

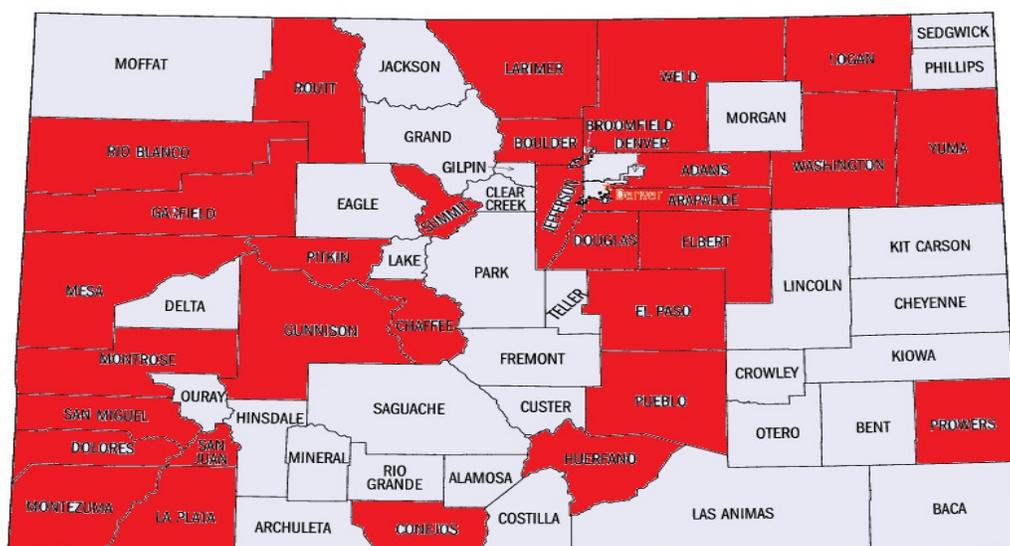
LIGHTNING DATA CENTER MINUTES

November 13, 2015

ST. ANTHONY HOSPITAL WEST, LAKEWOOD, CO

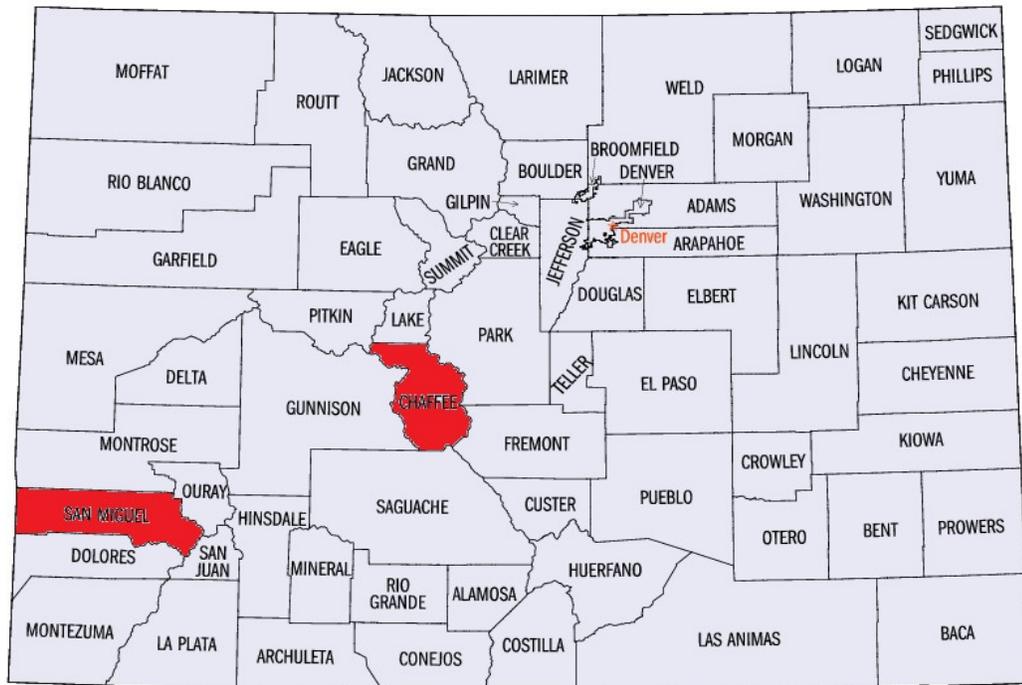
On behalf of the Lightning Data Center, I wish to express our condolences to the people of France, who suffered a horrendous terrorist attack on the date of our meeting. May the strength and love of God be with you during these trying times. Steven E. Clark, President, LDC

