

FAA Accident Investigation brief on NTSB Family Assistance Program

To: MENA ARCM/5

By: Patrick Hempen, FAA
Director Aviation Accident
Division

Date: 8 May 2024:



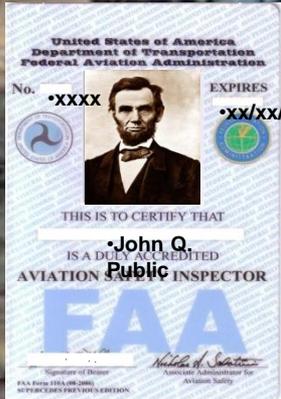
Federal Aviation
Administration

A Brief Background.....



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•USAir at Pittsburgh, Sept. 8, 1994 (132 Fatal); Design & Certification?



U.S. Department of Transportation
Federal Aviation Administration
800 Independence Ave., S.W.
Washington, D.C. 20591

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**POSTMASTER: Return to:
FLIGHT STANDARDS SERVICE
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20591**

IF FOUND—Drop in any U.S. Mailbox, as unauthorized possession or use makes offender liable to severe penalties. Title 18, U.S.C. Sec. 499.







**NTSB -
Probable
Cause –
The Why**

**FAA – Go Team -
Continual
Operational Safety
– The WHAT**

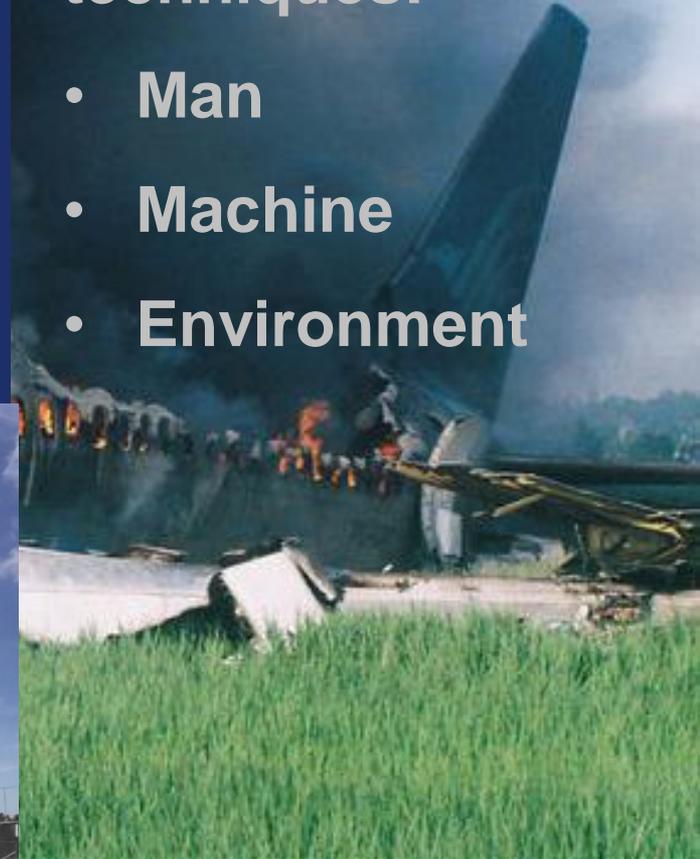


FAA Accident Investigation



Same
investigative
techniques:

- Man
- Machine
- Environment



NTSB and FAA Participation

- NTSB investigates all aircraft accidents
- FAA also “investigates” all aircraft accidents
- As a Party, FAA shares what it learns with NTSB



Federal Aviation Administration

Office of the Administrator



[Michael Whitaker](#)

Administrator

[Read more about Michael Whitaker](#)



[Katie Thomson](#)

Deputy Administrator

[Read more about Katie Thomson](#)



[Edward L. Bolton, Jr.](#)

Chief of Staff

[Read more about Ed Bolton](#)

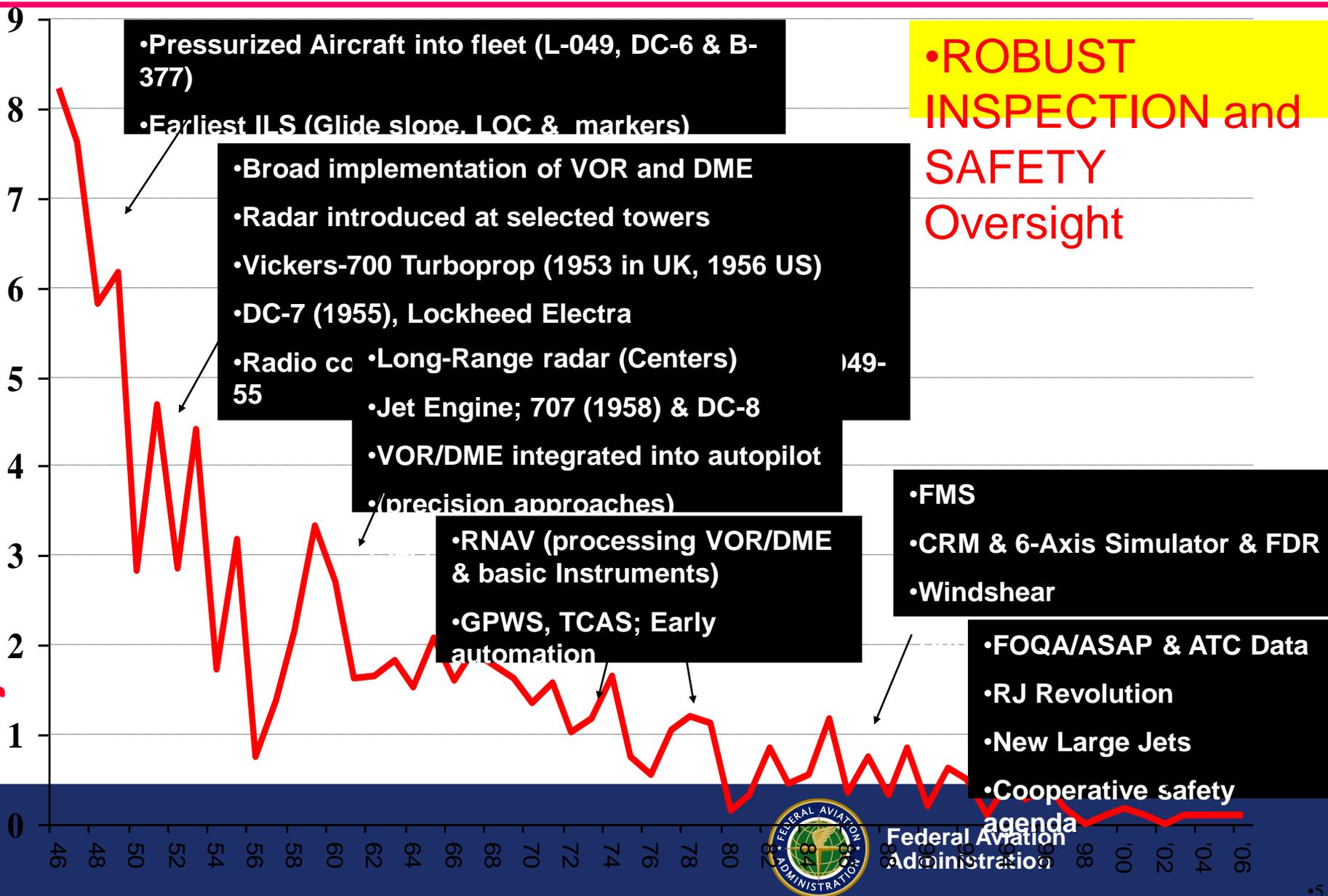
FAA Resources

- About 47,000 employees
- About 3,600 Flight Standards Inspectors
- About 19,000 air traffic control specialists
- About 500 Aircraft certification engineers and pilots
- Airway facilities, aerospace medicine, hazmat, security, airports



• Breakthroughs in Major Fatal Accident Rates Since 1946 (Hull Losses or Multiple Fatalities)

