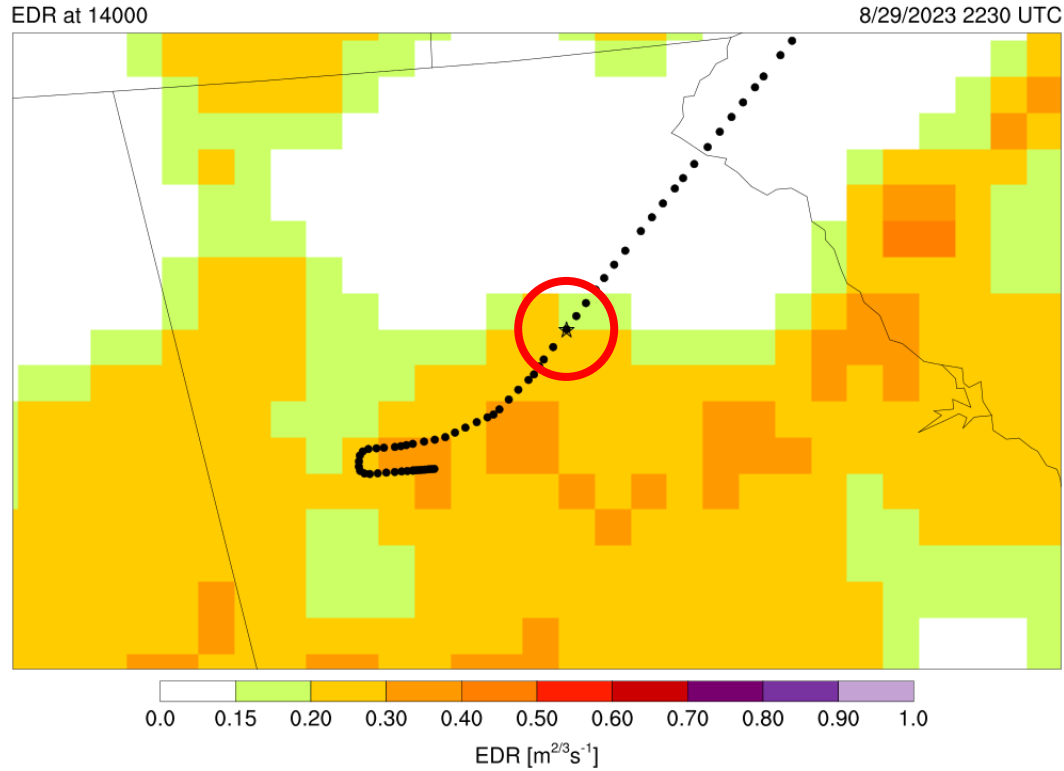
August 29, 2023 at 2232 UTC

Descending through 14k feet

Accident Info

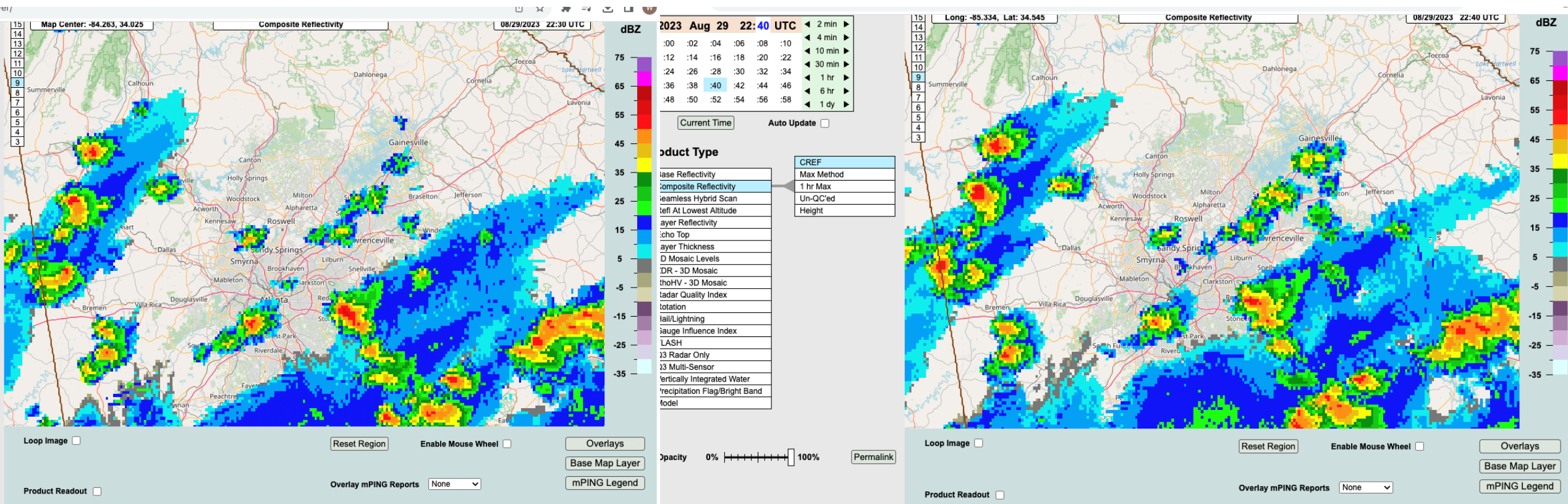
- From NTSB: Atlanta TRACON (A80) Tuesday, August 29, 2023, at 6:32 p.m. EDT: (Delta) DAL175/H/A359 was enroute from the Milan Malpensa (LIMC) Airport to the Atlanta (ATL) Airport, and encountered severe turbulence in the vicinity of the OZZZI waypoint, descending through 14,000 feet. An unspecified number of injuries were reported to flight attendants and passengers, of unknown severity. Eight passengers and four flight attendants have been transported to a local hospital.
- Lat/Lon from flight track: 34.078, -83.853,
- Altitude: 14,000ft
- Time: 2232UTC

