

LIGHTNING DATA CENTER MINUTES
APRIL 9, 2010
ST. ANTHONY CENTRAL HOSPITAL, DENVER, CO
www.stanthonyldc.org

Monthly Quote: “Tis said of love that it sometimes goes, sometimes flies; runs with one, walks gravely with another; turns a third into ice, and sets a fourth in a flame: it wounds one, another it kills: like lightning it begins and ends in the same moment: it makes that fort yield at night which it besieged but in the morning; for there is no force able to resist it.”

-Miguel de Cervantes

1. Meeting began in Auditorium A at 12:05 PM and adjourned at 1:50 PM. Greg Stewart moderated the meeting.
2. Members present: Collier, Engle, Gift, H. Keen, R. Keen, Langford, Stewart, and Wells.
3. We begin these minutes as we began the meeting with a brief tribute to a woman that most of us never knew. We note the passing of Steve Clark’s beloved mother, Doris Evans. Steve left town on short notice on Monday April 5th to be with his mother in Tucson. We have since received word that she has passed on April 7th. Steve has played an immense role in the Lightning Data Center since nearly its inception, and I hope you will join me in sending heartfelt condolences. You can see an obituary at:
http://obit.angelvalleyfuneralhome.com/obit_display.cgi?id=774280&listing=Current&clientid=angelvalleyfuneralhome
4. An item that was omitted from the meeting but has high relevance is that Bob Wallace has been reassigned within the St. Anthony Hospital system, and will no longer be the LDC liaison. We would like to acknowledge Bob’s efforts on behalf of the group since his first meeting on August 11th, 2000. Bob hopes to attend the occasional meeting in the future, but I think we all owe him applause for his contributions over the last decade. Thank you Bob!
5. This meeting was the first trial of a new type of meeting format which I hope will become at least an annual event. We employed the Show & Tell format, and many members brought along items to share. Greg Stewart brought two articles from the internet. The first was a discussion of the potential impact of global climate change on lightning flash density, and perhaps by extension lightning injury. The article can be found here:
http://www.treehugger.com/files/2010/02/global-warming-could-lead-to-more-lightning-deaths.php?campaign=th_rss_science
This started a spirited discussion on global climate change. Rich Keen was the ranking meteorologist at the meeting, and is on the record as a skeptic of “global warming.” Rich states: “atmospheric temperature variations appear to be cyclical within the nominal range of natural variability.” He further noted the following statistics for consideration:

Since 1899 there has been no trend in net temperature increase in Central Alaska according to the data Rich has seen. In addition, he states that temperature trends globally have:

Cooled since 2000

Warmed since 1970

Cooled (or about the same) since 1930

Warmed since 1900

Warmed substantially since 1650

Cooled since 1000

Cooled since 5000 BC (post ice age maximum)

Warmed a lot since 12000 BC (end of ice age)

Rich adds that “The caveat [for these statistics] is that [average] global temperatures are not accurately measured, estimated, or guessed, and some of these warmings/coolings could be slightly the opposite, depending on the location, averaging methods, and source data.”