• Major Fatal Accidents Per Million Departures



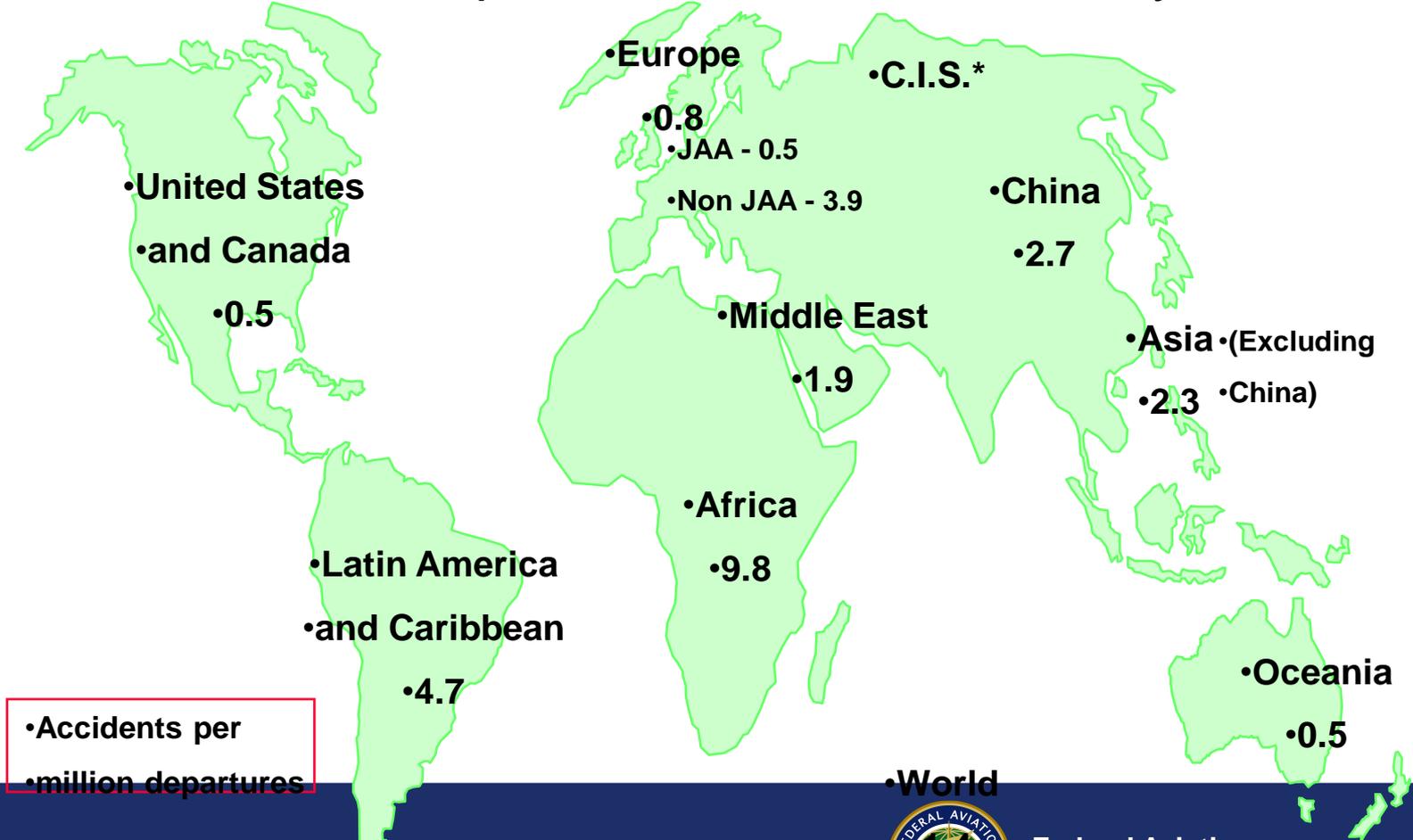
• ROBUST INSPECTION and SAFETY Oversight

agenda

Regional Perspective

Accident Rates Vary by Region of the World

• Western-Built Transport Hull Loss Accidents, by accident site



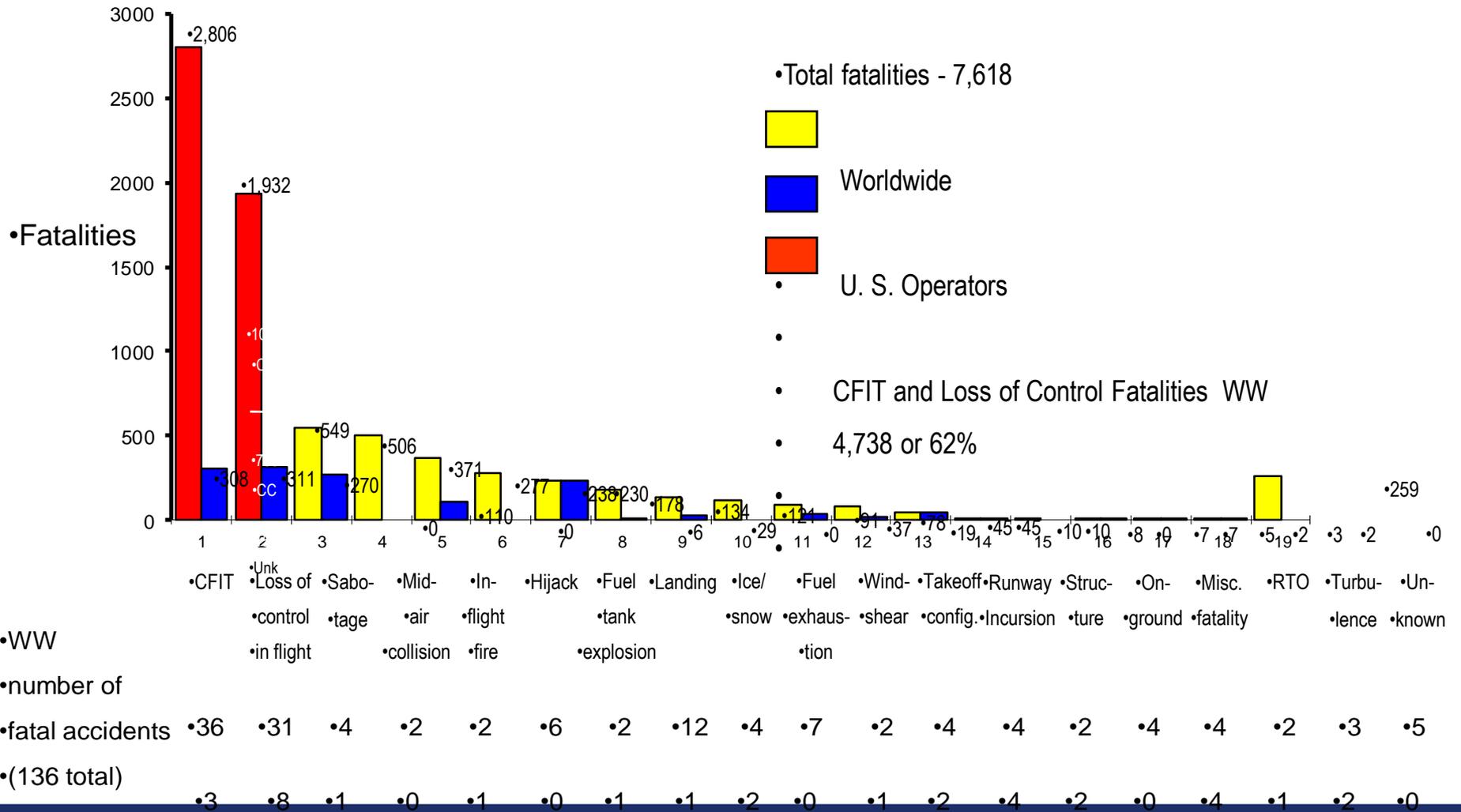
• Accidents per million departures

• * Insufficient fleet experience to generate reliable rate.
 • 1 Sabotage and hijacking are excluded.



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Worldwide and U. S. Airline Fatalities Classified by Accident Type



U.S. Operators: Loss of Control: CA = Control Available (16); CC = Control Compromised (13); Unk = Unknown (2)

Note: Accidents involving multiple, non-onboard fatalities are included.

(33 total) Accidents involving single, non-onboard fatalities are excluded.



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CFIT = Controlled Flight Into Terrain

RTO = Refused Takeoff

Quick Recap: FAA's Role



- **FAA is part of the Department of Transportation.**
- **Has the responsibility to ensure the safety and efficiency of the U.S. national airspace system.**
- **Participates in NTSB aviation investigation as a party (by statute), but *not* in the determination of probable cause.**
- **Determines if corrections are necessary regarding the Continued Operational Safety of aviation.**
- **If appropriate, FAA initiates corrective action.**



AVIATION SAFETY (AVS) SERVICES AND OFFICES

AAM

Office of Aerospace Medicine

AAM-100
Program Management Division

AAM-200
Medical Specialties Division

AAM-800
Drug Abatement Division

CAMI -
Civil Aerospace Medical Institute

- AAM-300**
Aerospace Medical Certification Division
- AAM-400**
Aerospace Medical Education Division
- AAM-500**
Aerospace Human Factors Research Division
- AAM-600**
Aerospace Medical Research Division
- AAM-700**
Occupational Health Division

9 Regional Divisions

FS

Flight Standards Service

Air Carrier Safety Assurance
AFC-1
AFC-2A
AFC-2B

6 Divisions

General Aviation Safety Assurance
AFG-1
AFG-2A
AFG-2B

8 Divisions

Safety Standards
AFS-1
AFS-2A
AFS-2B

8 Divisions

Foundational Business
AFB-1
AFB-2A
AFB-2B

6 Divisions

28 Divisions

AIR

Aircraft Certification Service

AIR-010
Executive Support Staff

AIR-040
International Office

AIR-300
Organizational Performance Division

AIR-600
Policy & Innovation Division

AIR-700
Compliance & Airworthiness Division

AIR-800
Systems Oversight Division

AIR-900
Enterprise Operations Division

AOV

Air Traffic Safety Oversight Service

AOV-20
Planning and Program Management Staff

AOV-30
International Integration Staff

AOV-100
Air Traffic Safety Standards Oversight Division

AOV-200
Air Traffic Safety Operations Oversight Division

3 Field Offices

AQS

Office of Quality, Integration & Executive Services

AQS-100
Quality, Integration & Process Division

AQS-300
Planning & Performance Division

AQS-400
Finance & Budget Division

AQS-500
Management & Business Services Division

ARM

Office of Rulemaking

ARM-100
Airmen & Airspace Rules Division

ARM-200
Aircraft, Commercial Space & Airports Rules Division

AUS

Unmanned Aircraft Systems Integration Office

AUS-10
Executive Office

AUS-100
Business & Planning Division

AUS-200
International Division

AUS-300
Research Division

AUS-400
Safety & Integration Division

AVP

Office of Accident Investigation and Prevention

AVP-100
Accident Investigation Division

AVP-200
Safety Analytical Services Division

AVP-300
Safety Management & Research Planning Division

AVP-400
Management Services & Recommendations Division

Regional Locations

AAL (Alaska)	ACE (Central)	AEA (Eastern)
AGL (Great Lakes)	ANE (New England)	ANM (Northwest Mtn)
ASO (Southern)	ASW (Southwest)	AWP (Western Pacific)

