

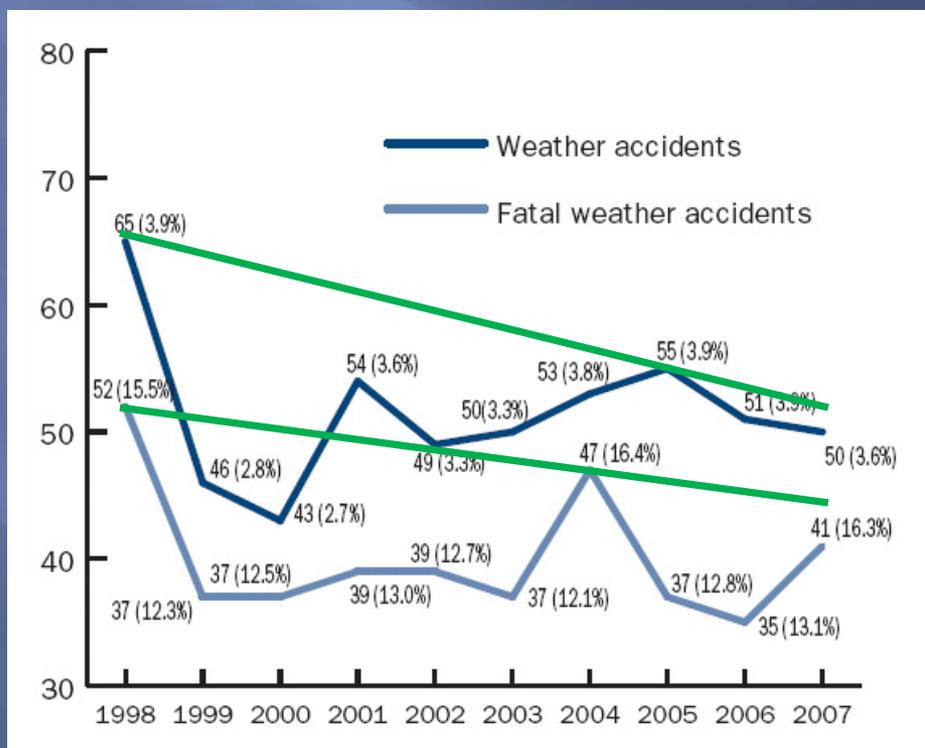
# Weather: A User's Perspective

**Bruce Landsberg**  
**President**  
**AOPA Air Safety**  
**Foundation**



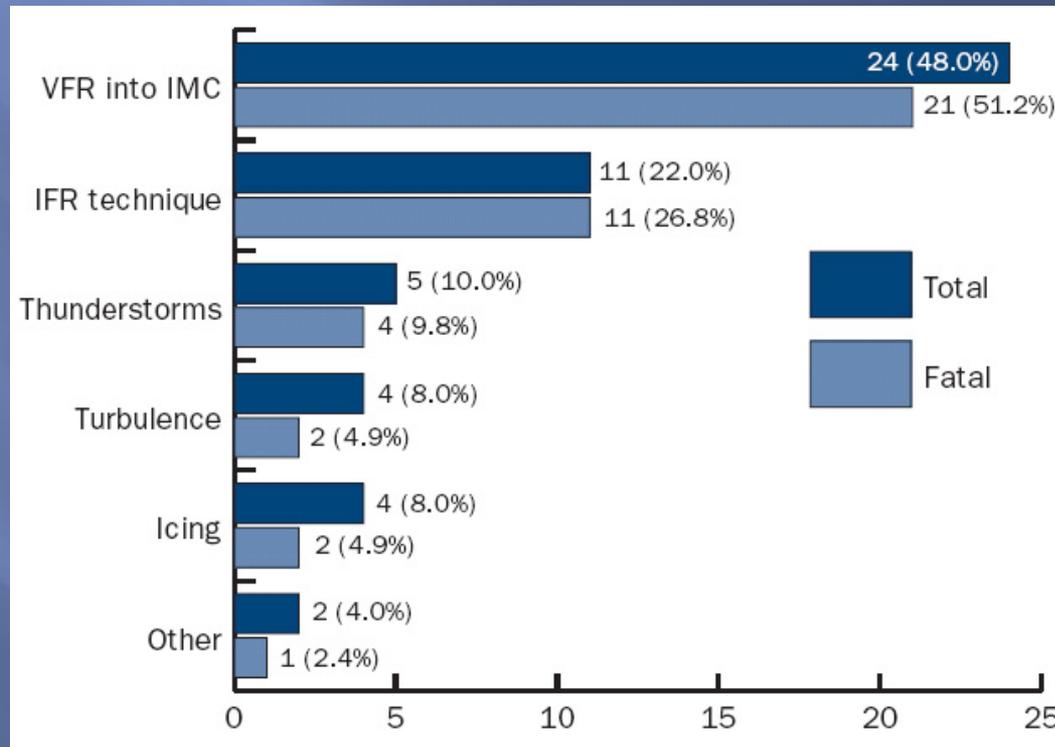
# Weather Accidents

- Downward trend
- Technology is better
- Dissemination is slightly better.



