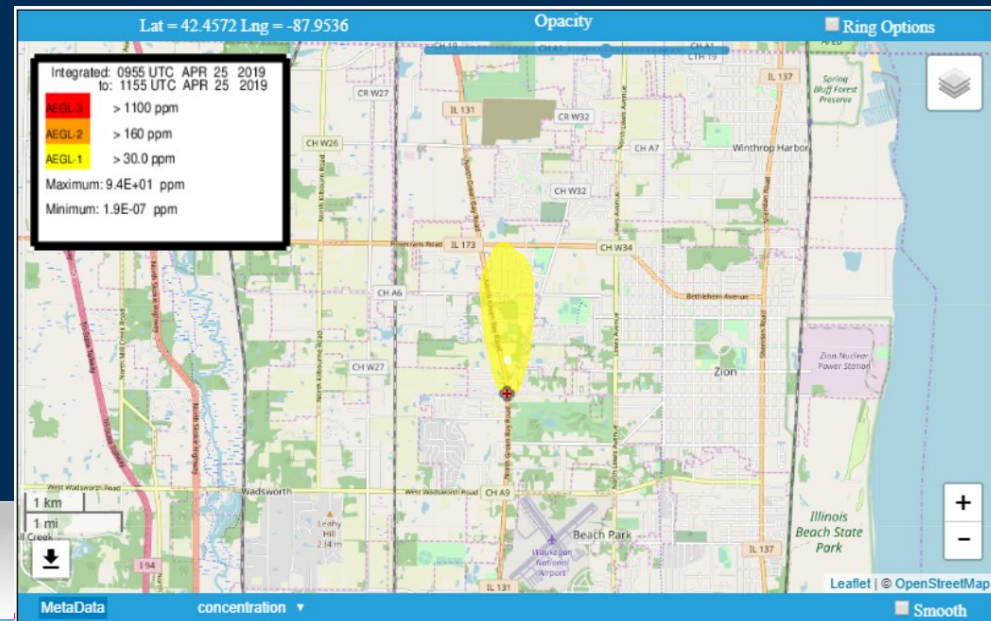


The NTSB Investigation Process for Weather and How the NWS May Be Involved

Paul Suffern – NTSB Meteorologist Investigator

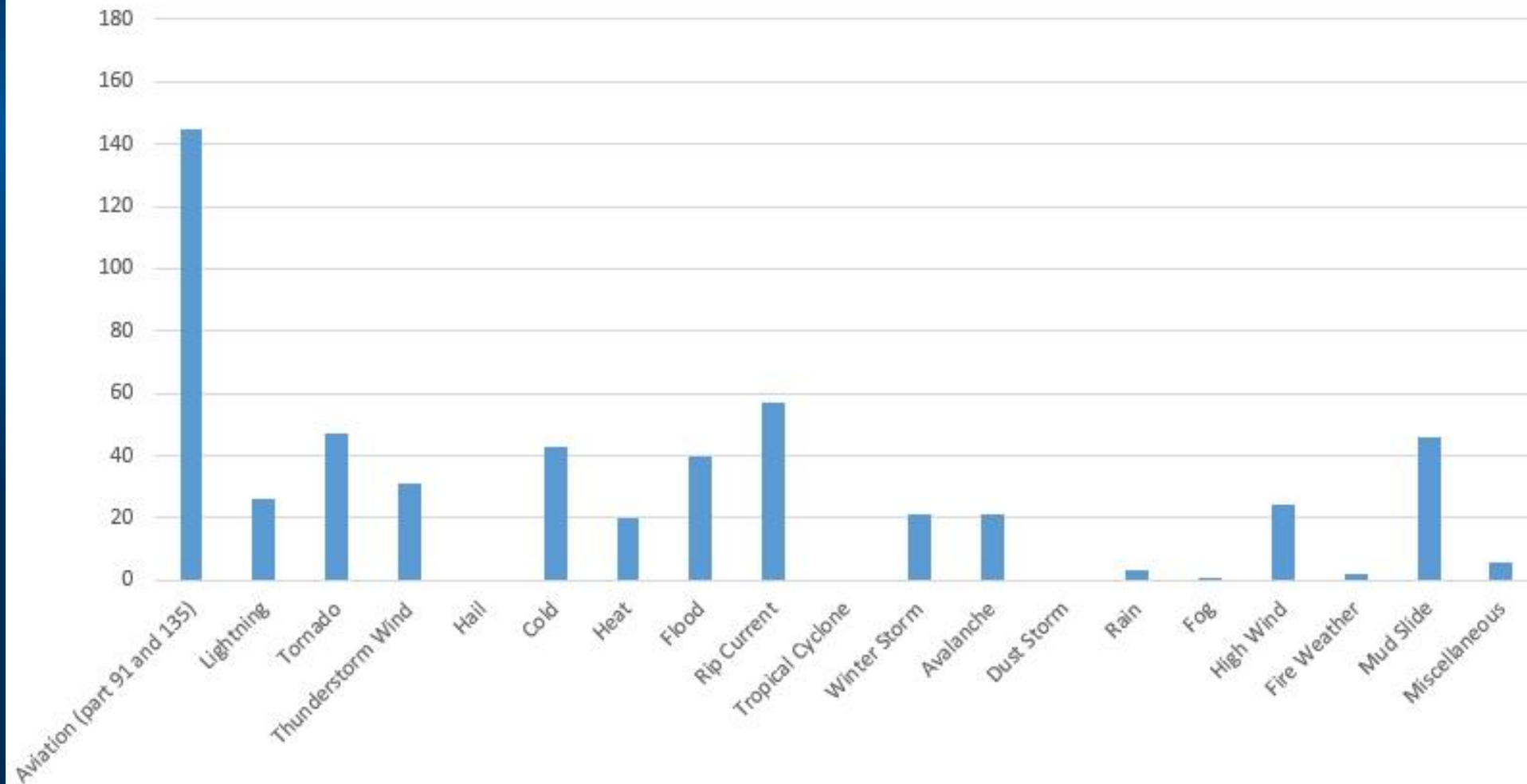
Scott Birch – NWS Western Region Aviation Meteorologist