AVS

International Strategies

AVS-5
Director



“Parties” to the Investigation

- **FAA** (*automatic, per statute*)
- **Airframe Manufacturer** (*e.g. Boeing, Bell*)
- **Engine Manufacturer** (*e.g. Pratt & Whitney*)
- **Air Carrier / Operator** (*e.g. Delta, United*)
- **Employee Unions** (*e.g. ALPA, NATCA, AFA*)
- **Other Government Agencies** (*e.g. Police*)
- **Others** - *as needed by NTSB for expertise*

Party “Rules” to Abide By

- No contacts with news media** concerning the investigation
- No info may be passed to others** within the party beyond those participating in the investigation, without NTSB approval
- Must be “*responsive to the direction of NTSB personnel*”
- No relevant information can be withheld from the NTSB
- Info from Cockpit Voice Recorder and/or image recordings are held sacred and tightly controlled



FAA Use of Info from NTSB

- **FAA Does Not:**
 - Use flight crew statements given during the accident investigation as evidence in enforcement actions
 - Use cockpit voice recorder transcripts for enforcement action
 - Participate in an interview if the person being interviewed requests that FAA be excluded (this doesn't mean we can't request a FAA interview)
- **FAA Does:**
 - Collect evidence independently from the NTSB investigation



“Separate FAA Investigation”:

FAA Order 8020.11D – Page 43

- If the FAA investigator determines that an **unsafe condition** exists in any of the FAA’s **nine areas of responsibility**, the FAA may conduct a separate investigation to gather the information necessary and the FAA will inform the NTSB IIC as soon as possible.
- FAA personnel participating in the NTSB’s safety investigation should not participate in any separate FAA enforcement action.



New Challenges for FAA Investigators

Commercial Space Mishaps



•Wallops Island - Antares

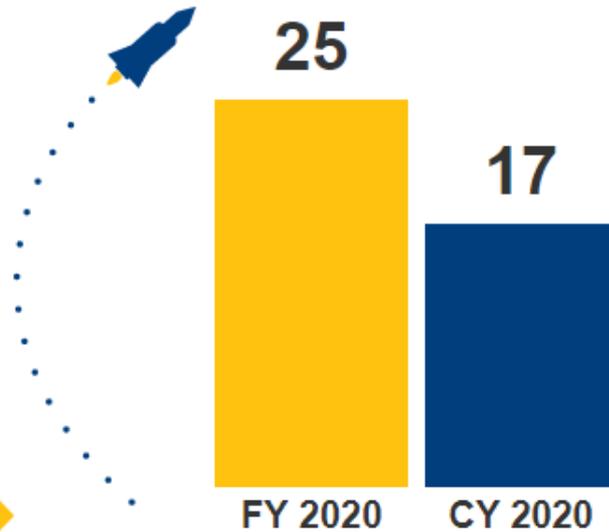
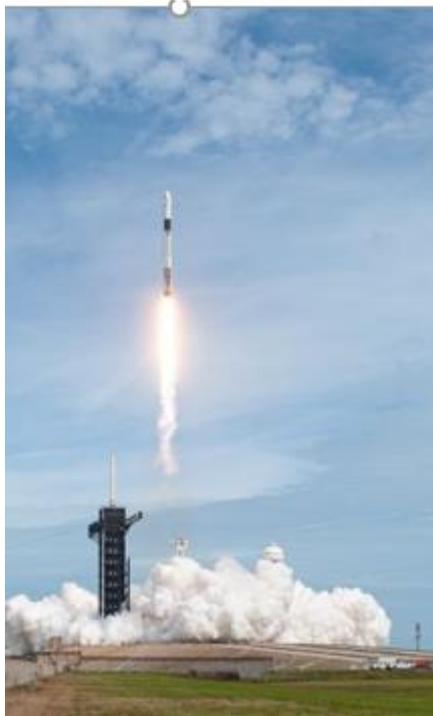


•Scaled Composite – SpaceShip II



Commercial Space - Table Top Exercise October 9, 2020

26 Licensed Launches last year 40 Launches predicted this year
22 Re-Entries Risk of mishap twice/mo.



UAS/UAV Accidents



• *New Challenges for FAA Investigators*

Unmanned Aircraft Systems (UAS)

FAA Protocols for UAS Investigations

- Basically the same as for Manned Aircraft
(*Man, Machine, Environment*)
- Currently, FAA will provide the FAA IIC for all UAS accidents that involve serious injuries, fatalities, mid-air collisions, or hi-visibility.

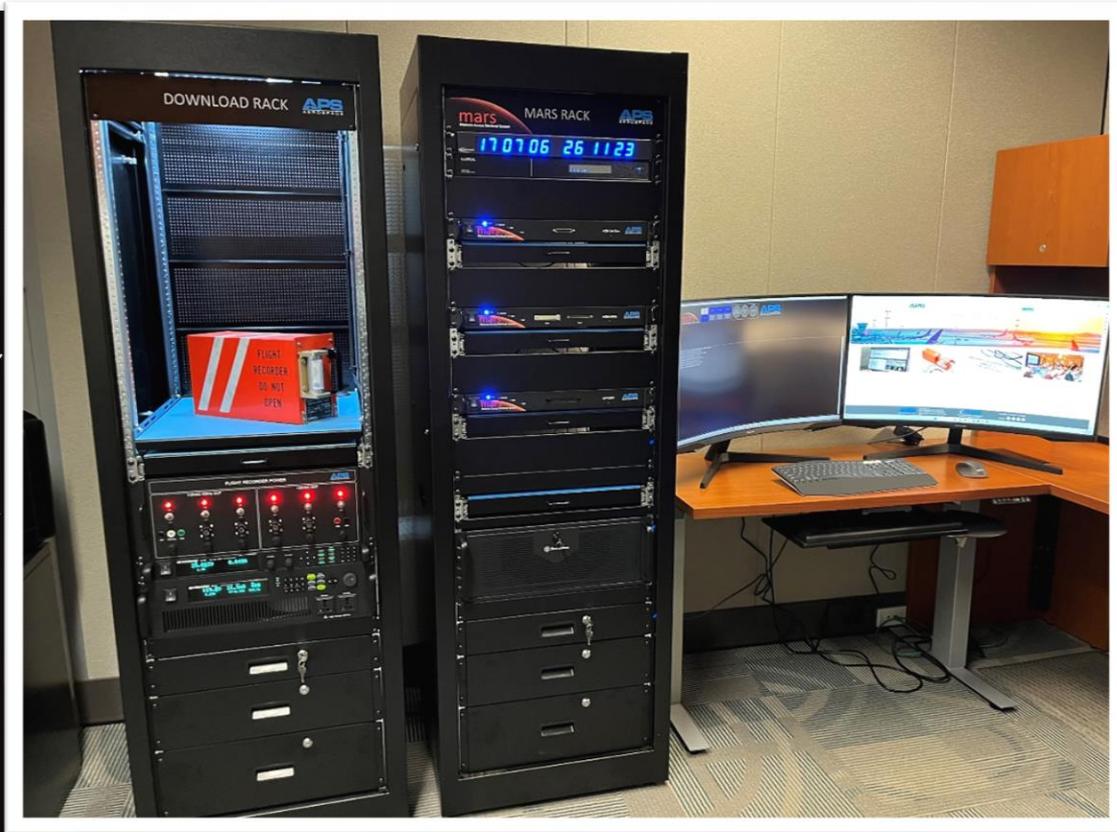


CVR Transcription Group



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Memory Access and Retrieval System - MARS



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Reconstruction Animations - (Truckee, CA)

- July 26, 2021
- Bombardier Challenger 605
- Enroute from Pappy Boyington Field (KCOE) Coeur d'Alene, Idaho, to Truckee-Tahoe in California.

