



National Transportation Safety Board



Hageland Aviation
Cessna 208B Grand Caravan
October 2, 2016
Togiak, Alaska

Shaun Williams
Investigator-in-Charge

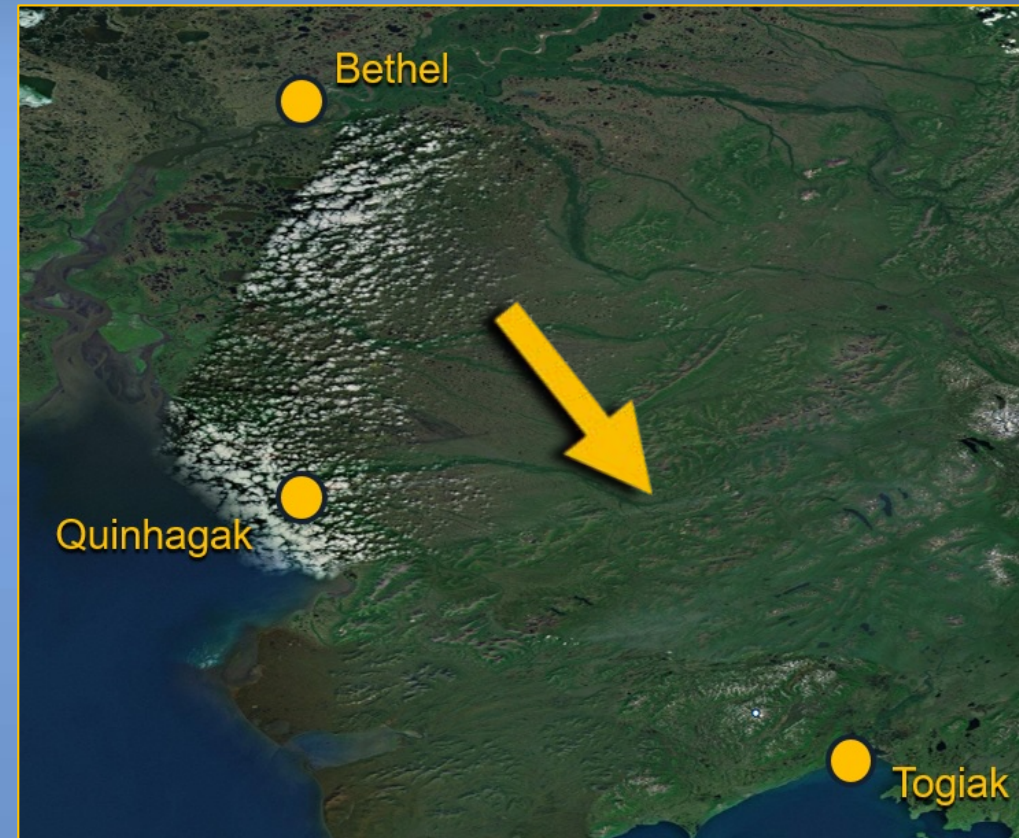
History of Flight

- October 2, 2016, about 1157 Alaska daylight time
- Cessna 208B, Grand Caravan
- Hageland Aviation Services, dba Ravn Connect
- Near Togiak, Alaska
- Two pilots and passenger fatally injured
- Part 135 scheduled commuter, visual flight rules (VFR)