Real time GTGN from 2230 and 2245 UTC at 14,000 ft

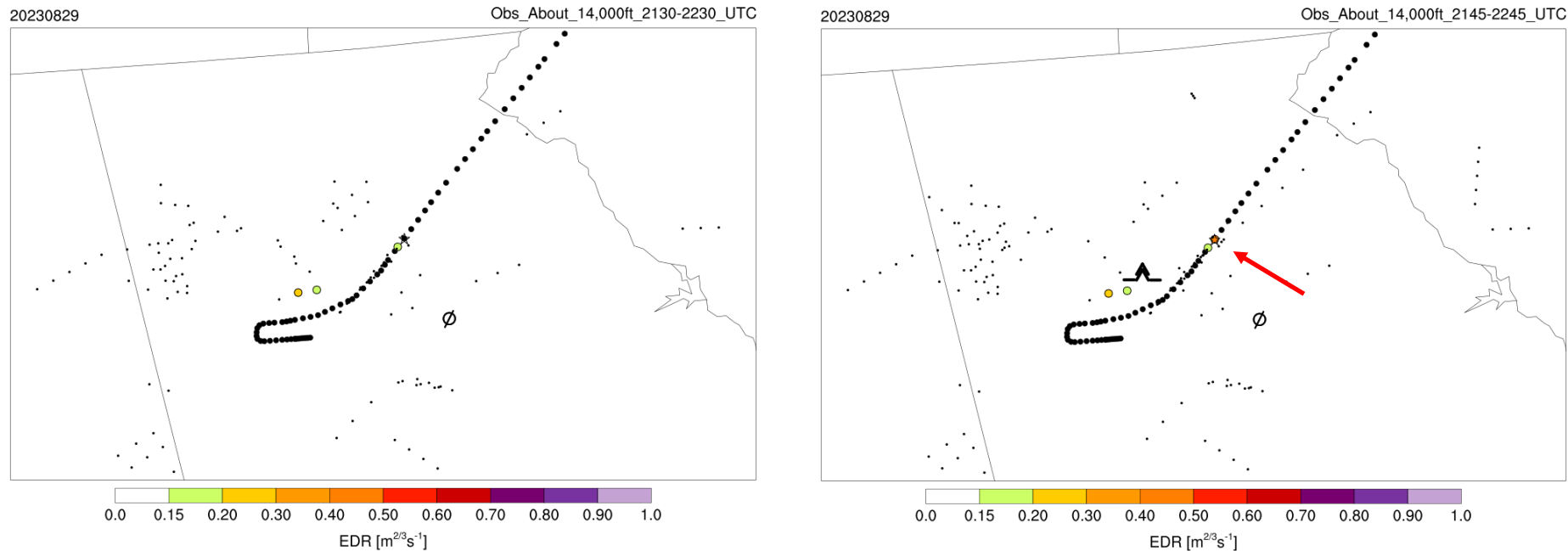


Flight track shown as black dots. Accident location along flight track indicated by black star and circled in red. GTGN nowcast EDRs in the range of 0.2-0.3 and 0.4-0.5 at event location.