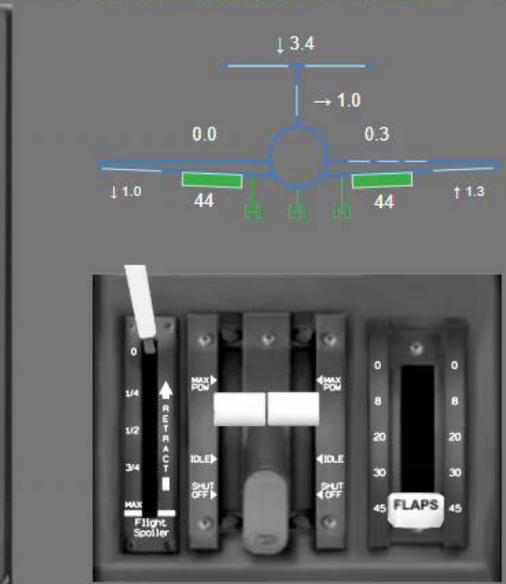
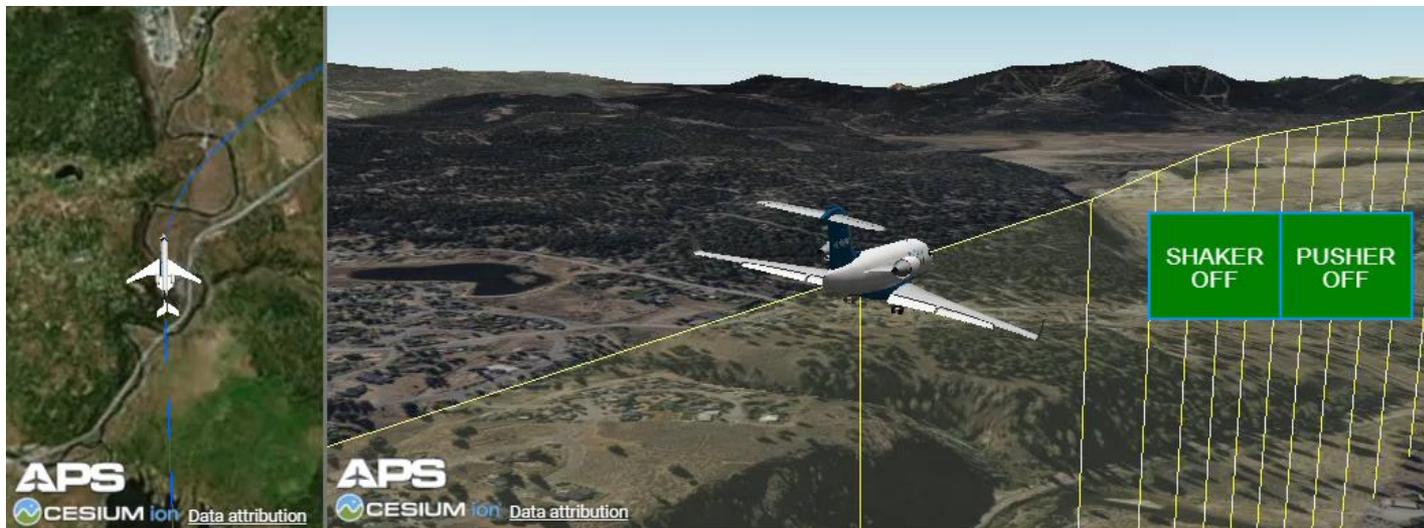
- **Probable causes** - FO's improper decision to **attempt to salvage an unstabilized approach** with a steep bank angle

- Captain's **failure to intervene** after recognizing the FO's erroneous action.

- Both ignored stall protection system warnings, which resulted in a left-wing stall and an impact with terrain.

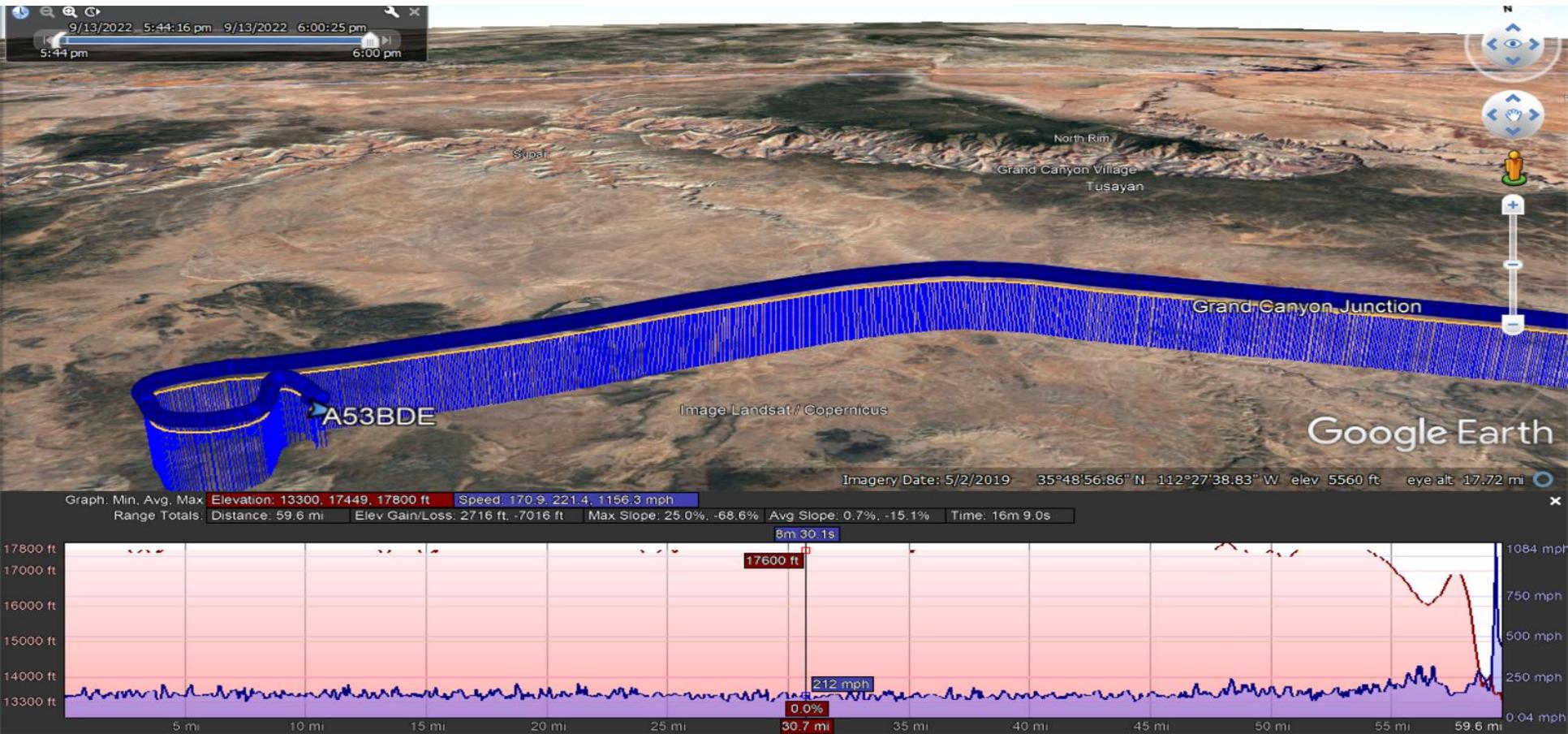
- Contributing was the **improper deployment of the flight spoilers**

- Captain's **improper setup of the circling approach**, and the flight crew's **self-induced pressure to perform** and **poor crew resource management**, which degraded their decision-making.