# Types of weather accidents

- One of the most deadly causes
- 82% fatal.



# Kinds of Aircraft

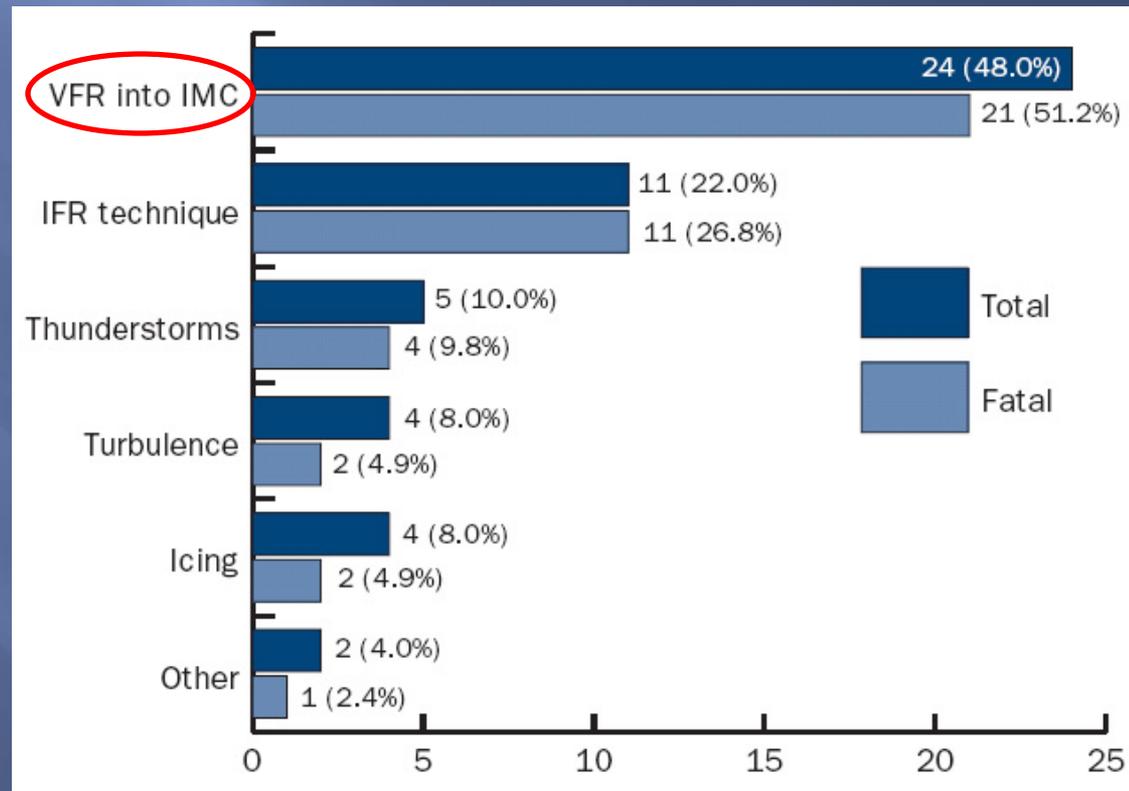


