

LIGHTNING DATA CENTER MINUTES

January 14, 2022
ST. ANTHONY HOSPITAL
www.lightningdatacenter.org

HAPPY NEW YEAR!

Members present: Clark, Swanson, Langford, Terry, Stemple, Wachtel (Howard & Clara) and Kolp. Meeting began at 11:50 AM and ended at 1:05 PM.

1. **VERY IMPORTANT – PLEASE READ!** As of January 2022, we will continue to hold meetings via Zoom only. Here in Colorado, the number of COVID cases has risen and hospitalizations remain high, especially among those not vaccinated. Hospitals here are stretched pretty thin in terms of staffing and physical room for COVID patients. Cosmetic surgeries are being postponed. The Omicron variant of COVID is now the dominant strain of the virus. Data suggests this variant is more contagious than other variants but is not as severe. Some counties in Colorado have reinstated indoor mask mandates, including most in the Denver area. Local governments and businesses can require mask use as they wish; however, indoor mask use is required for those who are not vaccinated or partially vaccinated in certain places.
2. The LDC is accepting donations, either as cash or check. If you donate via check, please make your check payable to Steve Clark at 755 S. Clinton Street, #2A; Denver, CO 80247. He will cash the check and keep the cash holdings specifically for the LDC. When the LDC incurs expenses, Steve will pay for services rendered through his bank account using the cash from LDC's cash holdings. A log will be maintained detailing the inflow and outflow of monies. At the present, the LDC has \$1082.00 in cash, thanks to a \$200 donation from Whitney and Kate Sunderland.
3. Last month, we discussed the idea of a name change for the LDC. Shirley Terry had advised a name change may have to be approved by the hospital. Steve Clark discussed that with hospital administration and they said approval is not needed to change our name. So, what should our new name be? Some names suggested last month are:

Lightning Data & Electric Shock Center
Lightning Data & Electric Shock Group
Lightning Data Center & Electric Shock Group

Please e-mail me with suggested name changes at: sclarktoto@gmail.com

4. The woman that was struck while on an archaeological dig continues to recover. She is doing better but she still has problems with her memory and with making adaptations. Her case is discussed in the following minutes: Sep 2009, Oct 2009, Dec 2009, Jan 2010 and Sep 2011.

5. Our ball lightning (BL) expert in Russia, Dr. Mikhail Shmatov, was interviewed last June on the subject of BL. The interview was printed in the periodical Scientific Russia and it was translated into English. Dr. Shmatov was kind enough to forward me the link to the article. The article will be posted on the LDC website.
6. An article on the NASA Earth Observing System website discussed the global distribution of lightning. A Lightning Image Sensor (LIS) onboard the International Space Station since 2017 has added significant data for lightning for latitudes of 45 to 55 degrees, both north and south. Previously, there was only one LIS flying on NASA's TRMM (Tropical Rainfall Measuring Mission) satellite. As one might expect, the TRMM satellite was not positioned to capture lightning at higher latitudes. This newer data is expected to further enhance our understanding of the global distribution of lightning
7. Carl Swanson sent me a link to an article that ties into the previous paragraph. Vaisala reported 7,278 lightning strokes north of 80 degrees latitude in 2021, which is about twice as many as in the previous nine years combined. In the Northern Hemisphere, "the arctic" is defined as those areas north of approximately 65 degrees latitude. Over the arctic region, the number of annual lightning strokes has remained fairly constant over the last ten years, but has sharply increased in the extreme north. This increase is due to a warming planet.
8. Carl sent another link discussing U.S. lightning statistics in 2021. Texas led the nation in total lightning strikes at about 42 million, followed by Florida with 14.6 million. In terms of lightning density, Florida was tops with 85.99 strikes per square kilometer, followed by Louisiana at 81.62 strikes per square kilometer. According to John Jensenius, 11 people were killed by lightning, which is the lowest number since records started being kept in 1940. The total lightning count in the continental U.S. for 2021 was 194 million flashes, which was slightly below the average of 220 million.
9. Dr. Phil Yarnell asked a question: If a battery-operated radio is dropped into a bathtub while someone is taking a bath, and the radio is not connected to an AC line, can that person be harmed? Howard Wachtel thought not. Ken Langford suggested the current from a battery-operated radio is relatively low and would thus be unlikely to hurt someone. We also discussed the flow of current from batteries versus a wall outlet.
10. Barb Stemple asked if a small camper-trailer (60s-70s vintage) would be safe to be in during a lightning strike. The trailer has windows that open with a crank. Most present thought it would be safe. This led to a discussion of whether or not the windows were screened and if so, what type of screen (metal vs. fiberglass/polyester) was in place. Metal would be the preferred choice.
11. Ken asked if LDC has had any discussion of radiation from lightning being a possible mechanism of injury. We recalled our discussions of gamma ray bursts associated with lightning. In previous meetings, Rich Collier gave a presentation on lightning and the spectrum of radiation associated with it. There has been some discussion of radiation associated with ball lightning. Dr. Michael Cherington would occasionally present literature addressing EM radiation.