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ADS-B Analysis



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Weather Products

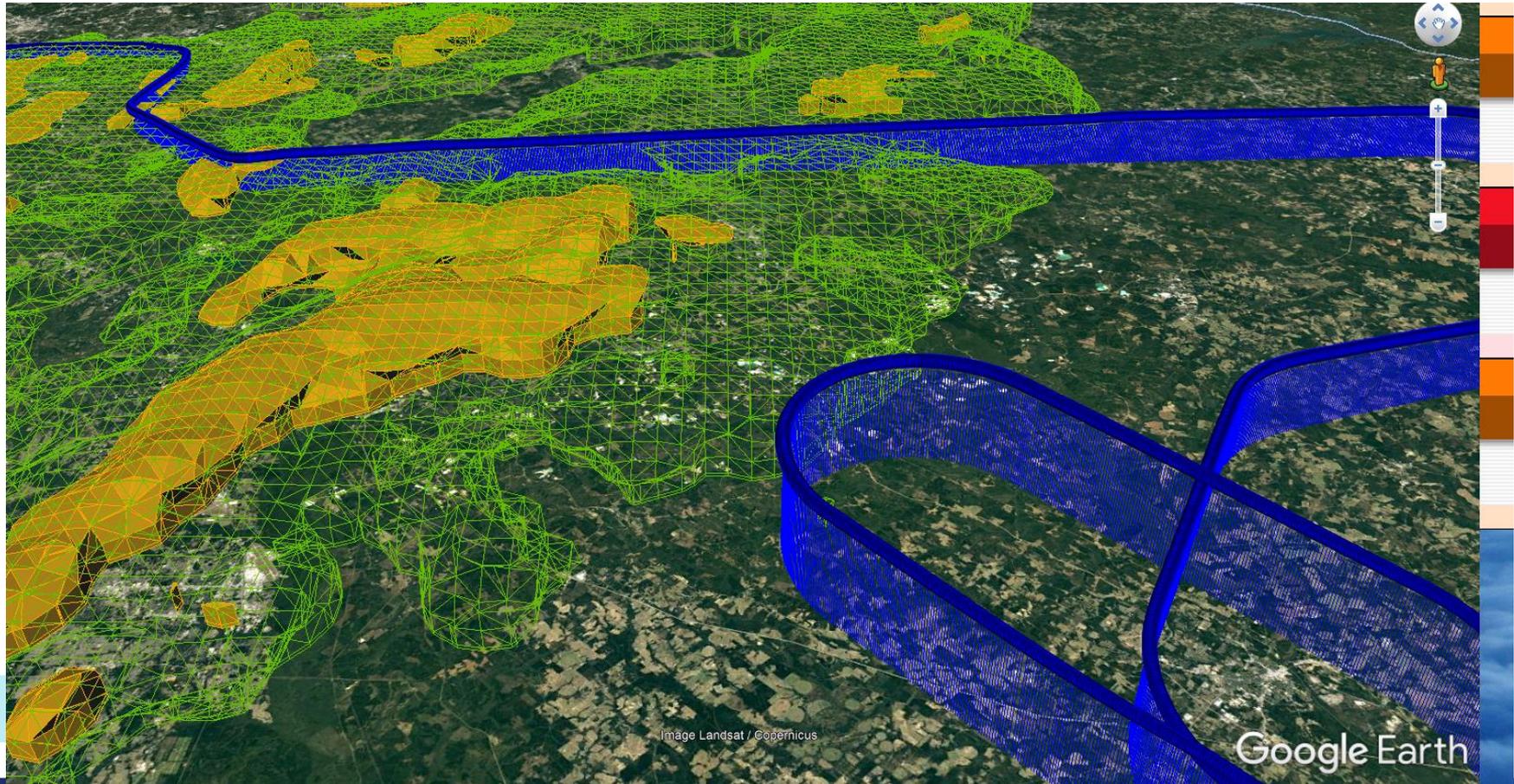


Image Landsat / Copernicus

Google Earth



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Weather Products

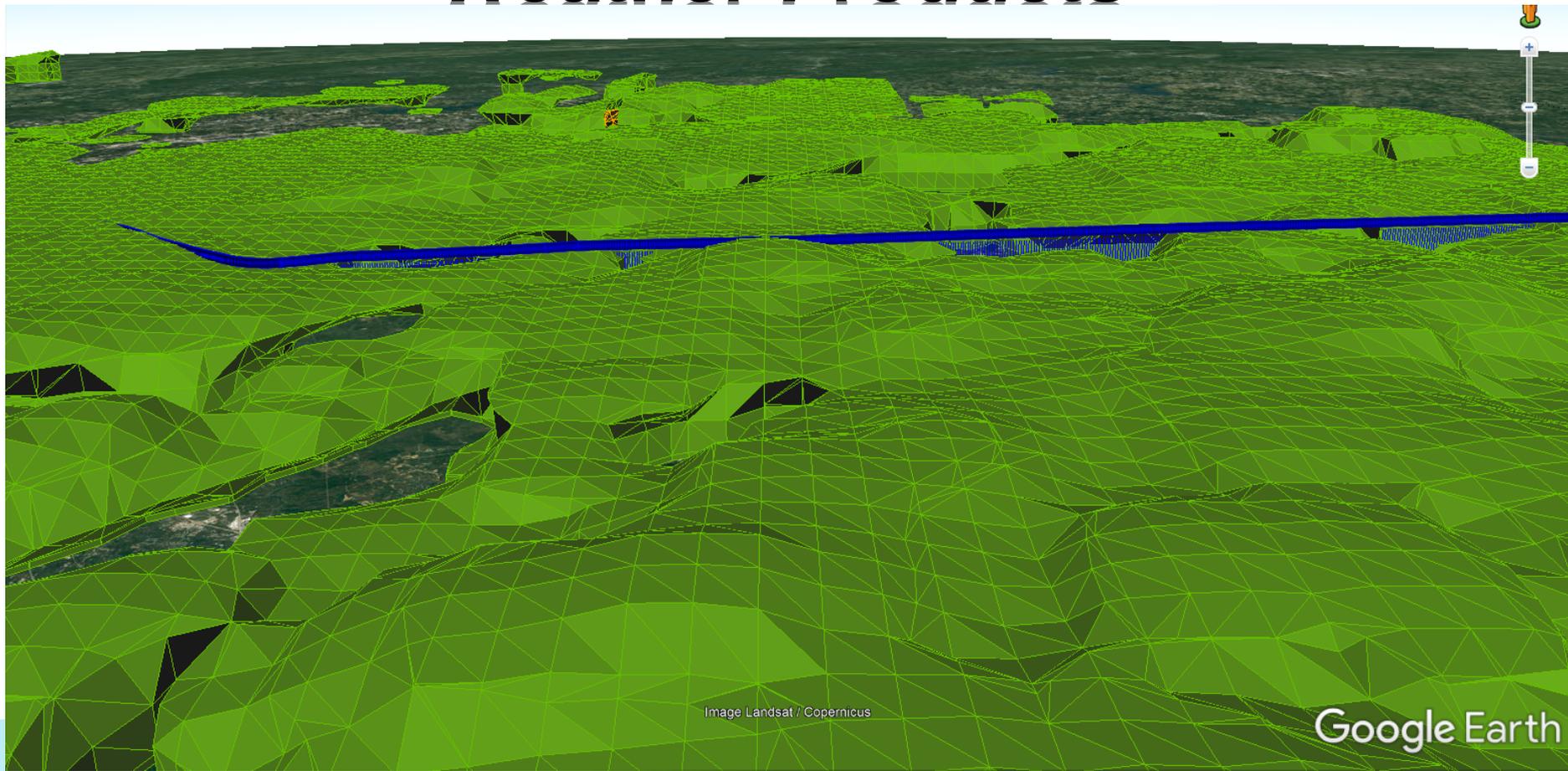


Image Landsat / Copernicus

Google Earth



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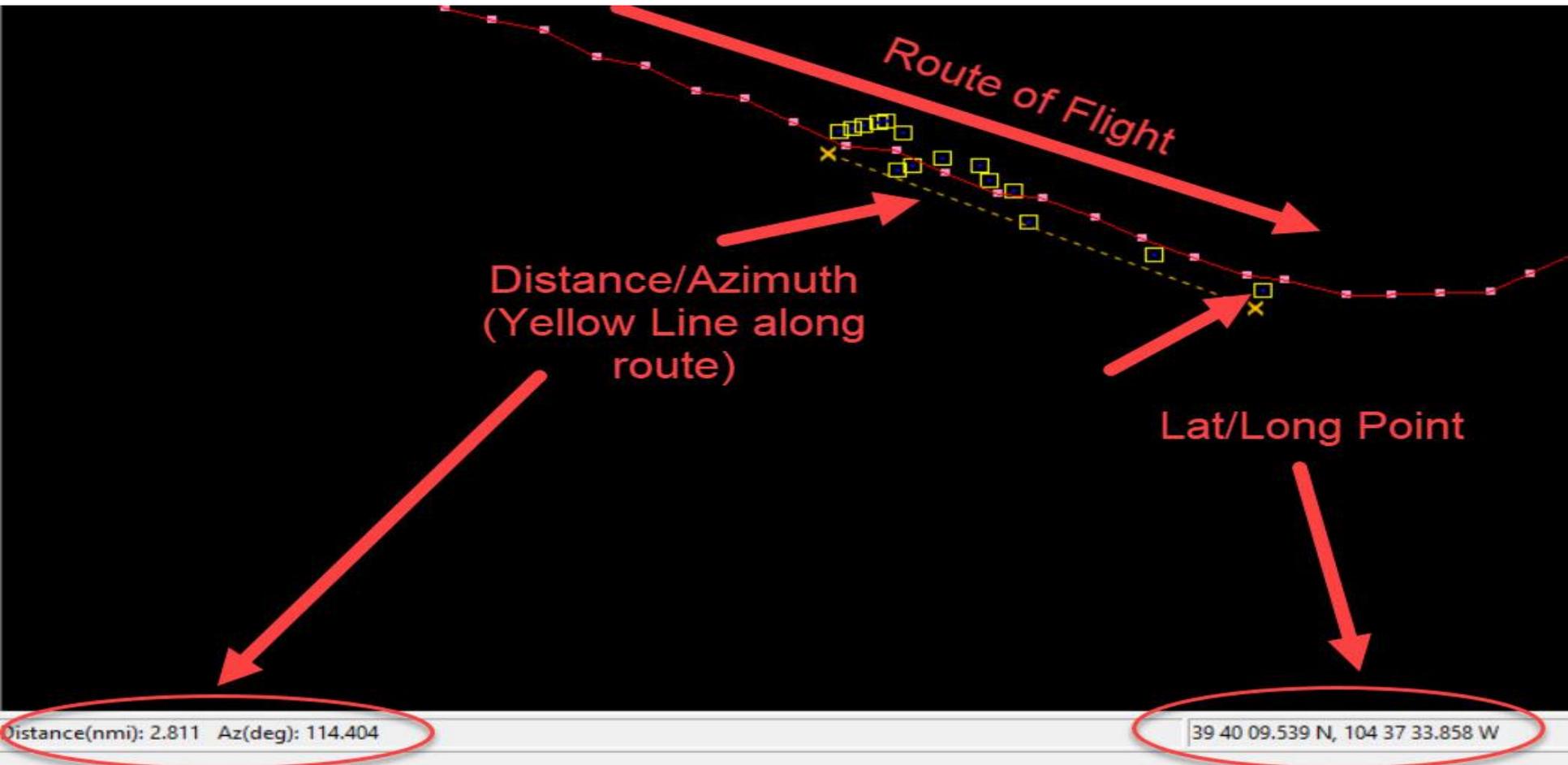
Farthest return from
flight path = 0.346
miles

Primary Targets of
aircraft fragments

Direction of Flight



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NTSB

National
Transportation
Safety Board

ICAO ANNEX 13 Accredited Representative



Overview

- Agency Overview & Mission
- Investigative Process
- Family Assistance
- Media Relations

NTSB



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How many people work for...