# Kinds of Aircraft

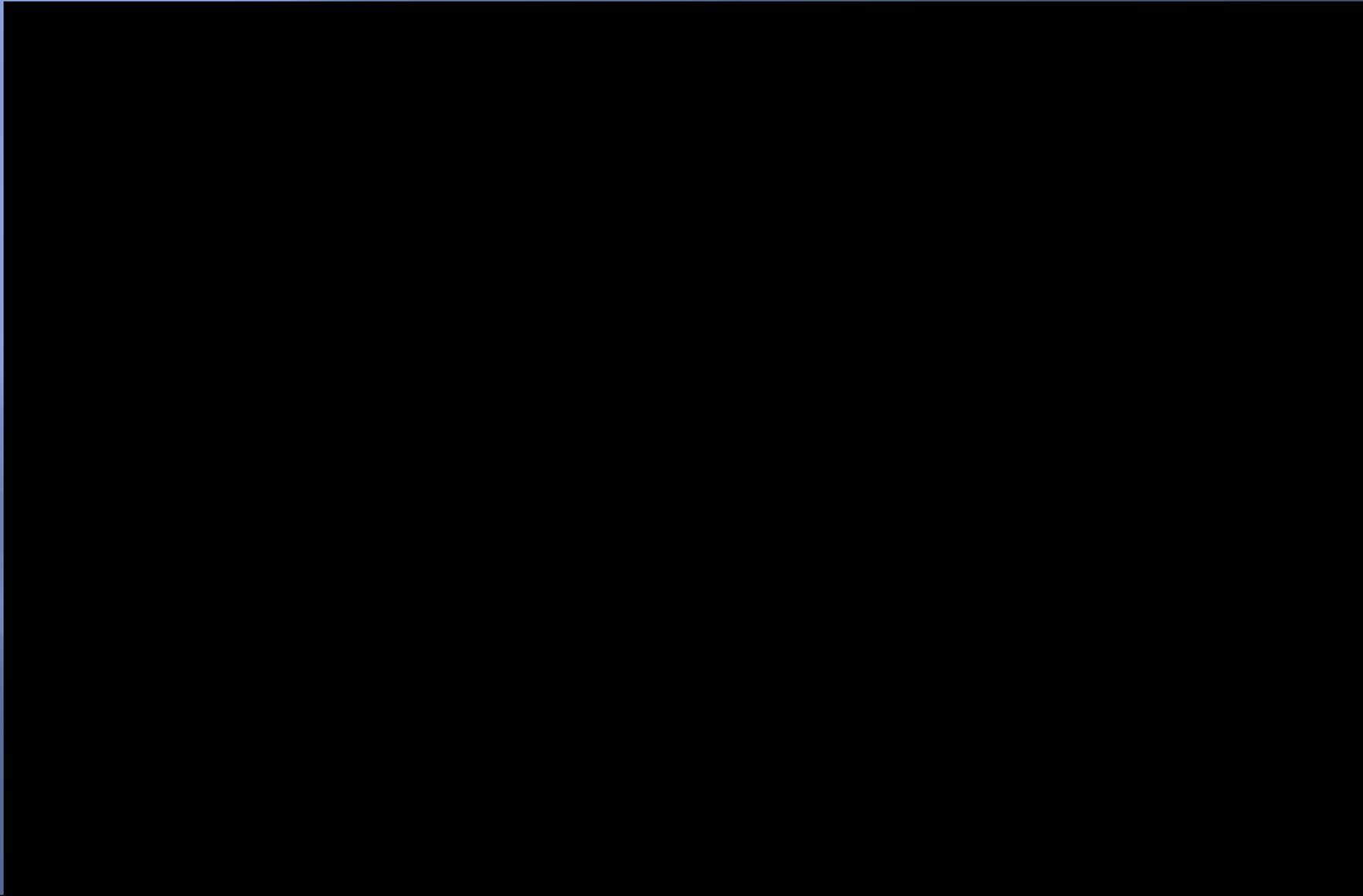


# VFR into IMC

- Average of 30 per year
- 90% fatal
- Why?.