1. Meeting began at 11:50 AM and adjourned at 1:10 PM. Clark, Swanson, Stewart, Elder, Wachtel, Kithil, Nibbe, Gift, Cui-Gift, Yarnell, & Wells. Welcome to new members LeDuc, Nall, Osmack, Dettbarn, Hunter, and Radic. Meeting began at 11:48 AM and was adjourned at 1:15 PM. Clark moderated.
2. Our Russian colleague, Dr. Mikhail Shmatov, translated an article detailing an episode of ball lightning at a cathedral in Moscow, which occurred on August 5, 1977. An “incandesced ball” flew inside the Arkhangelskii Cathedral (Cathedral of the Archangel) through an open door, flew through the interior and exploded upon contact with the Tsar Gate. Two to three days following the event, “...the witnesses of this phenomenon had the symptoms those were typical for the hypertonic crisis, namely, significant indisposition, strong headaches, sharp weakening of sight, etc. Later the health recovered. Sometimes the recovery of health after the rendezvous with ball lightning does not occurs; the cases when the sight did not recovered to the normal one are known.” An almost identical event occurred 400 years earlier, when ball lightning entered the building and collided with the Tsar Gate. Greg Stewart thought the described luminosity was greater than that described in other accounts of ball lightning.
3. Carl Swanson reported the first responder data project is done for the year and that there were a total of 70 first responder agencies (Fire & EMS) who had volunteered to report data to Carl. The map below shows the counties within which the agencies are located.



Source of Base Map: quicksfacts.census.gov/qfd/maps/colorado_map.html

4. In Colorado, there were 38 lightning victims (37 injuries and 1 fatality). Of those data, 36 of the injuries and the fatality were reported via the mass media. Carl received, through his reporting network, the same fatality report and one of the same injury reports. In addition, Carl received an injury report through his network that went unreported in the mass media, but which was reported in the local media. The map below shows Carl received reports from Chaffee and San Miguel counties. We would like to have more agencies reporting next season. The next reporting season begins on March 1, 2016. If your agency is interested, please contact Carl Swanson at 303-537-4073 or via e-mail: carlswansoniii@comcast.net.



Source of Base Map: quicksfacts.census.gov/qfd/maps/colorado_map.html

5. Carl & Rich Kithil led our main topic of discussion, which was lightning safety at swimming pools, with an emphasis on indoor pools. Rich started by saying people generally know what to do when at they are at home; whereas, commercial and public facilities don't always follow suit, which creates a dichotomy in some peoples' understanding of lightning safety.

Carl became personally involved with this issue during a swim at a local indoor pool. While swimming, Carl heard thunder and thus asked about lightning safety protocols and was told there are not any protocols in place. This led Carl to do some quick research on lightning safety at indoor pool facilities in the Denver metropolitan area. Carl found a lack of consistency amongst the municipalities he spoke with.

Rich said there are few recorded incidents of lightning striking an indoor pool facility with injuries and/or fatalities. During the year 2000 in Beauport, Quebec, lightning hit an indoor pool while 20 people were swimming. All 20 were taken to a hospital as a precaution. Rich also mentioned a 2010 case in Kingsport, TN, where an indoor pool had been evacuated due to the threat of lightning. A lifeguard working at the indoor pool touched a pipe in the pool's mechanical room when lightning struck. He went to the hospital and was released. More recently, in 2013, a lifeguard at a YMCA indoor pool in DeLand, FL was struck while standing under an awning inside the indoor pool area when lightning struck the roof above. The lifeguard reported feeling a tingle. YMCA officials called 911 as a precaution. According to Rich, the lack of injuries and fatalities at indoor pools is a testament to the fact proactive measures do work.

As examples of proactive measures, Rich mentioned the NCAA and airports.

NCAA – Swimming is suspended if lightning is 5 miles away. (NOTE: The latest *NCAA Swimming and Diving Rule Book, Appendix D*, recommends all persons should have left the game site to a safe place or structure by the time lightning is 6 miles away based on the flash-to-bang method. Activities can resume 30 minutes after last flash or thunder. There is no direct mention of swimming pools in the Appendix.) Link to rule book: <https://www.ncaapublications.com/p-4403-ncaa-mens-and-womens-swimming-and-diving-rules-2015-2016-and-2016-2017.aspx>

Airports – Activities are suspended at 5 miles.

