

# LIGHTNING DATA CENTER MINUTES

June 11, 2021  
ST. ANTHONY HOSPITAL  
[www.lightningdatacenter.org](http://www.lightningdatacenter.org)

Monthly Quote: “Under the whole heaven He lets it loose, And His lightning to the ends of the earth.” Job 37:3.

Members present: Langford, Clark, Terry, Crow, Swanson and Wachtel. Clark moderated.  
Meeting began at 11:45 AM and ended at 12:40 PM.

1. **VERY IMPORTANT – PLEASE READ!** As of June 2021, we will continue to hold meetings via Zoom only. As of June 11, the number of COVID cases and hospitalizations here in Colorado has fallen overall, but there are still concerns about the spread among younger people. As of June 1, the mask requirements in Colorado have been be lifted. Local governments and business will be able to require mask use as they wish.
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 \$632.00 in cash.
3. Carl Swanson presented a bad commercial from a lightning safety standpoint. It is a golf-themed ad for IBM’s Cloud Computing. In a short segment of the ad, professional golfer Lexi Thompson and a male caddie are standing underneath a tree in the rain while thunder is heard. The caddie is holding an umbrella. No lightning was seen in the video. Our problem with this ad is it suggests it is okay to be outside underneath a tree during a thunderstorm. Ken Langford sent an e-mail to IBM and pointed out the safety issue and has not had any response.

Link: <https://www.ispot.tv/ad/OIJI/ibm-cloud-your-shot-featuring-lexi-thompson>

4. Ken Langford showed the following videos.
  - 1 – Lightning struck a road near the intersection of Main & Maple in Hatfield, MA. The pavement caught on fire and was still smoking after the fire was put out. The hole was about 6 inches deep and 10 inches in diameter. (2 Videos)
  - 2 – Lightning struck a concrete parking lot above a diesel tank, leaving behind a 9.5×11 foot wide and 3 feet deep crater. Chucks of concrete about 2-foot by 2-foot were thrown roughly 70 feet away. A pump that weighs 400 to 500 pounds was blown out of the ground. The diesel tank was damaged. Nobody was injured. (2 Videos)

3 – Lightning struck at the 2019 U.S. Women’s Open at The Country Club in Charleston, South Carolina. Play had been suspended due to inclement weather. Strikes hit near the 18<sup>th</sup> green and near a broadcast booth. Thankfully, no one was injured.

4 – In this video, a clip from the Discovery Channel’s *Raging Planet*, a fisherman named Dave Grillmeyer was fishing with a friend when he was struck by lightning while casting his line. The narrator said the lightning struck without warning. From the video, it appears the lightning struck his rod and went down through his body and out to the ground through the sides of his boots. The man had multiple burns on his legs and across his chest. The zipper on his jeans was almost entirely gone and paramedics later told him the zipper was almost burned into his abdomen. Coleen Crow had never thought about the possibility of lightning burning through her shoes after she was hit at Rocky Mountain National Park. She will check the footwear she was wearing that day. Ken Langford found an article Dave had written about his encounter. The narrator got it wrong. Both Dave and his friend knew storms were approaching and Dave wanted to get to safety, but his friend talked him into one more cast and was hit. Nowadays, Dave talks about lightning safety with kids in schools and field trips.

5. International Lightning Safety Day (ILSD) is on June 28, 2021. Ten years ago, a single lightning strike killed 18 students and injured another 38 at the Runyanya Primary School in Uganda. A Zoom meeting was held on May 27 and 28, 2021 to present ideas in preparation for this year’s observance of ILSD. There were 285 registrants from 38 countries in attendance. Ken Langford attended both days and provided a brief summary of what he learned. Several speakers spoke on lightning and lightning safety messaging in their countries. There were two items that Ken was most interested in. First, Ryan Blumenthal, a forensic pathologist in South Africa, wrote a PhD. thesis on blast effect as a 6<sup>th</sup> mechanism of lightning injury. Ken thinks there should be a tie between TBI brain injury physicians and lightning researchers. Second, Ken learned of a “traffic light” in South Africa. It uses the traditional green yellow and red signaling, but instead of controlling traffic, it indicates the relative intensity of atmospheric voltage potential. Yellow indicates caution and be ready to seek shelter. Red means seek shelter now. The light is mounted on a tall pole in a public area. The links to the Zoom meeting are listed below.
6. May was a busy month for lightning Zoom meetings. The World Meteorological Organization partnered with the Caribbean Meteorological Organization to host the “Symposium on Lightning and Lightning Safety Awareness” on May 19 and 20.