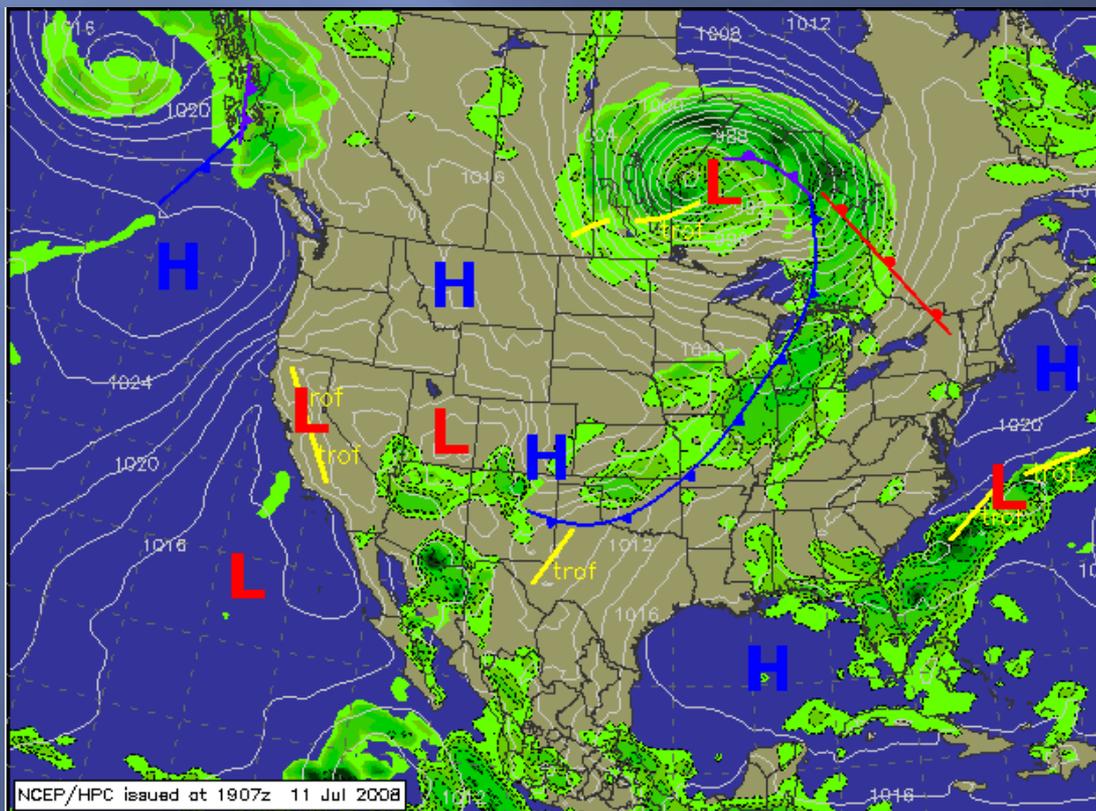


# Pilot POV



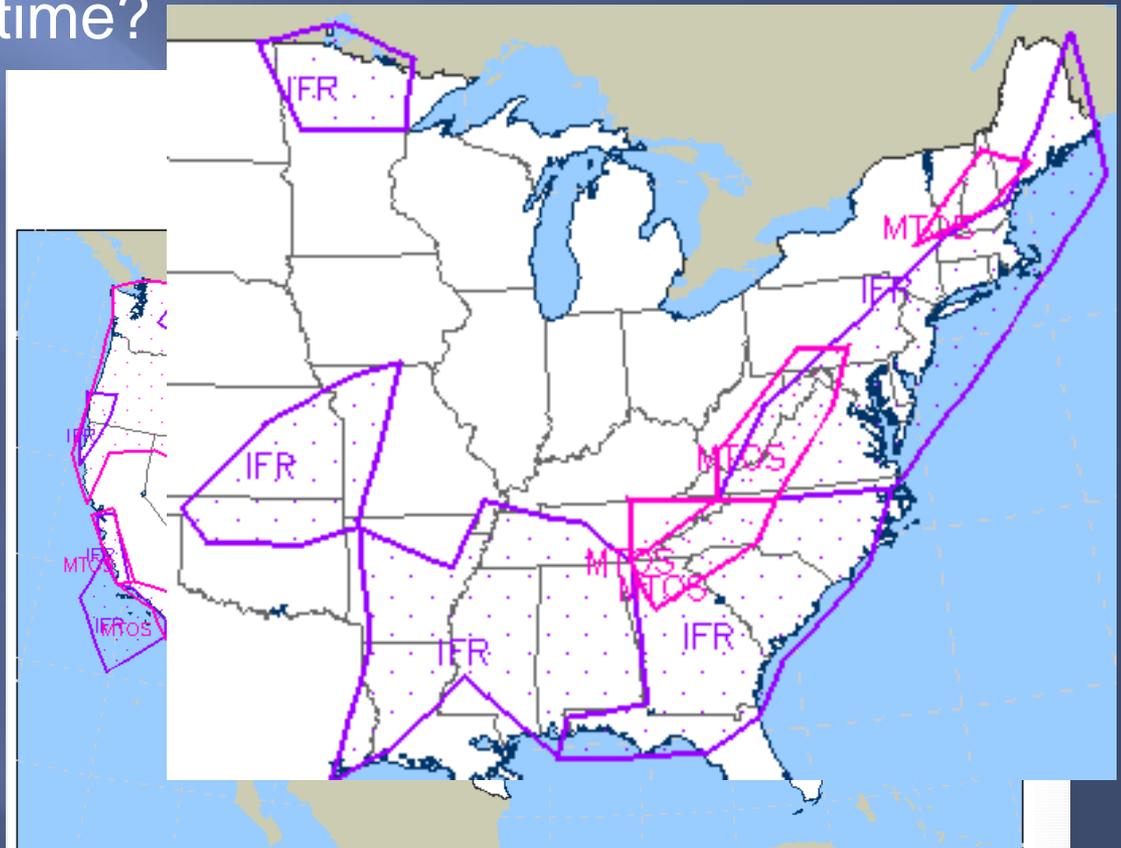
# VFR Not Recommended

- Not Now
- Not Tomorrow
- Not Next Week.