FBI - ~35,000 employees



FAA - ~48,000 employees (full & part time)



NTSB - 417



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Agency Overview

- Independent Federal agency
- Reports directly to Congress
- **No regulatory authority**
- Composed of five Board Members
- ~ \$145 million budget (FY 2022)



Chair
Jennifer Homendy



Vice Chairman
Bruce Landsberg



Member
Michael Graham



Member
Thomas Chapman



Member
(Vacant)

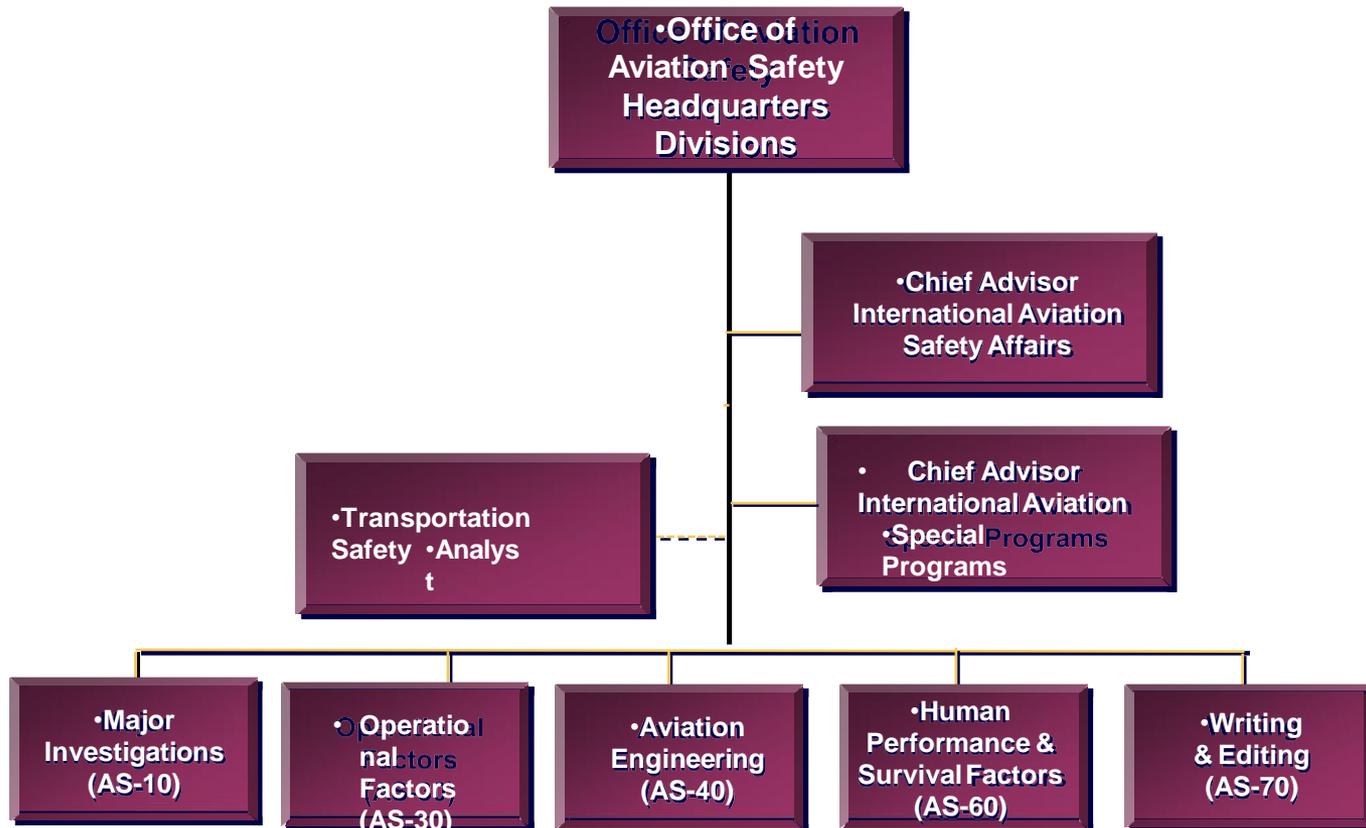




National Transportation Safety Board

•NTSB-HQ

Office of Aviation Safety - Headquarters



National Transportation Safety Board



- **Major Investigations**

- 5 Investigators

- **Operational Factors**

- OPS / ATC / WX

- **Aviation Engineering**

- Systems / Structures / Powerplants

- **Human Performance & Survival Factors**

- Behavior / Medical / Cabin Safety

- **Regional Operations**

- 50 Investigators



NTSB Investigations

Data
Collection

Limited

- NTSB not on-scene

Field

- 1 Regional Investigator
- 1-2 fatal general aviation

Field Major

- 1-2 Regional Investigators & support staff from HQ

Major

- Multiple deaths & injuries
- NTSB Go-Team
- Board Member
- 10-30 team members

Major Investigations

Team Composition

Board Member: serves as the public representative for the investigation

Investigator-in-Charge: manages all aspects of the investigation

Investigative Specialists: subject-matter focus

Communications: Government Affairs, Media Relations, TDA

IT specialists



On-Scene Flow of Information

Organizational Meeting

- Designate parties and party coordinators
- Establish and organize investigative groups

Progress Meetings

- Summarize factual information & develop plan of action for on-scene phase
- Info for briefings

Family Briefings

Media Engagement

- Briefings
- Press releases
- Social media

Investigative Process



On-scene Investigation
Organizational Meeting
Progress Meetings
Family Briefings
Media Briefings
Site Visits



Preliminary Report
Factual information



Investigative Hearing
Fact-finding
Depositions
"Witnesses"
Docket



Board Meeting
Docket
Findings
Probable Cause
Safety Recommendations



Final Report

Government in the Sunshine Act



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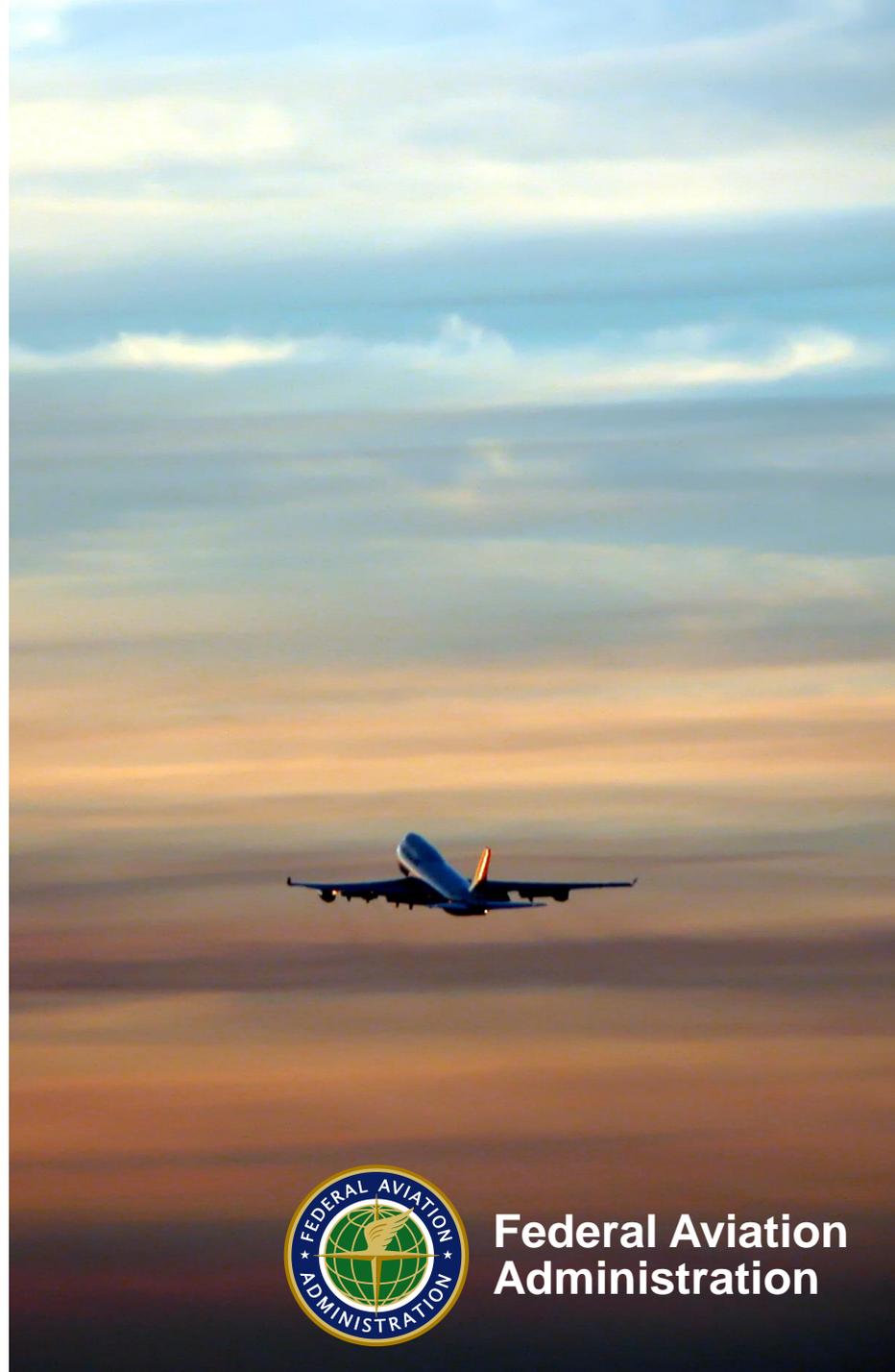
- Potential hazards
- Scene security/control
- Wreckage documentation
- Documenting injured/fatalities
- Witness documentation
- Media relations
- Family Assistance



NTSB Transportation Accident Family Assistance in the United States



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Occasions when Family Assistance is Important in conducting the investigation.