On May 11-12, the University of Witwatersrand Center of Excellence on High Voltage Engineering (CEHVE) and NAM S&T Centre held a meeting called: 'An International Roundtable on Policy Development on Lightning Hazard Mitigation Strategies in Countries with High Lightning Flash Density'. Links to the videos are listed below. You must have a Microsoftonline.com account to view the videos.

7. Robert Gift sent an e-mail about a bicyclist in Florida who reports getting some shocks while bike riding along a bicycle path that was laid underneath some power lines owned by Duke Energy. A few trail users reported these shocks to local county workers along the path. Robert does not report having experienced these shocks, but Ken and Carl have experienced them.

8. Steve Clark presented a couple of items. First, he presented a listing of the Top 500 Lightning Hotspots around the world, which lists the flash density in flashes per square kilometer per year. This is from NASA's Global Hydrology Resource Center. The number one hotspot in the world is over Lake Maracaibo in Venezuela with 232.52 flashes per square kilometer per year. In the U.S., Orangetree in Florida is the nation's hotspot, ranked #122 in the world, with 78.97 flashes per square kilometer per year.

Second, he presented NOAA's Experimental Lightning Climatology website. It allows the user to examine lightning frequency in the contiguous United States down to the county level. A 5-minute YouTube video provides instruction on how to use the website.

9. Carl Swanson said he visits the Lightning Strike & Electric Shock Survivors International group's Facebook page. On there, he will occasionally see posts from people trying to seek medical care after being shocked. Some of the accounts are heart-wrenching stories because of the difficulty in getting care. Carl asked if there are any other physicians people can go to for treatment. Ken suggested taking an attitudinal survey of survivors who received medical attention after strike.

10. LDC welcomes your medical questions. Please send them via e-mail to Steve Clark at [sclarktoto@gmail.com](mailto: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.

11. 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.

12. 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.

13. Next meeting: Zoom meeting. Friday, July 9, 2021, 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.**

Jagolinzer, J. and L. Kane, 2021: Lightning Leaves Smoking Hole in Hatfield Street. *Western Mass News*. June 8, 2021. Link: <https://www.youtube.com/watch?v=K48qpVMcsBw>

Schatz, S., 2021: Lightning Strikes Street, Melts Pavement in Massachusetts Town. *MassLive*. June 9, 2021. Link: [https://www.youtube.com/watch?v=XSxW\\_TmaHPA](https://www.youtube.com/watch?v=XSxW_TmaHPA)

---

Liou, T., 2019: Lightning Strike Leaves Behind 15-Foot Crater in Ft. Worth Parking Lot. *WFAA-TV*. October 30, 2019. Link: <https://www.wfaa.com/article/weather/lightning-strikes-creates-huge-hole-in-fort-worth-parking-lot/287-2cde6d41-23cf-473d-a99c-d33260171913>

News Video: <https://www.youtube.com/watch?v=olrW21-c5j0>

NOTE: First video was captured on a surveillance camera and the second is the from the newscast.

---

YouTube Video: 2019: Lightning Strikes at the 2019 U.S. Women's Open. *USGA*. Link: <https://www.youtube.com/watch?v=sUP5ydeNSsc>

---

2014: Lightning Bolt Strikes Fishing Pole While Fishing. A short clip from the Discovery Channel's "Raging Planet". *Storm*. September 23, 2014. Link: [https://www.youtube.com/watch?v=10PZ\\_0GK\\_bU](https://www.youtube.com/watch?v=10PZ_0GK_bU)

2000: Grillmeyer, D., Struck by Lightning! *Bass Resource*. January 27, 2000. Link: [https://www.bassresource.com/fishing/lightening\\_fishing.html](https://www.bassresource.com/fishing/lightening_fishing.html)

---

Preparing for International Lightning Safety Day 2021 Meeting Videos on YouTube.

Day 1: <https://www.youtube.com/watch?v=oSXtD8muVX0>

Day 2: <https://www.youtube.com/watch?v=AkrEKPRchI>

---

“Symposium on Lightning and Lightning Safety Awareness”, May 19-20, 2021.

