

The American Meteorological Society

Certified Consulting Meteorologists

Newsletter

Volume 7, Issue 3

Fall 2016

This newsletter is intended to enhance communications between CCMs, the BCCM, and the AMS. It is published quarterly to provide information about the on-going activities of the CCM program. Please remember to use the **CCM LinkedIn page** for your communication and exchanges between CCMs.

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The Chair's Column



Dear CCM Colleagues:

The BCCM was able to hold a second regional exam recently because two current board members, Mitch Baer and Tim Hall, and two CCMs, Joe Chang and Lou Cantrell, gave of their time and talent. Special thanks to these individuals for ensuring a continued high level of professional competency and ethical counsel in the field of consulting meteorology.

We currently have two candidates awaiting an oral exam at the annual meeting in Seattle, three candidates awaiting grades for the written exam material, and four candidates working on the written exam. As always, if you have any questions about the BCCM or would like to refer potential new CCMs to someone who can answer their questions about the CCM process, please contact me at bccm.chair@gmail.com.

As a reminder, the BCCM decided to forgo the CCM Forum for 2017 and instead focus greater efforts on organizing a short course for the 2018 AMS Annual Meeting, as much interest has been expressed in past short courses offered by CCMs. If you are interested in helping organize a short course or discuss the CCM Forum for 2018, please contact me soon as we are now in the planning stages for that meeting.

Jennifer M. Call, CCM #674
Chair, Board of Certified Consulting Meteorologists
American Meteorological Society ■



Weather as a Causal Factor in Aircraft Accident Litigation

Written by Ray Palmer, FAA Air Traffic Organization (ATO)
Safety and Technical Training Litigation Support Group
Contributed by Randy Bass, CCM

Plane seen through rain spattered window.

According to a study by the FAA Aviation Safety Information Analysis and Sharing program, there were 8,657 aviation accidents from 2003 through 2007. Weather was a cause or contributing factor in 1,740 of these accidents. The law places a high level of responsibility on the pilot in command of an aircraft; however, the public also places a duty and responsibility on air traffic controllers employed, trained and certified by the federal government to do their part to make the skies safe.

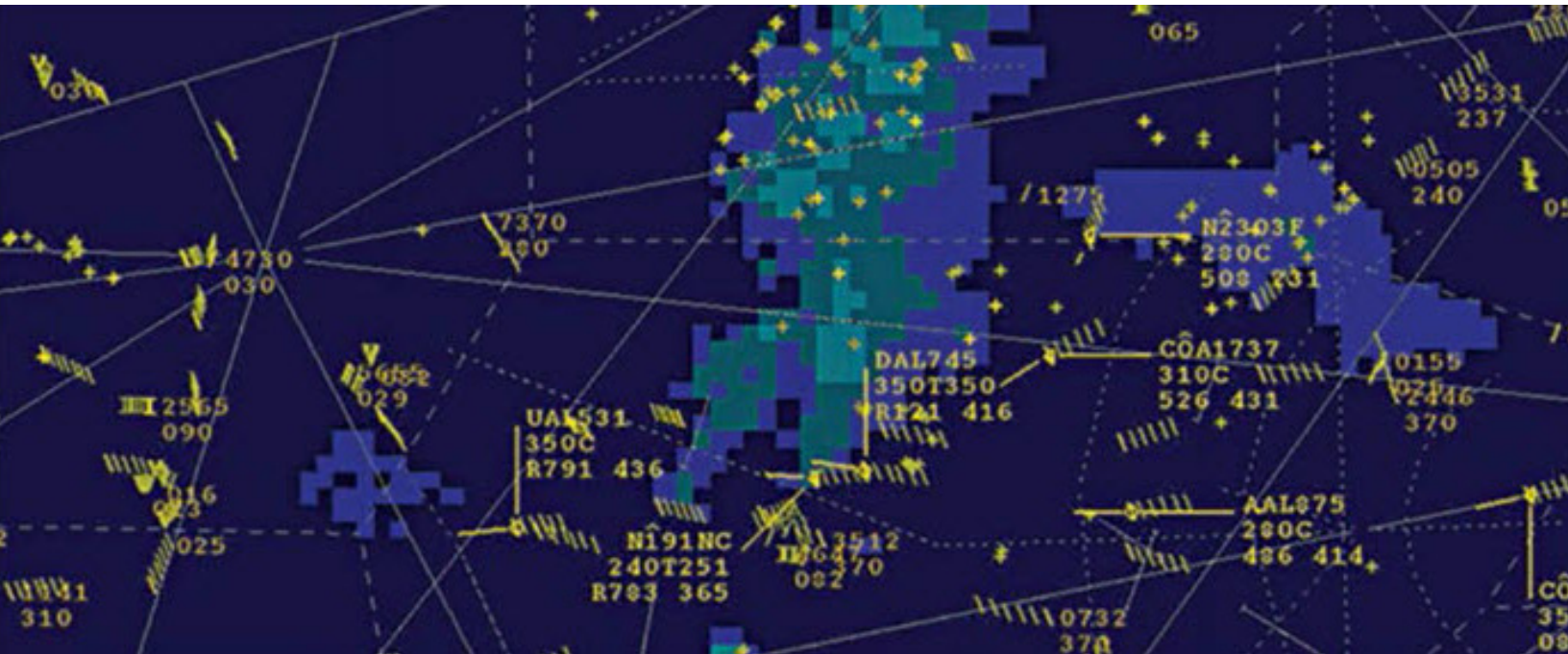
The ATO Safety and Technical Training Litigation Support Group provides litigation support to the FAA Office of the General Counsel and the U.S. Department of Justice Aviation Division for claims filed against the United States under the Federal Tort Claims Act. The FTCA is a limited waiver of the government's sovereign immunity that allows the public to sue for monetary losses from damage to property, personal injury or death caused by the negligence of a government employee acting within the scope of his or her employment. Aviation claims most often involve alleged negligence related to air traffic control services, and most commonly involve three types of accidents: midair collisions, controlled flight into terrain and weather-related cases.