12. Carl has received many questions on whether or not plastic piping is as good as a ground. Several residents live in mobile homes and they have plastic piping going into the ground. The group recommended Carl talk with the local zoning department or an electrician familiar with local codes. Certainly plastic piping will not be as good as copper piping.
13. One of our members told us of a relative that was killed by lightning roughly a quarter century ago. The relative and another person were sitting on a rock underneath a small tree. A storm had passed through the area and lightning struck them. Some kids in the area thought the relative had a pulse, but the relative died soon after. The relative had entrance and exit wounds. The second person survived and has dealt with various health issues since.
14. Ken showed a video of an alleged lightning strike. Ken was asked for his opinion as to whether or not the video was legitimate. A man was walking in a wet parking lot where large construction vehicles were located. The vehicles were mostly trucks, similar to those used in strip mining. A tractor with a scoop on the front was facing towards the camera. The man was walking away from the camera towards the scoop on the tractor. A flash occurs. There is a large shower of sparks and the man instantly is lying on the ground. Ken said the video is an edit for two reasons. First, video frames are captured in fractions of a second. The man should have been seen falling down. He wasn't. He was fully upright in one frame and flat on the ground in the next frame. Second, the flash occurred while the man was still in front of the scoop. In a real lightning flash, the inside of the scoop would have been illuminated. In the video, there was no change in the intensity of lighting inside the scoop at the time of the alleged flash.
15. LDC welcomes your medical questions. Please send them via e-mail to Steve Clark at sclarktoto@gmail.com. Your medical questions will be forwarded to Dr. Phil Yarnell for his review and will usually be taken up for discussion in the next month's meeting. Please be advised any questions posed are for the general consideration by the group and do not constitute a formal medical opinion. If a formal evaluation is requested, arrangements can be made directly with Dr. Yarnell. If you have a medical emergency, please call 911 or your local EMS.
16. Questions, comments, error notifications, and critiques of these minutes are welcome. Please forward those to Steve Clark. Please keep your communications professional and respectful. Communications will be forwarded to the appropriate author(s) of the minutes and addressed accordingly.
17. 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.
18. Next meeting: Zoom meeting. Friday, February 14, 2022, from 11:45 AM to 1:00 PM MDT.

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.

Voiland, A., 2022: A New Look at Earth's Lightning. *NASA Earth Observatory website*. Undated.
Link: <https://earthobservatory.nasa.gov/images/149301/a-new-look-at-earths-lightning>

Ramirez, R., 2022: Lightning Around the North Pole Increased Dramatically in 2021. *CNN, as reported in the Missoulian*. January 7, 2022. Link: [Lightning around the North Pole increased dramatically in 2021 | Missoula and Western Montana Weather | missoulian.com](#)

Holzworth, R., J. Brundell, M. McCarthy, A. Jacobson, C. Rodger and T. Anderson, 2021: Lightning in the Arctic. *Geophysical Research Letters*. March 22, 2021. Link: [Lightning in the Arctic - Holzworth - 2021 - Geophysical Research Letters - Wiley Online Library](#)

Danielle, M., 2022: Shocker: 194M Bolts of Lightning Detected in the U.S. Last Year. *United Press International*, January 7, 2022. Link: [Shocker: 194M bolts of lightning detected in the U.S. last year - UPI.com](#)