History of Flight

First Leg: Bethel to Togiak

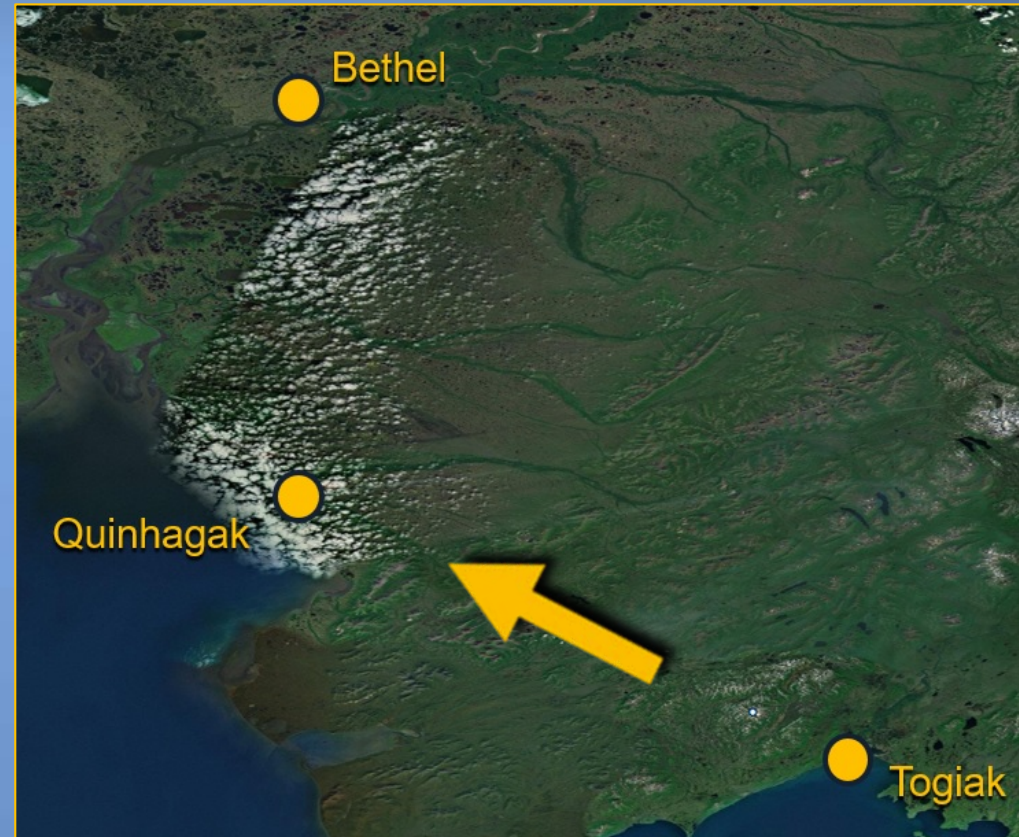
- Departed at 0927
- Arrived at 1029
- Altitude about 1,000 ft msl (500-700 ft agl)