# Crying Wolf?

- Is it REALLY IMC?
- Over the entire forecast area?
- Over the entire time?
- REALLY?



# Weather Wise: Ceilings and Visibility



**WeatherWise: Ceiling and Visibility** will give you tools to cope with two of the most challenging weather phenomena known to pilots. Many pilots don't realize that low ceilings and restricted visibilities are aviation's most deadly killers. With a little knowledge, you can minimize the risk these conditions pose.

**Sponsored By:**  
Terry Cunningham  
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# Ready, Aim...

- Why is the forecast like this?
- What is your confidence level?.



# Devil is in the Forecast Details

- For VFR – Forecast changes 1,000' below 3,000' agl

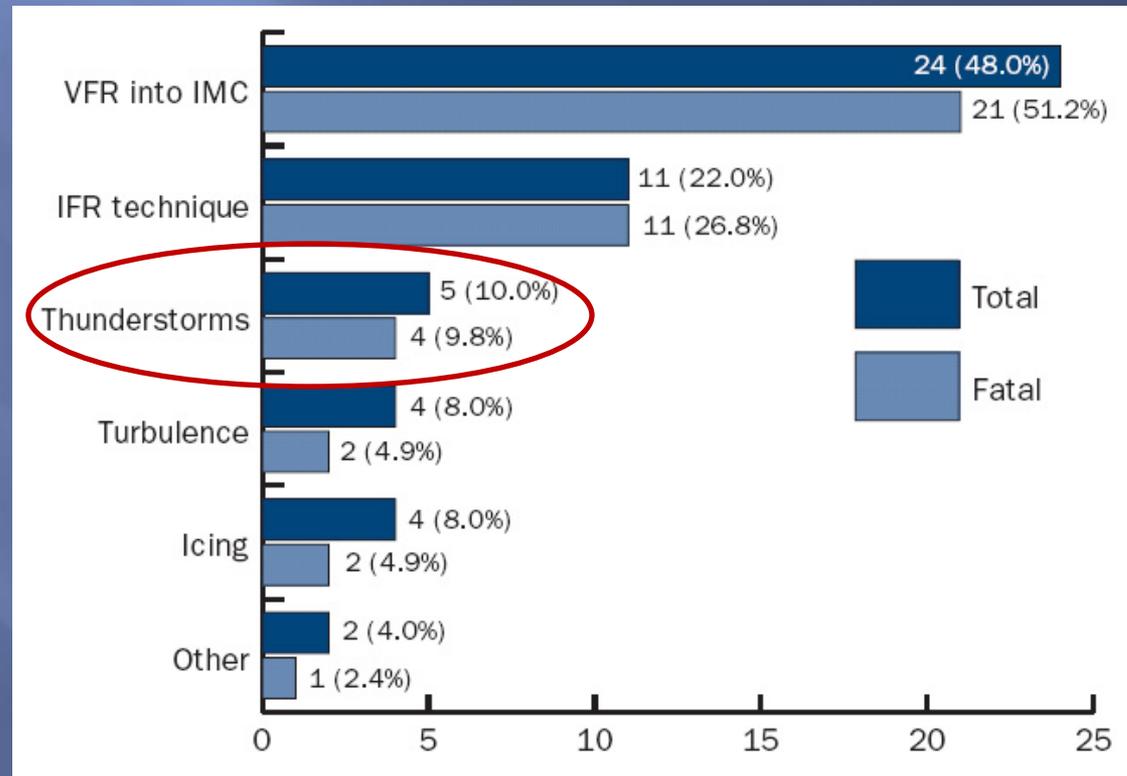


**At 200' agl, 100' matters**



# Thunderstorms

- 4 of 5 fatal.



# Thunderstorms

- Crossfield
- Fast-moving/building storms.



# Go-Around?



# A Good Place to Be...



# What a Difference!



# Weather Wise: Thunderstorms and ATC



**WEATHER WISE**  
**THUNDERSTORMS & ATC**

**Do you hear thunder?**  
Enable Sound for Best Experience

**Few pilots are willing to fly through convective activity. Those who do soon discover why they're in the minority.**  
This course discusses effective pilot-ATC communications and the weather-radar equipment that ATC can use to help pilots avoid convective activity. This knowledge will help pilots make sound decisions as pilot in command.