Weather-related cases most often involve allegations that an air traffic controller failed to warn or provide a pilot with information of relevant adverse weather conditions. Cases can often result in adverse federal court decisions for the United States. The following is a short synopsis of several cases that help illustrate how these alleged lapses played out in litigation. (While there are often multiple factors and errors on

the part of pilots and others involved that led to the accident, the information presented here is limited for the purposes of this article. The names of the involved facilities are intentionally left out.)

In *Worthington v. United States*, the court held that the pilot's spatial disorientation at decision height on an instrument flight rules approach was a foreseeable result of negligence of the approach controller in not providing up-to-date weather information. Similarly, in *Abrisch v. United States*, the court found the pilot's spatial disorientation and resulting crash while executing an approach was caused by the controller's failure to provide the pilot with weather information that would have alerted him to deteriorating conditions.

In *Zinn v. United States*, the court addressed issues of air traffic controller and pilot responsibilities for weather avoidance. A pilot of a twin-engine aircraft flew into a thunderstorm, lost 10,000 feet of altitude, exited the bottom of the storm cell, flew for some time and then crashed. The court found the scope of the duty owed by controllers to pilots arises from FAA manuals, principally FAA Order JO 7110.65, as well as common law duties as to what a reasonably prudent person similarly situated would have done under the circumstances. The court also observed that other courts have held that an air traffic controller is required to "warn of dangers reasonably apparent to him, even beyond the requirements in the manual, if those dangers are not apparent to the pilot in the exercise of due care."



Weather seen on radar

On a more positive note, in *Lomas v. United States*, the court held the controller never breached a duty to the pilot. The controller issued the precipitation depicted on his radar scope. The pilot acknowledged the weather provided by controllers reflected the weather on his NEXRAD imagery. The controller continued to update the pilot and the pilot twice confirmed that he knew the same information based on his NEXRAD imagery. The court held that there was “simply no evidence that the controller had in his possession or on his radar scope, adverse weather that he did not convey to the pilot.”

Several current cases involving weather are in various stages of litigation. A common theme in many of the cases is the allegation that air traffic control had weather information available and did not provide it to the pilot. The argument is made that a reasonably prudent controller in his/her situation would have provided the information.

For example, in *Finer v. United States*, a Cessna 337B without weather radar was providing air support for a military operation. Prior to the flight, the crew attended a briefing with military personnel that included weather forecast information but did not include any indication of hazardous weather over the operations area or near the landing airport. During the flight, the weather began to deteriorate. The FAA controller did not provide the pilots with the

precipitation/weather displayed on radar prior to releasing the aircraft to the military controller.

The pilot initiated a return to the landing airport due to the weather conditions. As the airplane approached the airport it encountered severe turbulence and strong winds. The right wing separated in flight, and the airplane crashed inverted in a farm pasture west of the airfield. The claim is for \$16 million.



Lightning outside an airport

In *Fry v. United States*, a PA46 cleared for a GPS approach crashed approximately two miles from a satellite airport. The ceiling was near minimums for the airport. Approximately 30 minutes earlier, another aircraft missed approach at the same airport and chose to fly to an alternate airport. The controller did not solicit information about the missed approach and did not provide information about the missed approach to the accident aircraft. The claim against the government was for \$16.35 million.