Untitled Placemark

Ella Lake

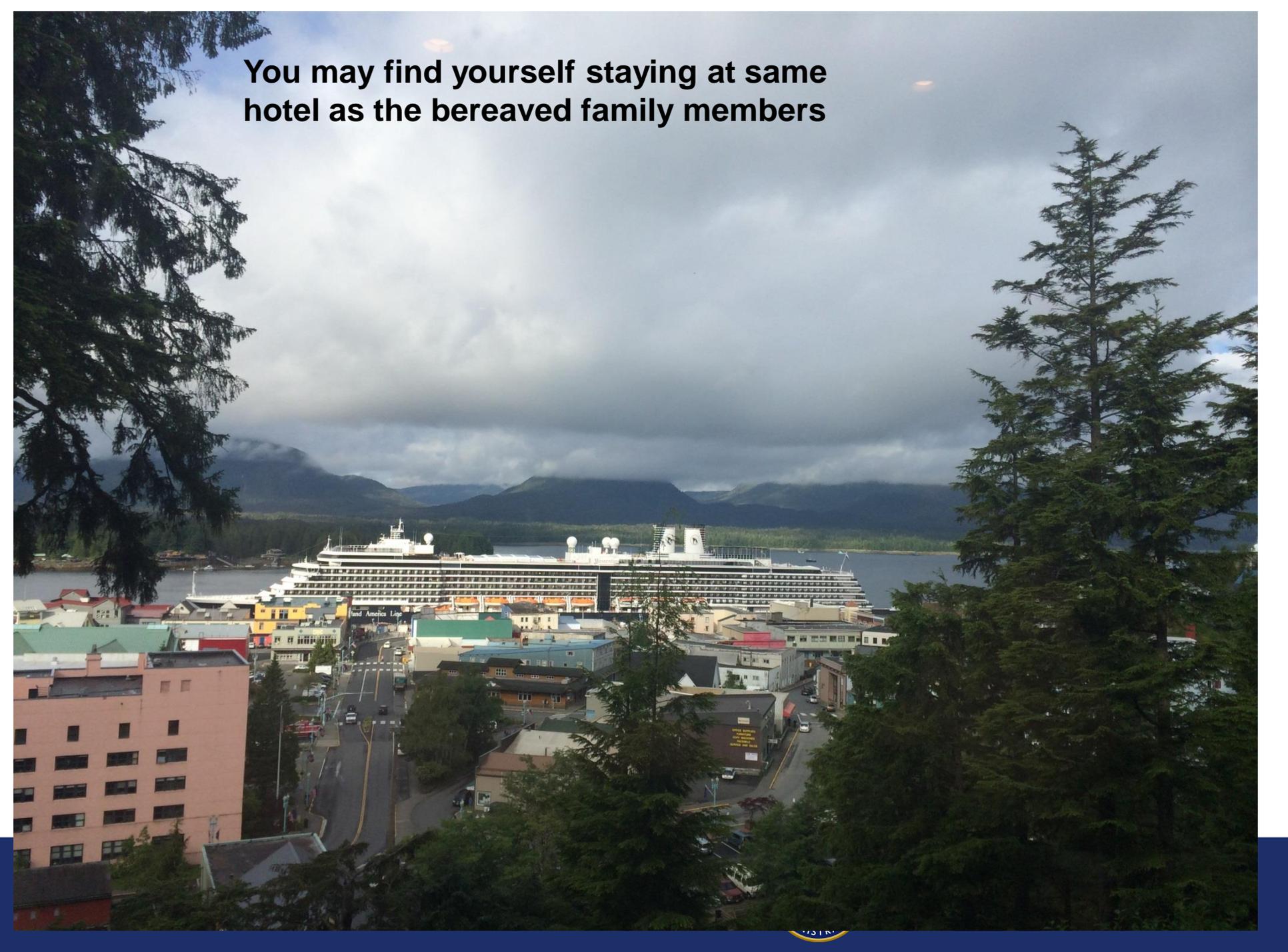
Image Landsat
Image © 2015 DigitalGlobe

©2010 Goo

55°27'46.61" N 131°08'36.62" W elev. 1675 ft



You may find yourself staying at same hotel as the bereaved family members



The NTSB's Family Assistance Program

Summary

- **What is Family Assistance**
- **Fundamental Concerns**
- **Historical Perspective**
- **NTSB Transportation Disaster Assistance Division**
- **NTSB Responsibilities**
- **US DOT Enforcement Authority**
- **Successful Family Assistance**
- **Primary Partners**



What is Family Assistance?



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The supporting efforts that address the fundamental concerns of survivors and their family members following a critical incident.



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Fundamental Concerns

- Universal
- Not just associated with transportation accidents
- Essential to family assistance

Notification of Involvement 	<i>Was my loved one involved?</i> <ul style="list-style-type: none">▶ Initial notification of passenger involvement▶ Immediate and factual information about the accident
Victim Accounting 	<i>Where is my loved one?</i> <ul style="list-style-type: none">▶ Search and rescue efforts, tracking of injured transported to hospitals▶ Search and recovery of fatalities▶ Victim examination, identification, and repatriation process
Information and Resources 	<i>Where can I get help?</i> <ul style="list-style-type: none">▶ Basic needs, financial, and logistic support▶ Emotional, psychological, and spiritual care▶ Investigative updates
Personal Effects 	<i>Where are my loved one's belongings?</i> <ul style="list-style-type: none">▶ Recovery, processing, and return of associated and unassociated personal items

A Historical Perspective



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Catalysts of Change

- **Pan Am Flight 103 (December 1988)**
 - Aviation Security Improvement Act (1990)

- Air carriers provide manifest to U.S. Department of State (DOS)
- DOS promptly notifies families of victims
- DOS assigns a family liaison for each U.S. citizen
- Toll-free telephone number reserved for use by families
- Provide arrangements for repatriations of remains and disposition of personal effects
- Training in disaster management for all consular officers



Catalysts of Change

- **USAir Flight 427 (September 1994)**
- **American Eagle Flight 4184 (October 1994)**
- **ValuJet Flight 592 (May 1996)**
- **TWA Flight 800 (July 1996)**

- No lead agency for family assistance response
- Lack of interagency coordination to effectively & efficiently recover & identify victims
- Haphazard personal effects management practices
- Haphazard engagement with families
- Families not consulted about memorial & other key aspects of the response



NTSB's Commitment to Change...

The family members of that accident [ValuJet 592] and almost every tragic transportation accident I have mentioned are U.S. taxpayers and our fellow human beings. They pay my salary, and they pay for the investigative work of the NTSB. Within reason and within the resources available to us, I believe we must be responsive. It is the right thing to do.

As I attended their memorial services and met with their families, I recommitted myself to ensuring that all family members of these tragic events are treated with respect, with compassion, and with truth.

Jim Hall, NTSB Chairman

Testimony before the U.S. House Subcommittee on Aviation

June 19, 1996



U.S. Transportation Accident Family Assistance Legislation and the NTSB's Family Assistance Program



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U.S. Federal Family Assistance Legislation

Aviation Disaster Family Assistance Act (1996 & 1997)

- 49 USC § 1136: NTSB & the Designated Organization
- 49 USC § 41113: U.S. Air Carriers
- 49 USC § 41313: Foreign Air Carriers

Rail Passenger Disaster Family Assistance Act (2008)

- 49 USC § 1139: NTSB & the Designated Organization
- 49 USC § 24316: Rail Passenger Carriers

Any NTSB Investigation (2018)

- 49 USC § 1140: Info for Families of Individuals Involved in Accidents

NTSB as the Coordinating Agency

- **Lead government agency responsible for conducting public accident safety investigations**
- **Direct source of investigative information**
- **Trust and confidence fostered through transparency**

“Family members need to hear the facts from the NTSB. No one else will do, because the NTSB is in charge of the accident investigation and the accident site...the family members need to hear from us first.”

Jim Hall, NTSB Chairman

Testimony before the U.S. House Subcommittee on Aviation

June 19, 1996



The NTSB's Transportation Disaster Assistance Division

- 8-member team
- Varying professional backgrounds



Fundamental Concerns

Notification of Involvement



"Are they involved?"

- *Initial notification*
- *Immediate factual information*

Victim Accounting



"Where are they?"

- *Search & rescue, transported, hospitalized*
- *Search & recovery of fatalities*
- *Victim identification, death certification*

Access to Resources & Information



"How do I stay informed and get help?"