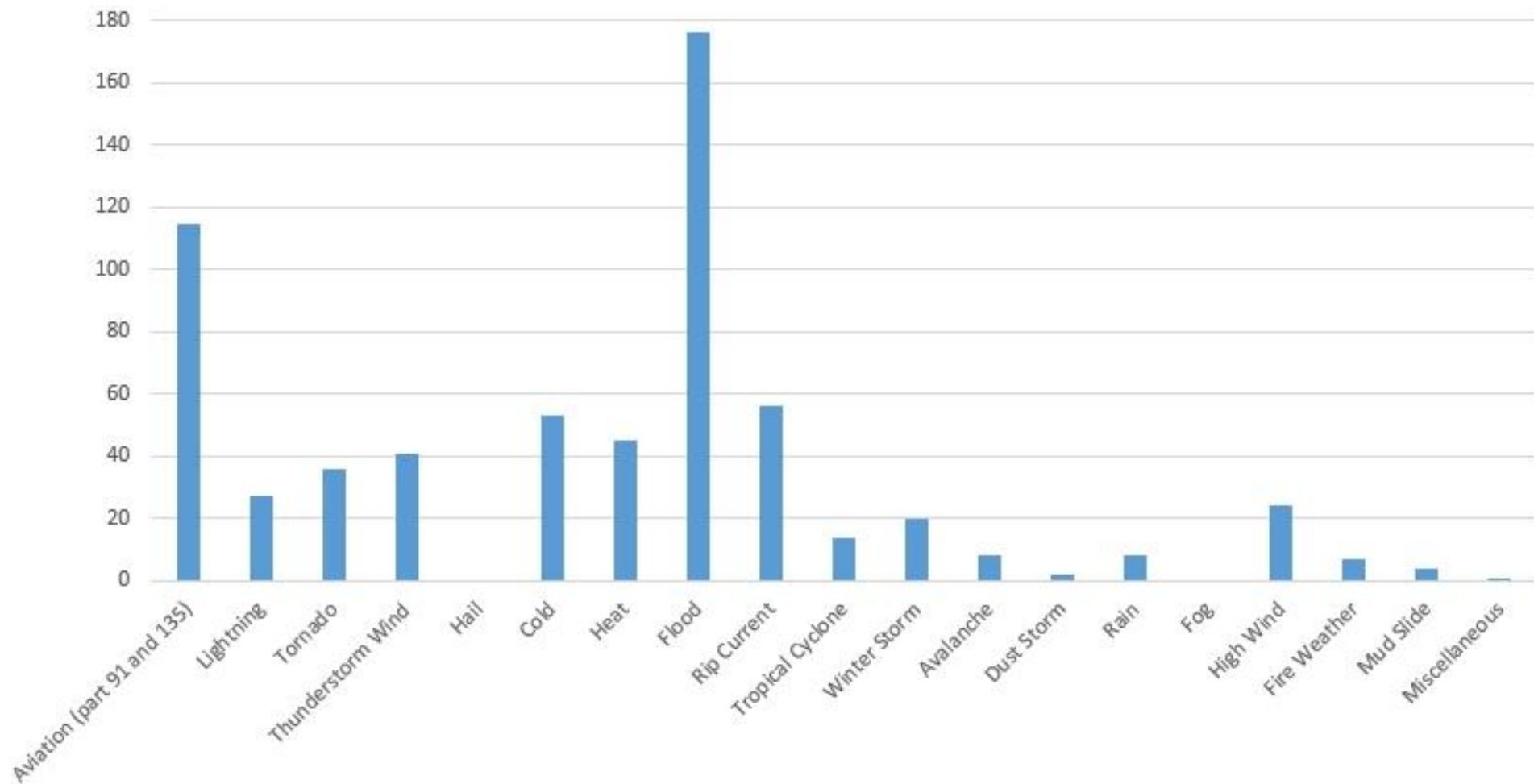


Total Number of Wx Related Deaths for 2014



Highest weather related fatalities occurred in Aviation - Part 91 and 135

Total Number of Wx Related Deaths for 2015



NTSB Governance

- Reports directly to Congress
- Independent federal agency (not part of FAA)
- **No regulatory authority**
- Composed of five Board members
- Staff of specialists in various fields of accident investigation and research.

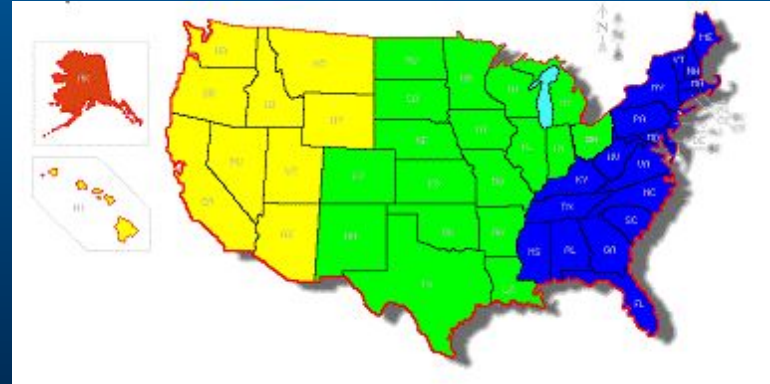
NTSB Modes and Personnel

HQ in Washington, DC

4 regional offices

About 400 employees total

- \approx 110 AS investigators



Investigations in all modes

- Aviation
- Highway
- Marine
- Railroad
- Pipeline/Haz Mat
- Commercial Space

Meteorology Group

Two main themes to an investigation

- Define what the environment was
- Assess integrity, availability of all weather information supporting user decision-making and situational awareness

Review/evaluate weather products and services

- NWS, FAA, Operator dispatch/private weather services, etc...
- Conduct formal interviews as necessary
- Identify safety concerns, develop recommendations

Regularly collaborate with ATC, OPS, HP, RE, all other modes and NTSB groups

The NTSB Investigative Process



On duty MET



Sometimes incidents too

Fatal or non-fatal accidents we get an email, SAFTI request, call, text...etc

The NTSB Investigative Process



Call and coordinate with other investigators such as ATC, Operations, RE, etc...