In *Soule v. United States*, a C340 was en route when the pilot reported instrument problems and made a request to level at a lower altitude and remain visual flight rules. Later the pilot requested "on course and a higher altitude." The controller handed the aircraft off to the next facility without passing along information about the instrument issue and without issuing displayed weather along the aircraft's flight route. The next controller issued weather information and approved a deviation to the east. The pilot lost control of the aircraft and was unable to regain control before crashing into the water.

The plaintiffs charged that the controller owed the pilot a duty of care to provide greater assistance, in light of the instrument issue, regarding weather along the route of flight, and navigational guidance to avoid the weather. The claim is for \$50 million.

In *Raub v. United States*, a B757 entered an en route facility's airspace at FL370. Numerous aircraft had been deviating due to weather in the area. The aircraft requested a descent to FL310 and encountered severe turbulence between FL370 and FL360. Plaintiffs allege the ARTCC did not pass along relevant pilot weather reports, or PIREPS, and information pertaining to weather and turbulence in the area. The NTSB determined the probable cause of the incident as "the air traffic controller's failure to provide required advisories about significant radar-observed precipitation." The claim is for \$15 million and litigation is ongoing.

In *Vaccarello v. United States*, an aircraft was inbound to a satellite airport with deteriorating weather in the area. The controller failed to disseminate and broadcast accurate and timely weather information and did not provide the most current airport weather. The approach clearance did not meet requirements and the pilot became spatial-

ly disoriented, lost control and crashed. The case recently settled for several million dollars.

PIREP FORM	
Pilot Weather Report	
1. UA →	UA → UUA →
2. /OV →	Altitude
3. /TM →	Time
4. /FL	Altitude (Flight Level)
5. /TP →	Altitude Type
Remarks (Through Four, sometimes Five, Digits)	
6. /SK →	Visibility
7. /WX →	Flight Conditions and Weather
8. /TA →	Temperature (C/F)
9. /WV →	Wind
10. /TB →	Turbulence
11. /IC →	Icing
12. /RM →	Remarks

PIREP form example

In the case of *Knous v. United States*, a BE36 was destroyed following an in-flight breakup. Instrument meteorological conditions, or IMC, prevailed and the en route facility was busy with holding and diverting aircraft. When the pilot reported on frequency, the controller provided a PIREP from another general aviation aircraft that had flown through the area of weather approximately 10 minutes earlier. The BE36 requested a higher altitude and a deviation to the right for weather, both of which were provided. The plaintiffs contended the FAA was negligent because Weather and Radar Processor, or WARP, weather depicted on the controller's radar scope was never issued in accordance with JO 7110.65 par 2-6-4.

In this case, the controller solicited more than one pilot report for the benefit of the decedent pilot, and one that specifically applied to the pilot's route of flight. The claim was for \$35.1 million, and the

court recently ruled in favor of the United States, stating the PIREP provided the pilot with real-time, detailed information meeting the requirement of par 2-6-4. The judge found no liability on the part of the government as the controller had met his duty to provide pertinent, timely weather to the pilot.

Recent cases against the government have featured both wins and losses. Although courts have been very reluctant to wholly absolve pilots of their neg-

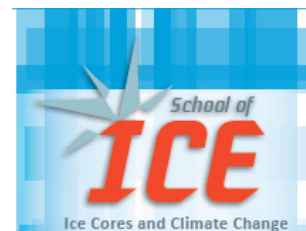
ligence, especially in weather cases, they have been very clear that air traffic controllers must exercise care in the performance of their duties. Simply stated, a controller should provide all the available weather information that would be considered reasonably prudent to assist the pilot during adverse weather situations. Think of this: "If you were flying the aircraft, wouldn't you want this information?" ■

Gerry Mulvey to be featured on SciTech Now

Contributed by Gerry Mulvey, CCM (#571)

[SciTech Now](#) airing on KLRN in San Antonio, Texas, will feature Dr. Gerry Mulvey (CCM #571) talking about Climate Change. Gerry was interviewed on September 14, 2016 by Chris Duel, local host of the weekly TV program for San Antonio's PBS affiliate KLRN. SciTech Now is a weekly half-hour newsmagazine covering everything from the IT industry to biomedical enterprises, bringing science, technology, engineering and mathematics (STEM) to the public. The broadcast explores technological advancements and innovations in the Alamo City and around the country. The interview lasted approximately 30 minutes, and covered topics such as climate change and Gerry's research on rain erosion of sun-dried mud brick ("adobe"), highlighting the results of the three AMS/NSF MSI - REaCH workshops.