NSSL composite radar reflectivity at 22:30 and 22:40 UTC indicating developing convective cells

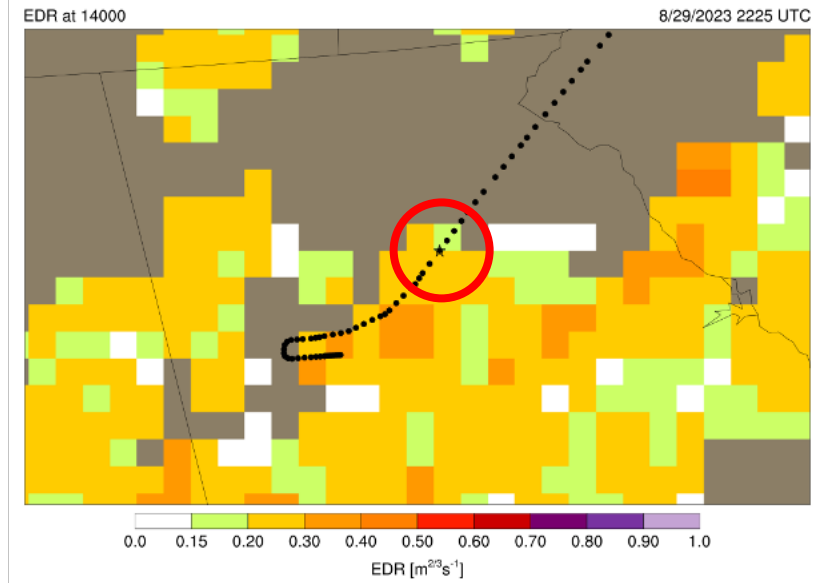
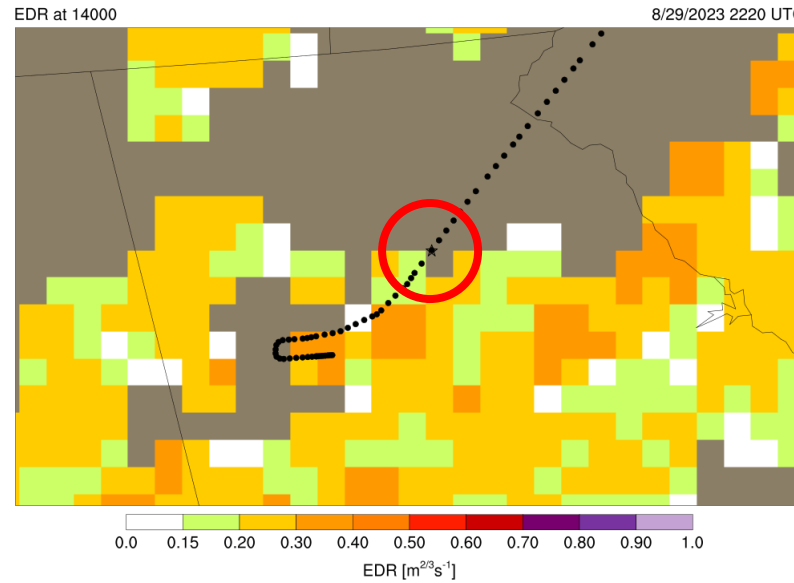
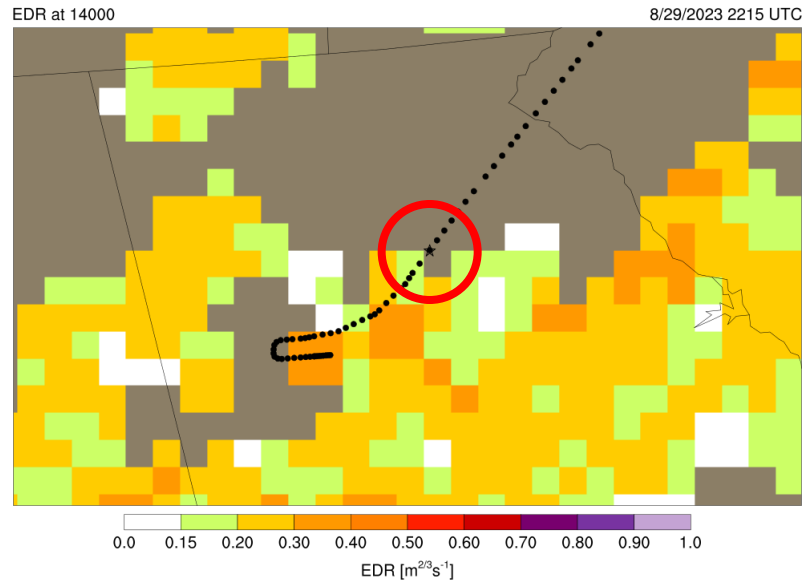