History of Flight

Second Leg: Togiak to Quinhagak

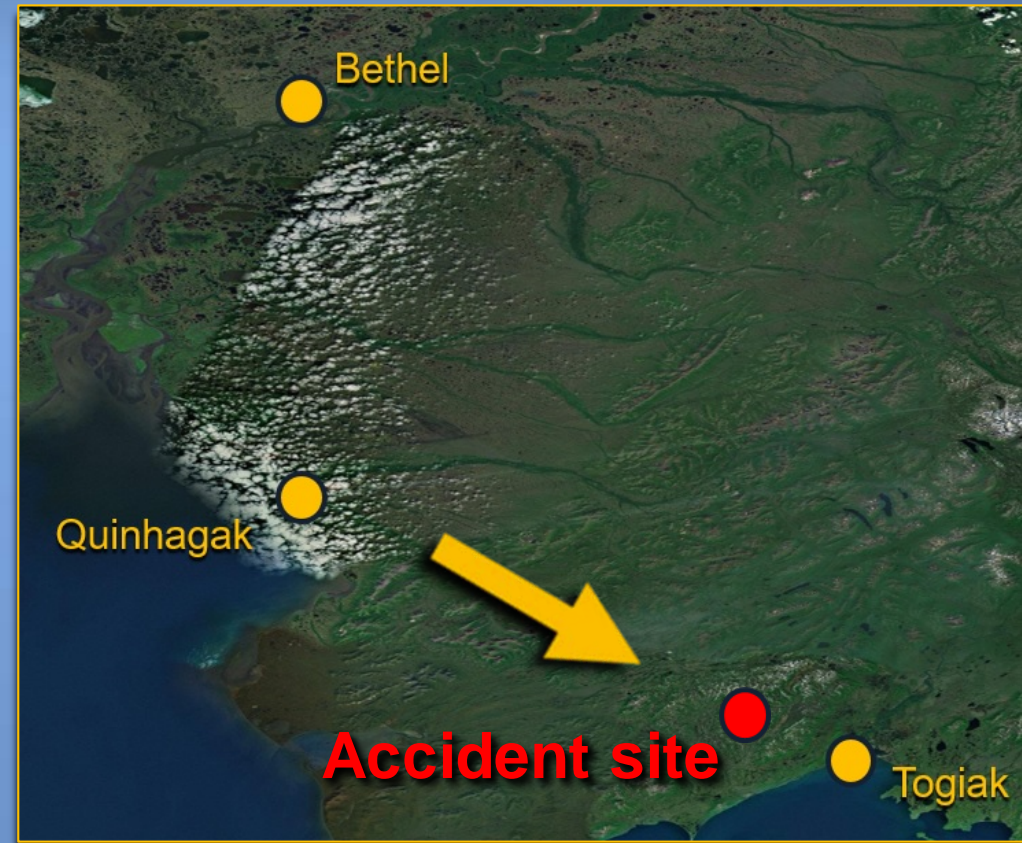
- Departed at 1044
- Arrived at 1125
- Altitude about 4,500 ft msl