- *Basic needs & support services*
- *Investigative updates*
- *Financial, logistical, & legal assistance*

Personal Effects



"Where are their belongings?"

- *Recovery, processing & return*
- *Associated & unassociated*

Family Assistance Provides...

- ✓ Factual information
- ✓ The people to address questions/concerns
- ✓ Safety and security (from public and media)
- ✓ Support through the grief process
- ✓ Consistency and routine

By...

- ✓ Building rapport and credibility
- ✓ Creating a process to address fundamental concerns
- ✓ Conveying realistic expectations
- ✓ Planning and preparedness
- ✓ Interagency collaboration
- ✓ Maintaining flexibility

Family Assistance Does Not Provide...

"Closure"

- Supports the grief/recovery process
- Encourages resiliency

All the answers

- Information on process & what to expect
- Factual information when available/allowable

Support for all needs

Elimination of legal actions

How does the NTSB define “family member”?

Federal Family Assistance Legislation does not provide a definition of family member.

- Immediate or extended family
- Loved ones
- Friends
- Colleagues
- Survivors (self)

Family member vs. legal next of kin

- Medicolegal significance
- Personal effects
- Legal proceedings



Why provide assistance?

- Humanitarian / ethical
 - “The right thing to do”
- Order to chaos
- Consistent messaging
- Realistic expectations
- Public image
- Legislation*



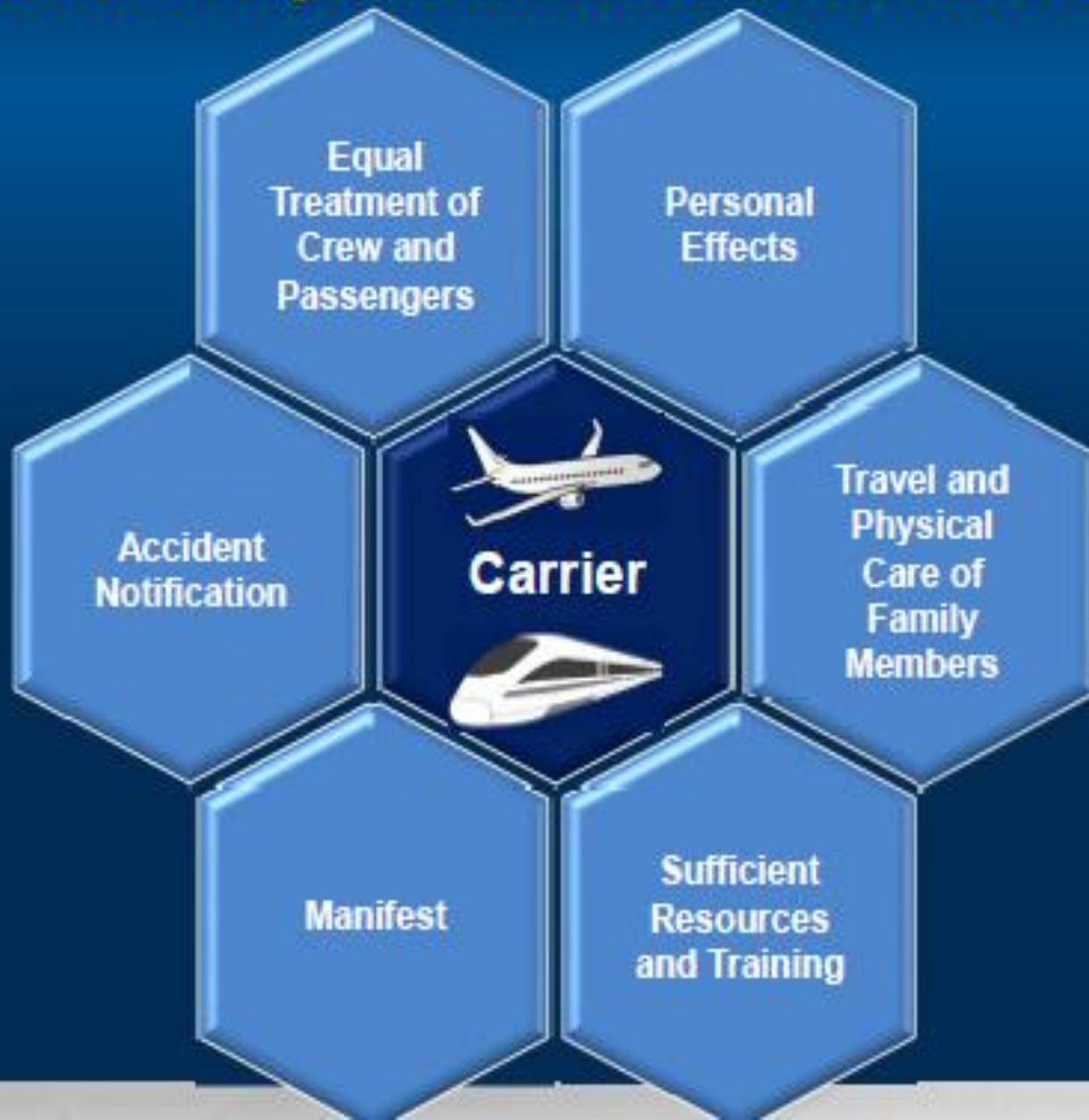
Legislated Responsibilities – NTSB



Legislated Responsibilities – Designated Organization



Legislated Responsibilities – Air/Rail Carriers



Primary Partner Agencies

Air/Rail Passenger Carriers

- Family Assistance Teams
- Logistics



Local / State / Tribal

- Airport Authority
- Emergency Management Agencies
- First Responders
- Medical Examiner/Coroner
- Hospitals
- Other Support Agencies

Department of Homeland Security (DHS)

- Communications
- FAC Security

American Red Cross (ARC)

- Disaster Mental Health Services
- Spiritual Care
- Family Care



Department of State (DOS)

- Assistance to U.S. Citizens Overseas
- Foreign Citizen & Government Interfacing



Federal Bureau of Investigation (FBI)

- Evidence & Wreckage Documentation
- Fingerprint ID Support
- Victim Assistance Support



Department of Health & Human Services (DHHS)

- AM & PM Data Collection
- Morgue Operations



Department of Defense (DOD)

- AM & PM Data Collection



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Primary Partner Agencies

Local / State / Tribal:

- Coroners or Medical Examiners
- Emergency Management Agencies
- First Responders
- Airport / Station Authorities
- Hospitals
- Other Humanitarian Agencies

Key Questions...

Important to understand the broader context of the family assistance response...

- Who is doing what?
- Who is required to do what?
- Where does my organization fit in?

What will you do for the affected population?*

- Notification of involvement
- Victim accounting
- Information & resources
- Personal effects management

How will you do it?

- Emergency response plan/team
- Capabilities/funds
- Partnerships

How will you communicate it?

- Immediate, short-, and long-term interaction
- Public messaging

Phases of the Family Assistance Response

Notification & fact gathering
Decision to deploy or support remotely

Joint Family Support Operations Center (JFSOC)
Family Assistance Center (FAC)
or
Remote coordination with NTSB investigators & response community
Define family member population and establish contact

Ongoing long-term support & resources
Investigative updates
Support safety advocacy interests



The Joint Family Support Operations Center (JFSOC)

A central meeting location separate from the EOC where participating agency representatives are brought together to monitor, plan, coordinate, and execute a family assistance response operation



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Purpose of a JFSOC



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Coordinate Family Assistance Operation

- Define overarching goals
- Define operational period objectives
- Determine frequency of and prepare for events (e.g., family briefings, site visit)
- Troubleshoot issues and identify resolutions
- Develop exit strategy



Unified Command / Interagency Coordination

- Ensure communication between agencies (e.g., multi-jurisdictional) and maintain situational awareness
- Identify needs, gaps, and duplication of services
- Identify appropriate agencies to provide services
- Unified approach to addressing family member requests



Monitor On-Going Family Support Activities

- Daily status reports from participating agencies
- Identify appropriate agencies to provide services
- Coordinate and manage on-going family member requests
- Address scalability and accessibility



JFSOC Meetings

Organizational Meeting

Daily Progress Meetings

Briefing Prep.

Operation-specific meetings (as needed)

- Site visit
- Personal effects management
- Memorial planning



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Family Assistance Center

“Long-term” operation

Safe and secure gathering place

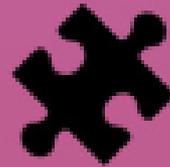
Central location for family members to receive information and access to services



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Family Assistance Center Services

Security, lodging & transportation, financial & legal aid, communication, registration, meals & beverages, special assistance teams



LOGISTICS



FAC
Services



INFORMATION



SUPPORT

Mental health, spiritual care, health/medical, family care

Investigative, medicolegal, missing, briefings



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Contact

Transportation Disaster Assistance Division

assistance@ntsb.gov

202-314-6290

Elias Kontanis, PhD

Chief

elias.kontanis@ntsb.gov

202-281-5458

<https://www.ntsb.gov/tda/Pages/default.aspx>



Federal Aviation
Administration

THANK YOU!



AVP-100 Mailbox
Anytime. Anywhere. 24/7/365.
accidents@faa.gov



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Thank You

Pat Hempen

*FAA– Accident
Investigation Division*

Patrick.Hempen@faa.gov



**Federal Aviation
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