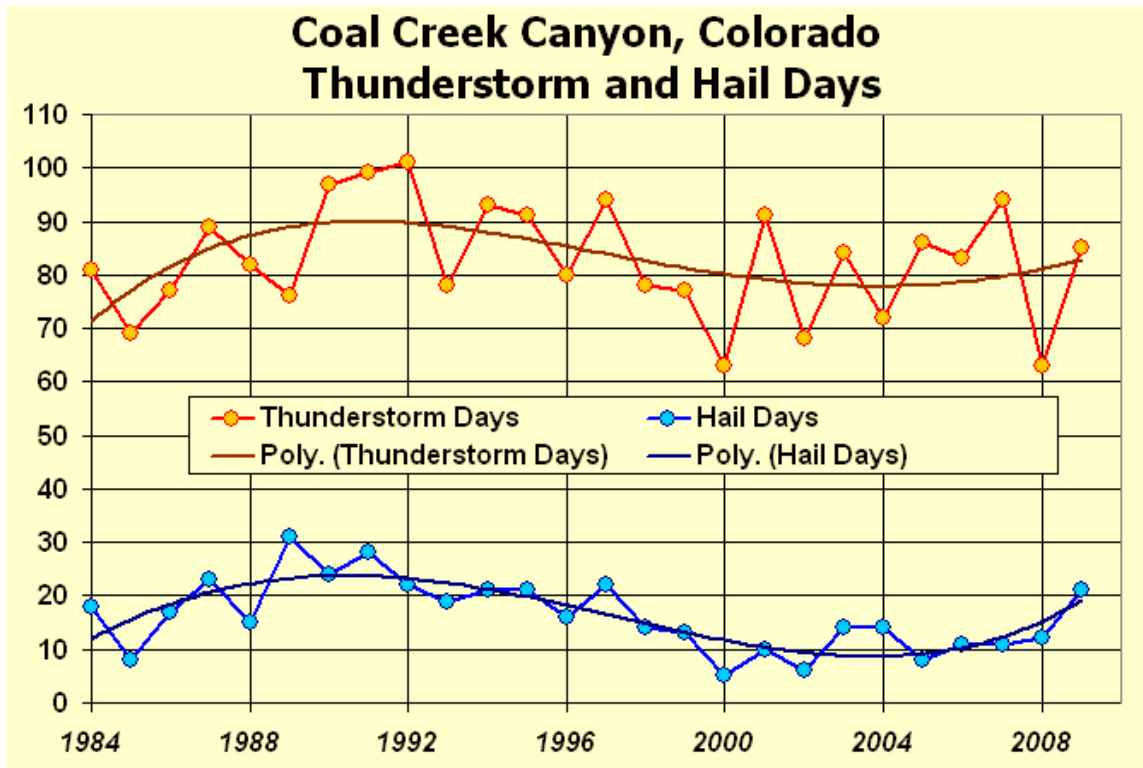
During this discussion Scott Engle recalled that in the 1970s a cooler than average climate was reported. He believes any climate change to be primarily naturally occurring.

It was postulated that there might be a relationship between cosmic rays and surface heating. Rich noted that fewer cosmic rays might lead to less clouds, which would decrease the reflection of sunlight back to space by cloud tops, which might therefore increase surface heating. He noted that ocean cycles have the largest impact on local climates. Such local variation probably does impact lightning flash density. His key summary was this: “the problem with this biz (of meteorological statistics and temperature variation) is that the data is too sparse to really support conclusions.”

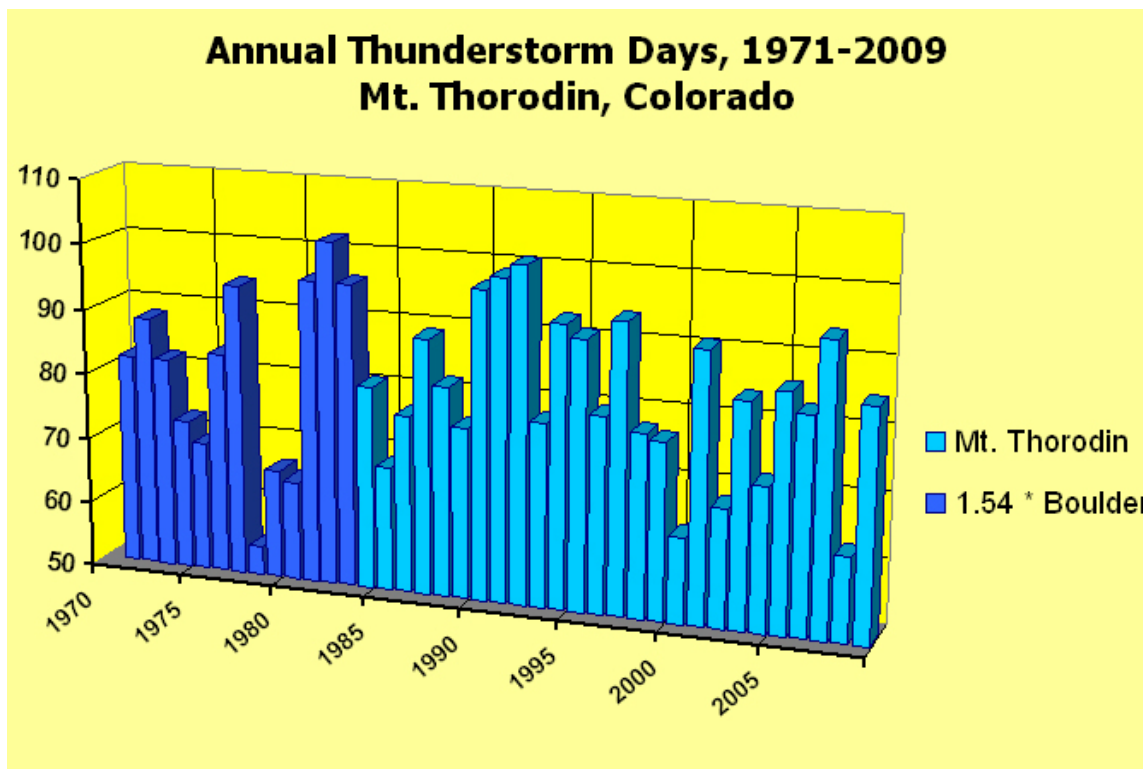
6. Greg Stewart presented a second article on recently observed volcanic lightning. The article suggests there are some unique characteristics to recent observations which might warrant a new class of lightning. These included very brief flash durations. Ken Langford observed that in the high friction environment of a volcanic plume it would make sense that charges would not have as far to travel, which might be reflected in shorter discharge durations. The article can be seen here: http://www.insidescience.org/research/a_new_kind_of_lightning and it features some spectacular photographs.
7. Karen Wells announced that Dr. Al Nibbe would be presenting for the June Lightning Data Center Meeting.
8. Unusual effects of lightning were next discussed. Scott Engle asked whether lightning could cause straight hair to become curly. Other reported impacts have been the restoration of lost vision, hair growth on a bald head, and reduction in sensitivity to cold. This segued into Robert Gift’s show and tell of a device that was purported to encourage hair growth. Robert had found this electronic device at a garage sale, and seems to be a neon tube in the shape of a rake. Made by Master Appliances, Inc of Marion Illinois, this device was rated 20 watts at 115 volts, and had a model number of M66. Robert then proceeded to use this device in the darkened room to illuminate light bulbs, a florescent tube, and a small TV screen from an old Sony Watchman. On the small TV he demonstrated a variety of discharges, some of which looked remarkably like atmospheric sprites.
9. Rich Collier delivered some content for the engineering section of the LDC web page.
10. A discussion of the pain experience led to a discussion of kidney stones, which several members have experienced. An attempt to relate this back to lightning led to Greg’s mention of the Extracorporeal Shock Wave Lithotripsy (ESWL) procedure. An overview of the procedure can be found here: <http://www.webmd.com/kidney-stones/extracorporeal-shock-wave-lithotripsy-eswl-for-kidney-stones>