Link to announcement and videos: [http://www.cmo.org.tt/lightning\\_symp.html](http://www.cmo.org.tt/lightning_symp.html)

---

“An International Roundtable on Policy Development on Lightning Hazard Mitigation Strategies in Countries with High Lightning Flash Density”, May 19-20, 2021.

Day 1: [https://login.microsoftonline.com/common/oauth2/authorize?client\\_id=cf53fce8-def6-4aeb-8d30-b158e7b1cf83&response\\_mode=form\\_post&response\\_type=code+id\\_token&scope=openid+profile&state=OpenIdConnect.AuthenticationProperties%3dAQAAAAIAAAAJLnJlZGlyZWN0Wmh0dHBzOi8vd2ViLm1pY3Jvc29mdHN0cmVhbS5jb20vdmlkZW8vMTQ1YzQxYjgtOTg0Yy00OTYxLTIhOGMtMDQ5NWZiOGE0M2I5P25vU2lnblVwQ2hlY2s9MQhub25jZUtleZsBMHhFc0dsRlF1UGl4SXhrRFZuZk1LRkluSXBVd1J5SVJnakFXRzRzZ1UxQjR1MVp4ZGpFV053SU9DUGRZQmdORzVKUEh2ZjJhbGFAOGttdFhST0NEeWZTZnF1VXVuN0RkaENIZkFrLUE1LXpIMmdHcjE0eU9CbVczRVlENzc3MU0yd3ByVUd5RU01WldQLW5KbldUeE9sTGx1RWM&nonce=637590412877818522.MDQyZWUxODgtMzM1NS00ODM4LWE2NTQtZmMxNmEyMjdiZmYwMjYyZTRmYzEtYzUzNC00ZjUwLWJlZjQtYTNmMDY4YWRiMmRh&nonceKey=OpenIdConnect.nonce.%2f%2b2Xv6fh3gO0VwvUrJZWEea9sBzQc88EALlIwo%2byOuM%3d&site\\_id=500453&redirect\\_uri=https%3a%2f%2fweb.microsoftstream.com%2f&post\\_logout\\_redirect\\_uri=https%3a%2f%2fproducts.office.com%2fmicrosoft-stream&msafed=0](https://login.microsoftonline.com/common/oauth2/authorize?client_id=cf53fce8-def6-4aeb-8d30-b158e7b1cf83&response_mode=form_post&response_type=code+id_token&scope=openid+profile&state=OpenIdConnect.AuthenticationProperties%3dAQAAAAIAAAAJLnJlZGlyZWN0Wmh0dHBzOi8vd2ViLm1pY3Jvc29mdHN0cmVhbS5jb20vdmlkZW8vMTQ1YzQxYjgtOTg0Yy00OTYxLTIhOGMtMDQ5NWZiOGE0M2I5P25vU2lnblVwQ2hlY2s9MQhub25jZUtleZsBMHhFc0dsRlF1UGl4SXhrRFZuZk1LRkluSXBVd1J5SVJnakFXRzRzZ1UxQjR1MVp4ZGpFV053SU9DUGRZQmdORzVKUEh2ZjJhbGFAOGttdFhST0NEeWZTZnF1VXVuN0RkaENIZkFrLUE1LXpIMmdHcjE0eU9CbVczRVlENzc3MU0yd3ByVUd5RU01WldQLW5KbldUeE9sTGx1RWM&nonce=637590412877818522.MDQyZWUxODgtMzM1NS00ODM4LWE2NTQtZmMxNmEyMjdiZmYwMjYyZTRmYzEtYzUzNC00ZjUwLWJlZjQtYTNmMDY4YWRiMmRh&nonceKey=OpenIdConnect.nonce.%2f%2b2Xv6fh3gO0VwvUrJZWEea9sBzQc88EALlIwo%2byOuM%3d&site_id=500453&redirect_uri=https%3a%2f%2fweb.microsoftstream.com%2f&post_logout_redirect_uri=https%3a%2f%2fproducts.office.com%2fmicrosoft-stream&msafed=0)