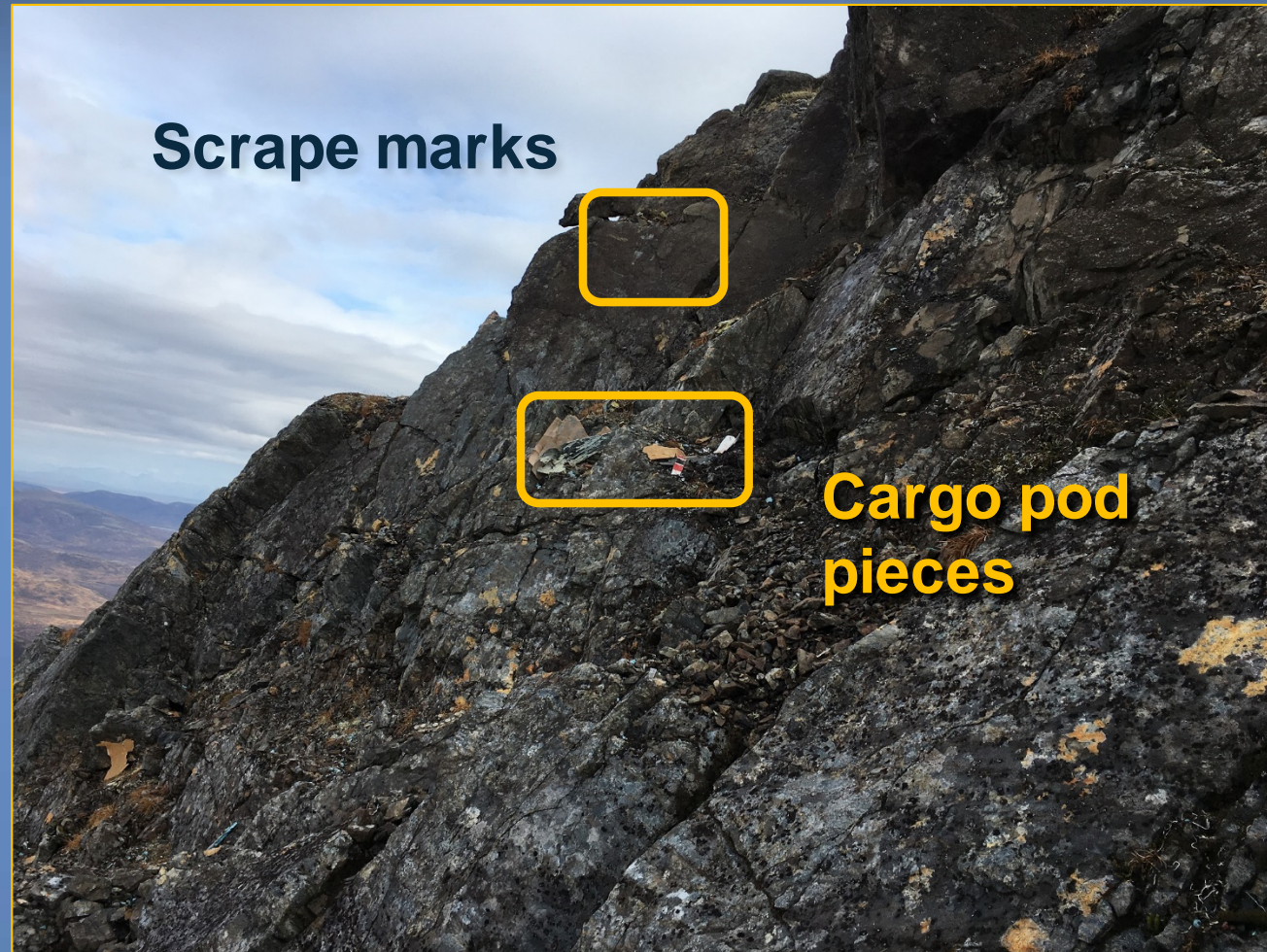
History of Flight

Third leg: Quinhagak to Togiak

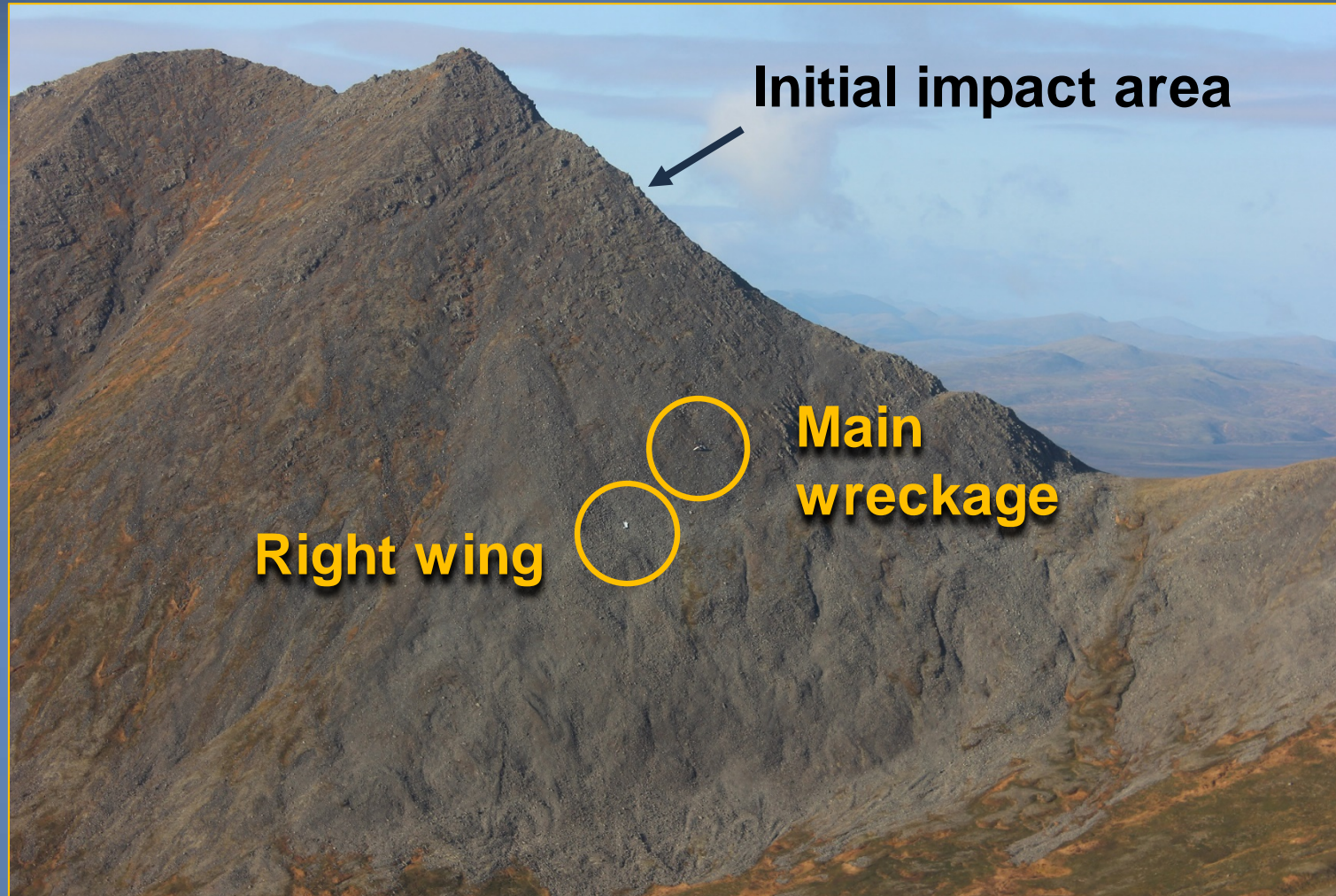
- Departed at 1133
- Altitude about 1,000 ft msl (500-700 ft agl)
- During final 4 minutes climbed to 2,300 ft msl before colliding with mountain ridge