In situ EDR & PIREPs input into GTGN updates from 2230 and 2245 UTC at 14,000ft



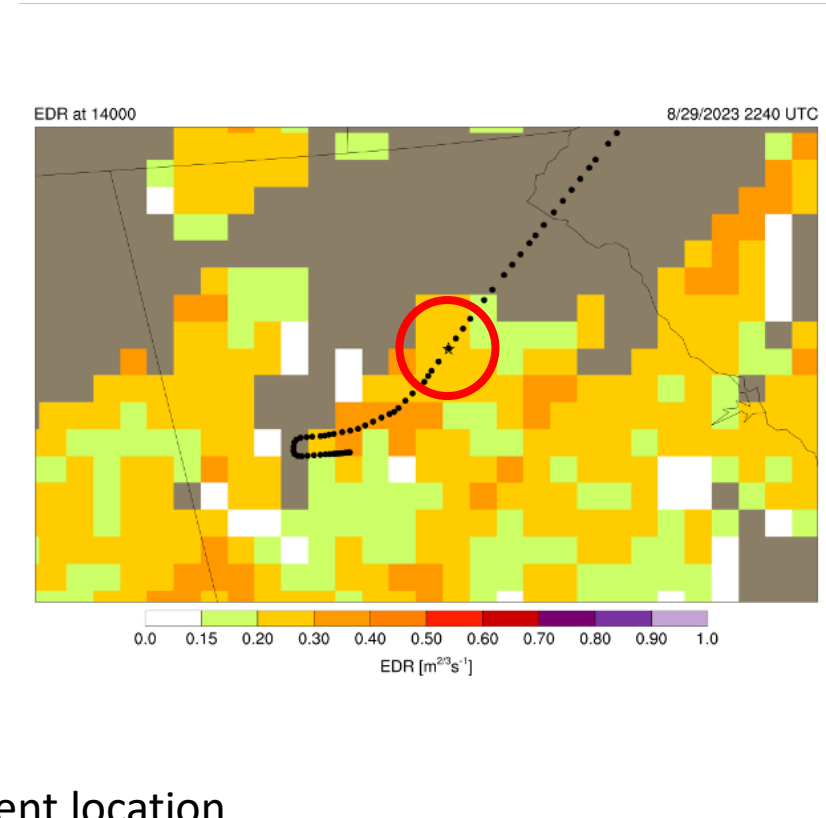
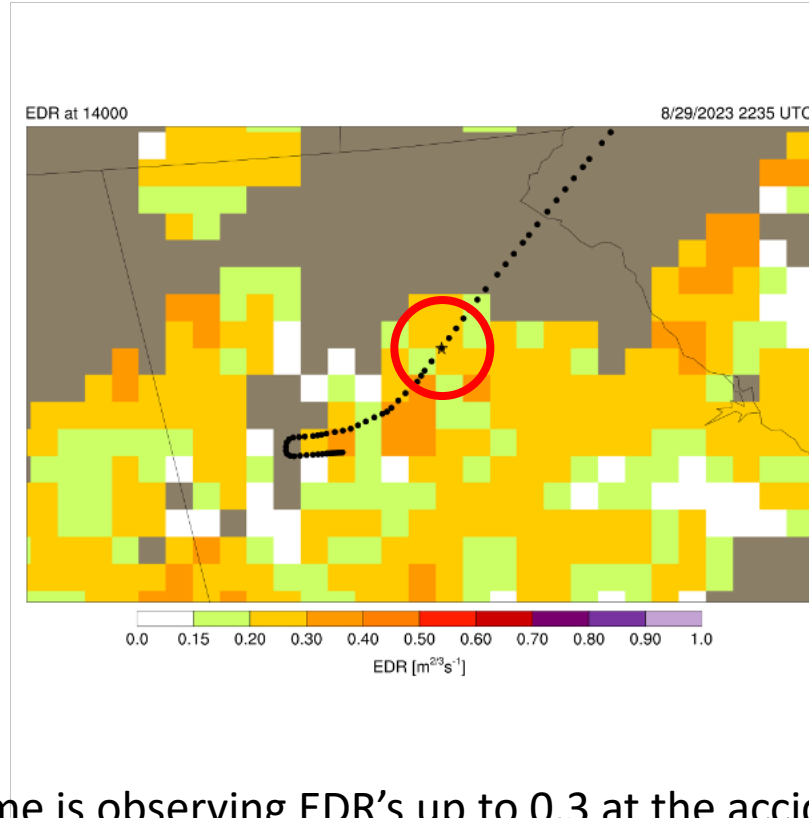
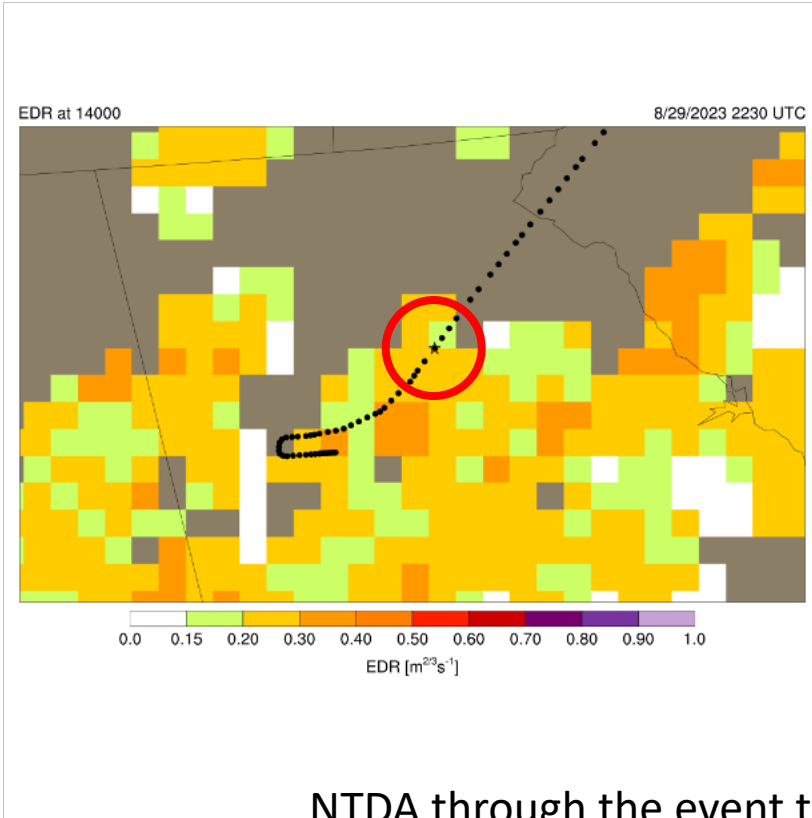
EDR report from SWA aircraft flying along a similar flight path reported an EDR of 0.42 at 22:33:20 UTC at 14,070ft and a lat/lon of 34.079, -83.852, approximately one minute after and in the immediate vicinity of the DAL incident. (Shown above as circle colored dark orange and co-located with star indicating accident location, see red arrow.)