[The REaCH program](#) provides instructors with hands on experience with meteorological records, ocean bottom sediment cores and ice cores to explore methods for reconstructing Earth's Climate History. During the interview, Gerry described how the workshops have helped refine his understanding of climate change. The show will air Friday, October 7, 2016, at 7:30pm. A preview of the show may be found [here](#). There is a possibility that the segment may be picked up by national PBS. Gerry is an assistant professor of meteorology at the University of the Incarnate Word in San Antonio, Texas. ■



New CCMs

Since the last newsletter was published, the following individual has completed all requirements for certification and was added to the roll of active CCMs:

Ronald Stouffer, CCM #728 ■

AMS Elections

[Online voting](https://www.ametsoc.org/ams/index.cfm/about-ams/ams-election-information/) for AMS elections is now open at <https://www.ametsoc.org/ams/index.cfm/about-ams/ams-election-information/>. We encourage all of you to participate in the voting process. The deadline for voting is **November 22nd**. ■

Henry T. Harrison Award Winner Announced



We would like to extend our congratulations to Dr. Bruce A. Egan, CCM #196, as the recipient of the 2017 Henry T. Harrison Award. He was selected from a field of highly deserving nominations, for an exceptional career that laid the foundation for many regulatory dispersion models and mentoring a cadre of early-career consulting meteorologists. ■

AMS Online Awards and Fellows Nominations will open on November 1st

The Council of the American Meteorological Society invites members and friends of the AMS to submit nominations for consideration for the Society Awards, Lecturers, Named Symposia, Fellows, Honorary Members, and nominees for elective Officers and Councilors of the Society. Of particular interest to CCMs, are the following awards:

- The Henry T. Harrison Award for Outstanding Contributions by a Consulting Meteorologist
- The Award for Outstanding Contribution to the Advance of Applied Meteorology
- Fellows

For a description of the awards and details on the nomination process, please see the [AMS Awards site](#).

Nomination Deadlines

- Online Awards and Fellows: 1 May 2017
- Honorary members: 1 July 2017
- Lecturers: 1 May 2017 ■

Ad Hoc Committee to Explore Space Weather Certification

The AMS Council approved establishing an Ad Hoc Committee to Explore Space Weather Certification at their September meeting. The next step is to identify two strong co-chairs to lead this charge, and to assemble 8-10 other members. If you are interested in sitting on this committee, or have recommendations of a colleague who may be interested, please contact AMS Commissioner of Professional Affairs [Maureen McCann](#) as soon as possible as she is looking to identify interested participants by the Annual Meeting. Individuals do not have to be AMS members to serve on this committee. ■

2017 Annual Meeting Activities

The AMS Annual Meeting will be held 22-26 January 2017 in Seattle, WA. The theme of the 2017 meeting is "Observations Lead the Way". There will be eight short courses offered the weekend prior to the start of the meeting. CCMs receive up to eight professional development points for attending the meeting and completing a short course (four points for the meeting, four points for a full day short course, two points for a ½ day short course). Early registration rates are valid through 1 December 2016. For details on the meeting and registration information, please visit [the AMS Web site](#). ■

Volunteer Opportunities at the AMS Annual Meeting

There are several volunteer opportunities available during the AMS Annual Meeting. We particularly would love to have a few CCMs available at the CCM Table during the Student Conference and Career Fair reception on Saturday night from 5:30pm – 7:30pm, if anyone is available. The table would also need to be staffed during the Career Fair on Sunday night from 5:00pm – 7:00pm. Staffing by both CCM's and NCIM members would help students fully appreciate the scope of the CCM program (both implementation and real-world applications). Please email [Kelly Savoie](#) if you are interested in volunteering at the AMS Annual Meeting during any of the following days/times.

Student Conference and Career Fair:
CCM/NCIM Table
Saturday (5:30pm – 7:30pm)
Sunday (5:00pm – 7:00pm)

AMS Certification Booth at the AMS Resource Center during high traffic times:
Monday (5:30–7:30 p.m.)
Tuesday (3:00–3:30 p.m.)
Wednesday (10:00–10:30 a.m. and 5:30–6:30 p.m.) ■

PowerPoint Display at the AMS Certification Booth

As usual there will be a PowerPoint display at the AMS Certification booth at the AMS Annual Meeting profiling the background and interests of active CCMs. If you would like to include a slide for the display, please email it to [Kelly Savoie](#) by December 16th. A PowerPoint template may be found [online](#). If you participated last year, your slide will once again be included. Please email Kelly a revised slide if there are changes. Otherwise, your previous slide will be included. You may view the [current PowerPoint display](#) online. ■

CCM Breakfast

The CCM Breakfast at the Annual Meeting will take place at the Convention Center on Wednesday, January 25th from 7-8:15am. If you plan on attending, please RSVP to [Kelly Savoie](#) by **November 15th**. ■

AMS Articles of Interest

EARLY ONLINE RELEASE -

Effects of Rainfall on Vehicle Crashes in Six U.S. States ~ Black et al.