Call NWS Forensics Manager

Initial Notification & Launch

Response Operations Center

Usually Media or FAA

Collect/verify info

Notify parties

Go-Team

- IIC, Group Chairmen, Board Member, Transportation Disaster Assistance, Public Affairs, General Council, etc.



Organizing the Investigation

Initial Organization Mtg

- Whole team present

No lawyers or media

Share preliminary info

- First responders

Brief on rules and procedures

IIC designates parties, observers, etc.

Investigative groups formed

Daily progress meetings – factual info only



Why the Party Process

Suitable and needed technical expertise for group participation

Ability to initiate corrective actions to address safety issues

Party Process



Party Process

Certification of Party Representative

Role and responsibilities

NWSI 10-2006

Requests will be directed through the
NWS Forensics Manager and the Region

Dissemination of information

Restrictions on release of information



NTSB Investigation No. _____
Date of Accident: _____
Accident Location: _____

CERTIFICATION OF PARTY REPRESENTATIVE¹

I acknowledge that I am participating in the above-referenced accident or incident investigation, on behalf of my employer who has been named a party to the National Transportation Safety Board (NTSB) safety investigation, for the purpose of providing technical assistance to the NTSB's evidence documentation and fact-finding activities. I understand that as a party participant, I and my organization shall be responsive to the direction of NTSB personnel and may be expelled from the investigation for conduct that is prejudicial to the investigation or inconsistent with NTSB policies or instructions. No information pertaining to the accident, or in any manner relevant to the investigation, may be withheld from the NTSB by any party or party participant.

I further acknowledge that I have familiarized myself with the attached copies of the NTSB Accident/Incident Investigation Procedures (49 C.F.R. Part 831) and "Information and Guidance for Parties to NTSB Accident and Incident Investigations," and will comply, and ensure all employees and representatives of my organization will comply, with these requirements. This includes, but is not limited to, the provisions of 49 C.F.R. §§ 831.11 and 831.13, which, respectively, specify certain criteria for participation in NTSB investigations and limitations on the dissemination of investigation information.

No party representative may occupy a legal position or be a person who also represents claimants or insurers. I certify that my participation is not on behalf of either claimants or insurers, and that, although factual information obtained as a result of participating in the NTSB investigation may ultimately be used in litigation (at the appropriate time, and in a manner that is not inconsistent with the provisions of 49 C.F.R. § 831.13 and 49 U.S.C. § 1154), my participation is to assist the NTSB safety investigation and not for the purposes of preparing for litigation. I also certify that, after the NTSB IIC releases the parties and party participants from the restrictions on dissemination of investigative information specified in 49 C.F.R. § 831.13, neither I nor my party organization will in any way assert in civil litigation arising out of the accident any claim of privilege for information or records received as a result of my participation in the NTSB investigation.

I further acknowledge my responsibility to ensure that the NTSB is informed in writing, immediately and with specificity, when information or records provided to the NTSB, in any format, or other investigative activities, are subject to United States export controls, classification or licensing requirements, or sanctions restrictions. Similarly, commercially sensitive and/or proprietary material provided to the NTSB investigation should be clearly marked in accordance with the provisions of 49 C.F.R. Part 831.6.

Signature

Date

Name & Title

Party Organization/Employer

¹ In aviation investigations this form may also be referred to as "Statement of Party Representative to NTSB Investigation."

Party Participants

- Coordinator
 - Oversees all participants of organization
 - High enough to address safety issues
 - Not too high or financial/legal
- Group Members
 - “...suitable qualified technical personnel to actively assist...”



NTSB

National
Transportation
Safety Board

NWS Instruction: 10-2005 Handling and Releasing Accident-Related Weather Information



- Notify regional HQ of any request for data for an investigation.
- The Forensics Manager at HQ will coordinate with the appropriate RH or local office manager to arrange these interviews.
- Information in interviews and statements should be confined to functions and responsibilities relating to the NWS or accident.