NTDA from 2215 – 2225 UTC at 14,000 ft. – Input to GTGN at 2230 UTC



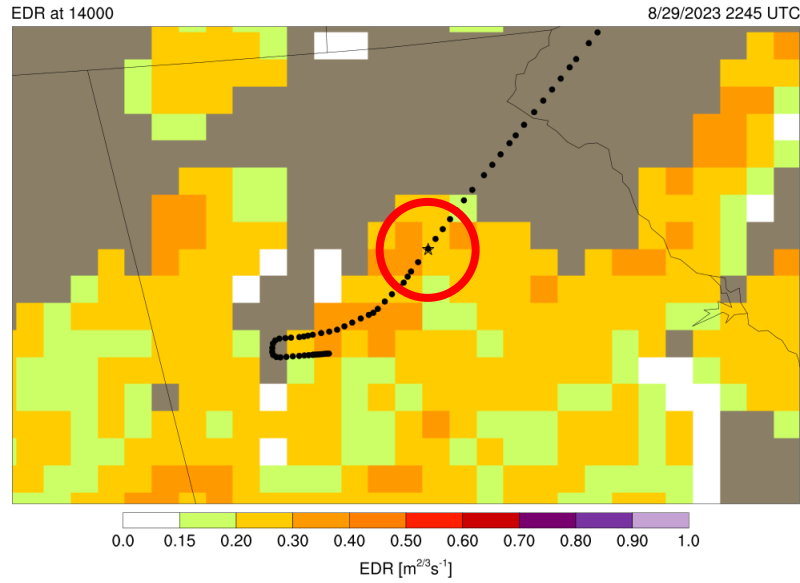
NTDA prior to event is observing EDR's up to 0.3 at the accident location

NTDA from 2230 – 2240 UTC at 14,000 ft. – Input to GTGN at 2245 UTC



NTDA through the event time is observing EDR's up to 0.3 at the accident location

NTDA at 2245 UTC at 14,000 ft.



- NTDA reported after the event time at 2245 UTC is observing EDR's up to 0.3 at the accident location and higher in the immediate vicinity
- The developing convective cell at the time of the accident make forecasting in real time a challenging problem.

GTGN summary

- The GTGN update prior to the event issued at 2230 UTC for 14,000 feet nowcast EDR at the event location in the 0.2-0.3 range.
- The GTGN update issued at 2245 UTC for 14,000 ft that contained the the in situ EDR reported as 0.42 in the immediate accident vicinity nowcast EDR at the event location in the range of 0.4-0.5.
- NCARs research suggests EDRs in this range generally correspond to moderate to severe turbulence for this class (heavy) of aircraft.
- Rapidly developing convective cells at the time and location of the accident, along with data transmission and GTGN update rates, make forecasting this type of event challenging. GTGN does, however, supply nowcasts corresponding to observed severity in near real time.