Weather, Climate, and Society

This EOR article provides an analysis of the role of rainfall on motor vehicle accidents, and shows statistically significant increases in crash and injury rates on rainy days versus dry days. On days with more than 2 inches of rainfall, there are overall increases of crashes and injuries of 51% and 38%.

<http://journals.ametsoc.org/doi/abs/10.1175/WCAS-D-16-0035.1>

A Closer Look at the ABI on the GOES-R Series ~ Schmit et al.

Bulletin of the AMS

This article presents info about the finer-resolution Advanced Baseline Imager on board the next Geostationary Operational Environmental Satellite (GOES)-R to be launched in November 2016. It includes expected improvements and applications.

<http://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-15-00230.1>

Will Global Warming Make Hurricane Forecasting More Difficult? ~ Emanuel

Bulletin of the AMS

This article investigates the potential for hurricanes to undergo rapid intensification just prior to landfall in a warming climate.

<http://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-16-0134.1>

EARLY ONLINE RELEASE

Large-Scale Influences on Summertime Extreme Precipitation in the Northeastern United States ~

Marquardt Collow et al.

Journal of Hydrometeorology

Observations indicate an increase in extreme precipitation events, with the largest increases in the northeast region. This article provides an analysis of these increases in precipitation related to extreme precipitation events. Results suggest more influence from an increase in frequency or intensity of synoptic-scale baroclinic events, as opposed to from tropical cyclones as shown by previous studies.

<http://journals.ametsoc.org/doi/abs/10.1175/JHM-D-16-0091.1>

Most Americans Want to Learn More about Climate Change ~ Perkins et al.

Bulletin of the AMS

In this article, AMS members encourage their colleagues to take an active role in public education about climate change.

<http://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-16-0097.1>

EARLY ONLINE RELEASE

Arctic Sea Ice Patterns Driven by the Asian Summer Monsoon ~ Grunseich and Wang

Journal of Climate

A teleconnection is found between the Asian summer monsoon and sea ice in the Arctic, which has implications for seasonal prediction of Arctic sea ice and future long-term sea ice trends.

<http://journals.ametsoc.org/doi/abs/10.1175/JCLI-D-16-0207.1> ■

Connect on Social Media

LinkedIn

The LinkedIn page is becoming more active. If you have not joined, please do! The LinkedIn page is accessible and open only to CCMs. You must join LinkedIn (it is free) first before requesting to join the CCM page. Once you join LinkedIn (or if you are already a member), then just simply type "Certified Consulting Meteorologist" in the search box on the top right to search for our group. We anticipate the LinkedIn site to be an easy way for CCMs to communicate with each other and keep us all abreast of news, developments, and items of interest to CCMs.



Facebook

For all CCMs, colleagues, and the general public, we have a CCM Facebook page. It can be found by searching in Facebook for "Certified Consulting Meteorologist (CCM)." This page needs much more interest to be generated, beginning with every CCM "liking" the page.



Twitter

For all CCMs, colleagues and the general public, we have a new Twitter account. Leading up to the Annual Meeting, this year we intend to market the CCM booths at the Student & Career Fairs and AMS Resource Center via Twitter. Also at the Annual Meeting, we use this account to announce upcoming speakers to promote the CCM Forum during each talk. If you are on Twitter, please follow the handle [@AMS_BCCM](https://twitter.com/AMS_BCCM) ■



Upcoming AMS Meetings

[97th AMS Annual Meeting](#)

22–26 January 2017
Seattle, Washington

[20th Biennial Joint AMS/AGU Heads and Chairs Meeting](#)

13 – 14 October 2016
Boulder, CO

[28th Conference on Severe Local Storms](#)

7 – 11 November 2016
Portland, OR

[21st Conference on Atmospheric and Oceanic Fluid Dynamics 19th Conference on Middle Atmosphere](#)

26 – 30 June 2017
Portland, OR

[38th Conference on Radar Meteorology](#)

28 August – 1 September 2017
Chicago, IL

Thanks to all of our contributors for this issue.

We encourage you to share your experiences, views, findings, or studies for the next newsletter.

E-mail your articles to:
[Larry Peabody](#) and/or [Alicia Wasula](#)

Winter 2016 Newsletter submission
deadline is
November 25