Rich cited several other entities and authorities that recommend the suspension of activities when lightning is nearby, such as: YMCA, Red Cross, FEMA, National Weather Service, Vaisala, Martin Uman, USA Today, Athletic Trainers Association, Boy Scouts of America, College of Emergency Physicians, Centers for Disease Control, U.S. Lifesaving Association, International Lifesaving Association, Disney World, and U.S. Swimming.

Rich recommended two smartphone apps: Spark by WeatherBug, and Lightningfinder, which is GPS-based. A 5-page overview of lightning detectors is available at the following link: http://lightningsafety.com/nlsi_lhm/OverviewDetectors.pdf

Finally, Rich said hand-held detectors are not reliable, only about 50% at best.

We had six attendees from parks and recreation facilities in the Denver metro area. All of them have specialized experience as aquatics professionals. One of these people worked for 12 years at an indoor pool building that was struck by lightning three times during that time of employment. One of the strikes occurred while the pool was open. There were no reports of injuries or fatalities. The facility experienced power surges during all three strikes. One of the municipalities represented noted they had changed back and forth between getting out of or staying in the indoor pool during lightning. They said the indecision was caused by a lack of clear guidance on the issue.

6. We also had a lightning survivor at our meeting, who came to us by way of Dr. Phil Yarnell. She had been standing barefoot outside in the rain with her buttocks against the aluminum siding of the house, when the house was hit. She was hazy right after the strike. Immediately following the strike, she was worried about her daughter and described feelings of confusion, anxiety and panic. She cried a lot and curled up. There was ferning on the buttocks and she reported a “semi post-orgasmic” sensation in her body. Initially, she had short-term memory loss and difficulty with language and communication. She could not complete a sentence. Since then, verbal communication has improved. She began writing a memoir; since she found it somewhat easier to communicate in writing, rather than verbally. The lightning blew out circuits in the home. No one saw it. She can sense the buildup of electricity when storms are present.
7. As I was writing these minutes, I received a call from Cora Jean Leenheer, the wife of the man who was featured in the August and September 2015 minutes. She reported he took a 500-plus mile bicycle ride in October from Clovis, New Mexico into Missouri. He still reports occasional pain in his hands, especially when it gets cold. He said the bicycle ride appears to have helped with the pain in the hands, due to the vibration of the handlebars.

The Leenheers have also offered to donate funds toward the purchase of lightning data. LDC will work to incorporate the offer with our grant request, which will be initiated soon.

8. Questions, comments, notification of errors, and critiques of these minutes are welcome. Please forward those to Steve Clark at: sclarktoto@gmail.com. Please keep your communications professional and respectful. Communications will be forwarded to the appropriate author(s) of the minutes and addressed accordingly.
9. LDC Disclaimer: These minutes do not represent official positions of the LDC or its members. They simply reflect the comments made at the meeting. Furthermore, the LDC does not implicitly or explicitly recommend or endorse any product or service. Any product or service presented in these minutes is done so for purposes of discussion and analysis. The merit (or lack thereof) is open for the consideration and review by the entire membership.
10. Next meeting: Friday, December 11, 2015 at 11:45 AM at St. Anthony Hospital West. Conference Room TBA.

Respectfully Submitted,
Steven E. Clark, Consulting Meteorologist

Lightning Links

This is a monthly listing of periodicals, websites, and videos about lightning and allied areas from a variety of sources. A headline or description is listed, followed by the link. Please note that some of the links are perishable, which means you'll need to go to the source for the information.

Sehmer, A. 2015. Lightning Storms Hit UK: Kept Awake by the Storms? This Map Shows the Astounding Number of Strikes. *Independent*. July 4, 2015. Link: <http://www.independent.co.uk/news/uk/home-news/lightning-storms-hit-uk-spectacular-display-lights-up-night-sky-10365785.html>

Dmitriev, M. 1979. Lightning in Cathedral. *Vokrug Sveta [Around the World]*. No. 6 (2465), p. 45.
Link 1: <http://www.vokrugsveta.ru/vs/article/5797/>
Link 2: <http://www.vokrugsveta.ru/view/1979/6/#/46>

Collman, A. 2015. San Francisco Electrified! Stunning Photo Captures the Moment Lightning Strikes the Golden Gate Bridge. *Daily Mail*. November 9, 2015. Link: <http://www.dailymail.co.uk/news/article-3311005/San-Francisco-electrified-Stunning-photo-captures-moment-lightning-strikes-Golden-Gate-bridge.html>

2013. DeLand YMCA Lifeguard Feels Effects of Lightning Strike. *Clickorlando.com*. August 22, 2013. Link: <http://www.clickorlando.com/news/deland-ymca-lifeguard-struck-by-lightning-officials-say/21579690>