Satisfactory completion of this course qualifies toward the AOPA Accident Forgiveness and FAA WINGS programs.

Thank you to our course sponsors:



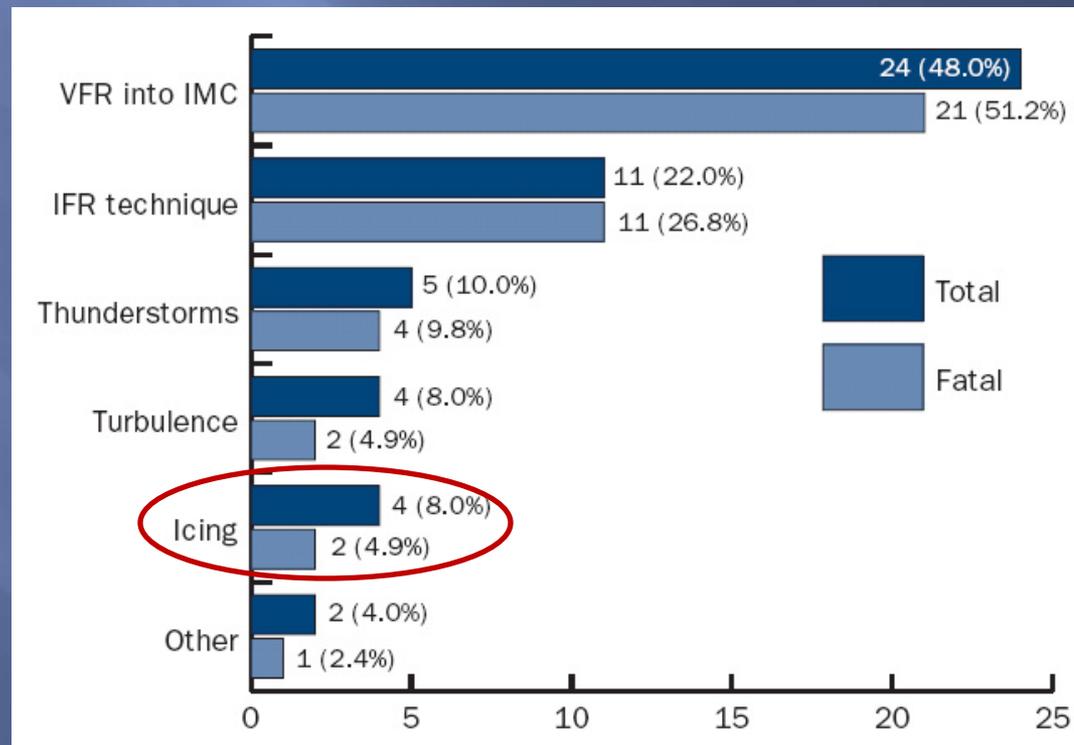
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Mark Jon Bluth

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# Icing

- Cirrus over the Sierra Nevada
- No ice advisories.



# Icing

- Tops?
- Bases?
- Freezing level?
- Is there REALLY ice?.



# Icing

- Roselawn, IN
  - ATR-72
  - October 31, 1994
- Buffalo, NY?
  - Dash 8.
  - February 12, 2009



## Buffalo plane crash raises broader issues on icing

A safety alert in December cautioned against flying on autopilot in icy conditions.

### Buffalo Plane Had Stall Warning Before Crash

JOAN LOWY | March 25, 2009 05:04 PM EST | [Ap](#)



## NTSB: Crew reported ice buildup before crash

50 people killed when plane plunges into home in upstate New York



Stan Honda / AFP - Getty Images

An investigator walks through the scene Friday of a Continental Airlines commuter plane crash in Clarence, N.Y.

### Video



Launch

#### NTSB: Crew reported ice buildup

Feb. 13: NTSB official Stephen Chealander tells reporters that the crew of Flight 3407 reported significant ice buildup on the windows and leading edge of the wings prior to crashing.

MSNBC

# Weather Wise: Precipitation & Icing



The advertisement features a central image of a small white and blue aircraft flying through a dark, stormy sky with rain and ice. The aircraft is shown from a side-on perspective, with a large blue circular graphic behind it, possibly representing a radar or weather sensor. The background is a dark, textured sky with some faint clouds.

**WEATHER WISE**  
**PRECIPITATION & ICING**

**Can you hear the rain shower?**

Enable sound for the best experience

Satisfactory completion of this course qualifies for [AOPA Accident Forgiveness](#) and the [FAA Wings program](#)

**Too many pilots underestimate the dangers of precipitation and icing.**

And an alarming number become accident statistics as a result. Learn how to recognize the hazards of precipitation and ice, develop a strategy for avoidance, and react appropriately if you encounter unexpected conditions.