Interview (and written statements) Process



- Written statements, forecast information and interviews will not be provided outside the NWS without approval from the Forensics Manager.
- On occasion, interviews are requested by NTSB investigators. The Forensics Manager and Regional HQ will arrange these interviews.
- NWS employees are allowed to have a companion during the interview. This person may be a co-worker, manager, NWSEO rep or family member. The NWS employee will answer the questions and the companion provides support.

WFO Decision Support Services for NTSB Investigation Team

- The NTSB may request weather support for the investigation team
- The WFO will provide a weather watch for high impact weather at the accident site
- The WFO will provide spot forecasts for the team
 - Normally for the day time
 - The NTSB will provide the WFO with contact information and their forecast needs through the ROCs



Example of Safety Work

SAFETY ALERT 074 | **NTSB** National Transportation Safety Board | June 20, 2018

Ice Accumulation

■ Addressing the risks of ice from freezing spray on vessel stability

AVIATION
HIGHWAY
MARINE
RAILROAD
PIPELINE

The problem

Icing can dangerously degrade a vessel's stability. The NTSB investigated an accident in which the fishing vessel *Destination* likely capsized at night in rough seas and gale force winds due to topside ice accumulation. The vessel was transiting through the Bering Sea to St. Paul Island in heavy freezing spray conditions that were forecasted by the National Weather Service. The vessel and all hands were lost without a mayday call.



Ice accumulation on a vessel operating near the capsized vessel that was lost with all hands in the Bering Sea on February 11, 2017. (1, 2, and 3) *Polar Sea*: ice covers the decks and anchor chain during the vessel's transit to St. Paul Island on February 10 and remains on the wheelhouse while it was docked at the island the following day.

The solution—what mariners can do

During winter months, consult the [National Weather Service's](#) freezing spray forecasts and plan transits and fishing operations accordingly to decrease the risks of hazardous conditions.

Should your vessel be exposed to freezing spray conditions, consider the following precautions:

- Decrease the number of pots on board or other gear above the main deck to reduce the available surface area for accumulating ice. These measures also serve to lower the vessel's center of gravity, thereby increasing its stability margin prior to encountering icing conditions.

Continued on next page

To the North Pacific Fishing Vessel Owners' Association:

Notify your members (Bering Sea/Aleutian Islands Crabbers/Fishing Vessel fleet) of the specifics of this accident, the amount of ice assumed when developing stability instructions, and the dangers of icing. (M-21-09)

To the National Oceanic and Atmospheric Administration:

Increase the surface observation resources necessary for improved local forecasts for the Sutwik Island and Chignik Bay region in Alaska. (M-21-10)

To the National Weather Service:

Make your Ocean Prediction Center freezing spray website operational and promote its use in the industry. (M-21-11)

Example of Safety Work

A-14-20: TO THE NATIONAL WEATHER SERVICE:
Establish a protocol that will enhance communication among meteorologists at the center weather service units, the Aviation Weather Center, and, as applicable, other National Weather Service facilities to ensure mutual situation awareness of critical aviation weather data among meteorologists at those facilities.

A-18-21: TO THE NATIONAL WEATHER SERVICE:
Revise National Weather Service Instruction 10-811 to include guidance on the issuance of airmen's meteorological information advisories and other products that advise of nonconvective turbulence hazards when convective significant meteorological information advisories are active, or may be issued, in the same region.

A-18-22: TO THE NATIONAL WEATHER SERVICE:
Develop and provide formal training to your aviation weather forecasters on the analysis, interpretation, and forecasting of low-level turbulence.

A-21-43: TO THE NATIONAL WEATHER SERVICE:
Work with the FAA to modify AIRMET advisory issuing practices to include graphical AIRMET advisories with higher granularity taking into account the effect it would have on all NAS users.

Any Questions?

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Email: scott.birch@noaa.gov



[nts.gov](https://www.nts.gov)