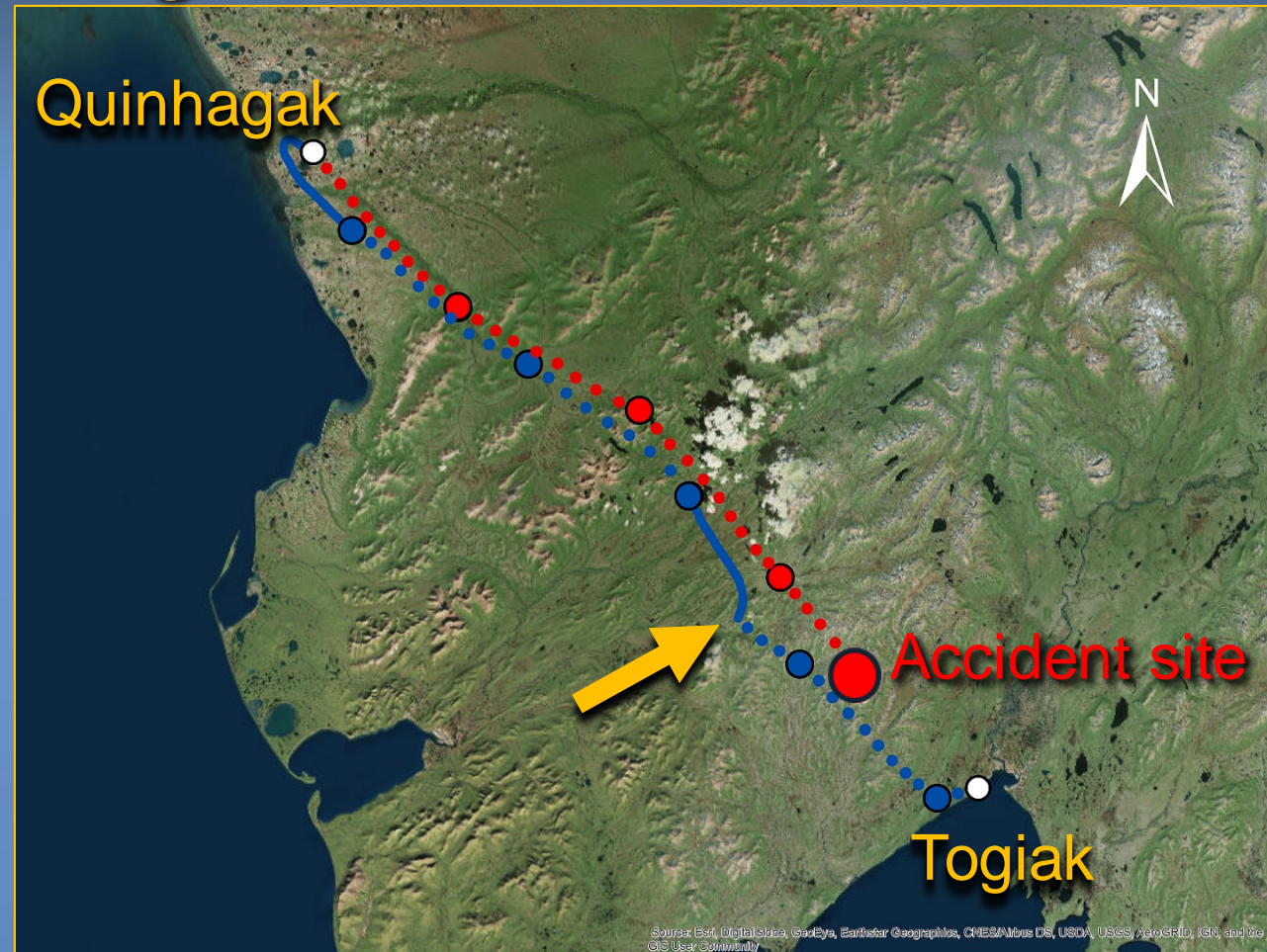
Initial Impact Point



Aerial View of Accident Site

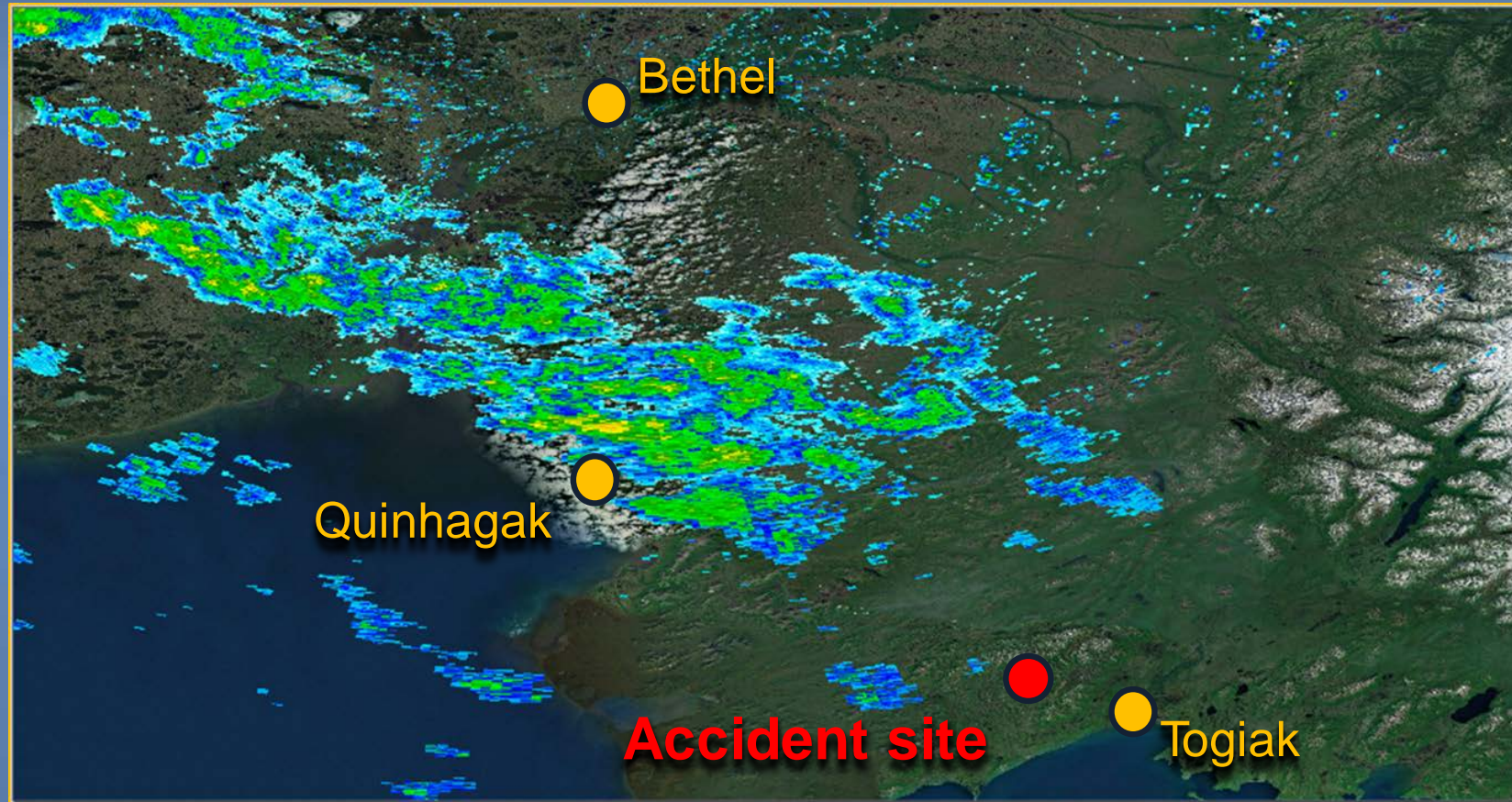


Accident Flight Path



Note: Blue lines represent clusters of ADS-B data points.

Weather Departing Bethel



Weather at Accident Site

- No direct observations of accident site
- No pilot reports (PIREPs)

Arrival Airport Weather Conditions



Weather at Accident Site

- Company search crew was unable to locate airplane due to clouds obscuring mountain
- Weather precluded Alaska State Troopers from locating accident site until 1630 (about 4.5 hours after accident)

Exclusions

- Crew properly certificated
- Crew performance not affected by medical conditions, toxins, alcohol, or other drugs
- Airplane examination found no evidence of preimpact airframe, engine, propeller, or system failure

Safety Issues

- Hageland's inadequate CRM training program and inadequate FAA oversight of it
- Need for improvements in Hageland's CFIT-avoidance training
- Lack of FAA requirements for CFIT-avoidance training programs for Part 135 fixed-wing operations

Safety Issues

- Lack of effective TAWS considerations
- TAWS inhibit switch design limitations
- Hageland's inadequate guidance for pilots' use of TAWS inhibit switch

Safety Issues

- Lack of assurance that operators implemented Medallion programs effectively
- Need for safety management systems (SMS) for Part 135 operators
- Need for flight data monitoring (FDM) programs (and supporting devices) for Part 135 operators

Safety Issues

- Need for required crash-resistant flight recorder system that records cockpit audio and video
- Need for improved sharing of pilot weather reports (PIREPs) in remote areas in Alaska

Parties to Investigation

- Federal Aviation Administration
- Hageland Aviation Services
- Hartzell Propeller
- Honeywell Aerospace
- Textron Aviation

ICAO Annex 13 Participants

- Transportation Safety Board of Canada
 - Pratt & Whitney Canada

Other Assistance

- Alaska State Troopers



National Transportation Safety Board