***Disclaimer:** This course is designed for pilots who fly light general aviation aircraft that are not certified for flight into known icing conditions.*

**Writers**  
Jim Pitman  
Carl Peterson

**Project Manager**  
Miranda Skonie

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Mark Jon Bluth  
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# Using the Hardware



# Where is This Going?

- Observations – Ground and Aloft
- Training – Pilots and Meteorologists
- It's about GOOD forecasts
- It's about TIMELY updates/changes
- It's about VERIFICATION
- It's about the system

**We need to move general aviation into  
the 1990s.**

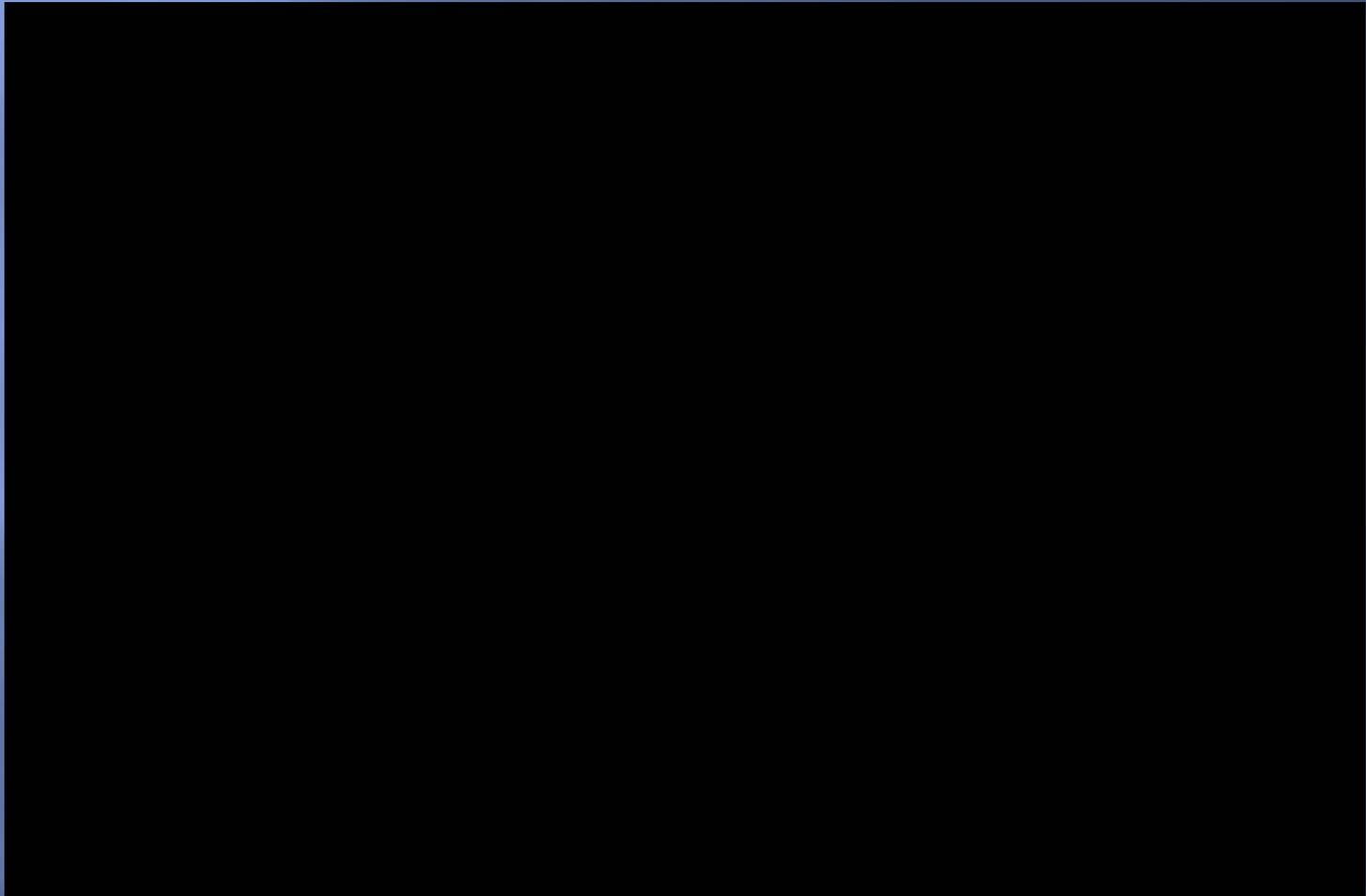


# Pireps

- Should be a higher priority
- SkySpotter.