Day 2: [https://login.microsoftonline.com/common/oauth2/authorize?client\\_id=cf53fce8-def6-4aeb-8d30-b158e7b1cf83&response\\_mode=form\\_post&response\\_type=code+id\\_token&scope=openid+profile&state=OpenIdConnect.AuthenticationProperties%3dAQAAAAIAAAAJLnJlZGlyZWN0Wmh0dHBzOi8vd2ViLm1pY3Jvc29mdHN0cmVhbS5jb20vdmlkZW8vYThiNGEwYzgtMDY4Zi00OTg2LWE0NzEtYTg2Y2FhMDVhNTgyP25vU2lnblVwQ2hlY2s9MQhub25jZUtleZsBNWYzYXE0N3k2T0YtNDdLOXUyOFBsX29QdUFUR0JvS2cxQkUzazRWa054MGJ4ZXJOaXdNeFlfRE1ZLWI4YXlZVUc4RFkzaTVUUVJfODV1SGo0M3J4VkdDbFY0amVaMzI2NnB3UzVLSVBfNfNdRRHNRcGluVWh6OGN1bGNkTEVJNV9icUg2VEh4NUlpTERIbHdyUkV3Rk9sbVdiUGM&nonce=637590413080813361.OWI2NGI0NzUtNmFmZi00ZGY5LWFhZWQtNzRmMDlhNmM2YThiNzYxYmUwZjctZmU0My00YmQ0LWFjNWItYzQ2YTliMWExM2Y3&nonceKey=OpenIdConnect.nonce.8emnudP%2f4QgXzlt79yKF%2bjFnXcBYHadw6R5UupHkxU%3d&site\\_id=500453&redirect\\_uri=https%3a%2f%2fweb.microsoftstream.com%2f&post\\_logout\\_redirect\\_uri=https%3a%2f%2fproducts.office.com%2fmicrosoft-stream&msafed=0](https://login.microsoftonline.com/common/oauth2/authorize?client_id=cf53fce8-def6-4aeb-8d30-b158e7b1cf83&response_mode=form_post&response_type=code+id_token&scope=openid+profile&state=OpenIdConnect.AuthenticationProperties%3dAQAAAAIAAAAJLnJlZGlyZWN0Wmh0dHBzOi8vd2ViLm1pY3Jvc29mdHN0cmVhbS5jb20vdmlkZW8vYThiNGEwYzgtMDY4Zi00OTg2LWE0NzEtYTg2Y2FhMDVhNTgyP25vU2lnblVwQ2hlY2s9MQhub25jZUtleZsBNWYzYXE0N3k2T0YtNDdLOXUyOFBsX29QdUFUR0JvS2cxQkUzazRWa054MGJ4ZXJOaXdNeFlfRE1ZLWI4YXlZVUc4RFkzaTVUUVJfODV1SGo0M3J4VkdDbFY0amVaMzI2NnB3UzVLSVBfNfNdRRHNRcGluVWh6OGN1bGNkTEVJNV9icUg2VEh4NUlpTERIbHdyUkV3Rk9sbVdiUGM&nonce=637590413080813361.OWI2NGI0NzUtNmFmZi00ZGY5LWFhZWQtNzRmMDlhNmM2YThiNzYxYmUwZjctZmU0My00YmQ0LWFjNWItYzQ2YTliMWExM2Y3&nonceKey=OpenIdConnect.nonce.8emnudP%2f4QgXzlt79yKF%2bjFnXcBYHadw6R5UupHkxU%3d&site_id=500453&redirect_uri=https%3a%2f%2fweb.microsoftstream.com%2f&post_logout_redirect_uri=https%3a%2f%2fproducts.office.com%2fmicrosoft-stream&msafed=0)

---

Henson, C., 2021: Traffic Inbox: Cyclist Reports Shocks Along Pasco County trail. *Spectrum News Bay News 9*. May 24, 2021. Link: <https://www.baynews9.com/fl/tampa/traffic/2021/05/24/traffic-inbox--cyclist-reports-shocks-along-pasco-county-trail>

---

NASA Global Hydrology Resource Center. Top 500 Lightning Hotspots.

Link: [https://ghrc.nsstc.nasa.gov/lightning/data/data\\_lis\\_vhr-climatology\\_description.html](https://ghrc.nsstc.nasa.gov/lightning/data/data_lis_vhr-climatology_description.html)

---

NOAA's Experimental Lightning Climatology.

Link: <https://www.arcgis.com/apps/webappviewer/index.html?id=1f94af1948914f4a8c4600cb427f2982&mobileBreakPoint=250>