# SkySpotter



# The Forecast Model is Not So Good

- A thousand points of light
- Project prep.



# Outdated

KJAX 072330Z 02008KT 4SM +RA BR SCT010  
BKN025 OVC060 24/23 A2994 RMK  
AO2 CB DSNT N-NE AND S P0015=

## Translation:

Heavy rain, can't see squat

Thunder & lightning everywhere

VFR not recommended (IFR either)

Come back in an hour.



# There's More...

KJAX 071728Z 071818

04016G30KT 6SM HZ VCSH SCT008  
BKN015 BKN030 TEMPO 1822 1SM  
+SHRA BR OVC008

FM0000 04012G18KT P6SM VCSH  
SCT015 BKN025 OVC050 TEMPO 0004  
04020G30KT 2SM SHRA BKN015

FM1300 02015G25KT P6SM VCSH  
SCT010 BKN025 OVC050 TEMPO 1418  
1SM +SHRA BR OVC010=.



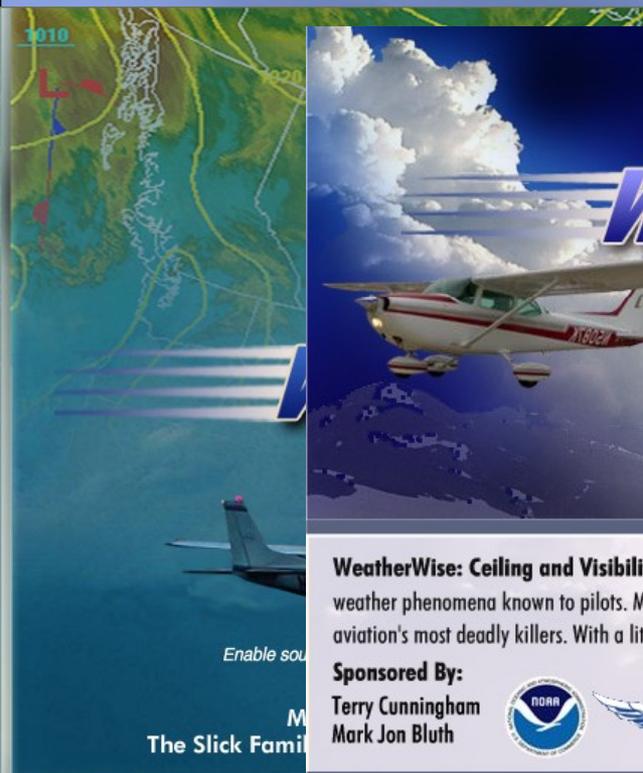
# Training

- Good information = good decisions
- Uncertainty
- Complexity
- Confusion.



# Online Courses

- Weather Wise series
- SkySpotter.

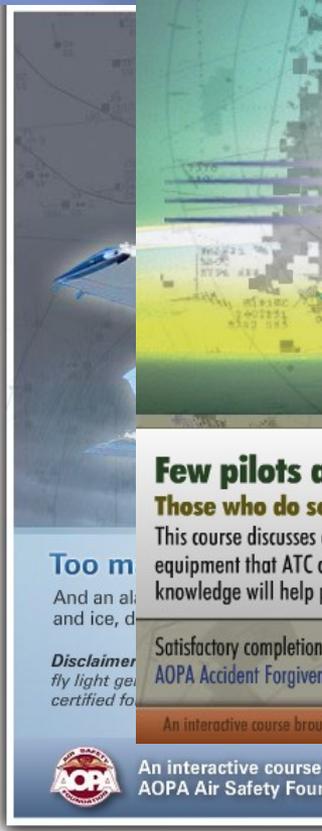


**WeatherWise: Ceiling and Visibility**  
 weather phenomena known to pilots. M  
 aviation's most deadly killers. With a lit

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**Few pilots**  
 Those who do so

**Too m**  
 And an al  
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**Disclaimer**  
 fly light ge  
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**SkySpotter** 

**Pireps Made Easy**

**Pilot reports (pireps) are a valuable resource.**

Created by pilots, for pilots, pireps are a great source of real-time, in-flight weather conditions – offering a “sneak peek” of what you’ll encounter in flight. This course covers how to get, use, and give pireps to help you become a better SkySpotter!

Can you hear the pirep? 

**BEGIN COURSE**

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