11. Rich Keen showed two types of Fulgurite. These are glassy structures which are created when sand or soil come in contact with high voltage, often from a lightning source. Rich has one from South Jersey sand, and another from rocky New Hampshire soil. Robert Gift wondered if the power from a power line could add to the current flow of a lightning strike once the path was initiated. Ken Langford reminded the group of the crystallized sap found on a lightning struck coniferous tree in Castle Rock Colorado. Rich Keen noted that rocks can have high water content, and this caused a “bubbled” appearance in his soil Fulgurite from the evaporation of water during the current flow. Helen Keen noted that in the movie Sweet Home Alabama one of the characters made a living selling fulgurites.
12. Greg Stewart brought some shards from a ponderosa pine he had discovered near a tree damaged by lightning strike. He also had some damaged siding from a former residence of his from near the South Shore of Boston; siding which had been blown off by lightning. Greg told us his interest in lightning began when a friend of his was killed by lightning while hiking Mt. Princeton in 2004.
13. Ken Langford showed some of his lightning photographs from 25 years of lightning photography.
14. Rich Keen brought a chart of his thunderstorm data from his weather station on Mt. Thorodin near Coal Creek Canyon in the Colorado Front Range foothills. The charts are reproduced in an addendum to these minutes. Rich notes that after extensive examination of these data he sees no direct correlation between annual thunderstorm occurrence at his station and outside influences such as drought, sunspots, or any other natural cycle he can pinpoint.
15. Gary Flanders contributed the following web link via email:
http://s171.photobucket.com/albums/u311/dickyd21/?action=view¤t=high_power_worker-1.flv
16. These minutes do not represent official positions of LDC or its members. They simply reflect the comments made at the meeting.
17. Members wishing to submit information to the group such as item #13 should send submissions via Sue Wiggins. These will be considered for the inclusion in the monthly minutes.
18. Next meeting: Friday, May 14, 2010 at 11:30 AM in the Main Auditorium at St. Anthony Central Hospital. Subject: TBA.

Respectfully Submitted,
Kenneth Langford,
President, Mr. Random Enterprises, Inc.



The observed days with thunder and hail for Coal Creek Canyon since 1984. Recording instruments are used to supplement direct observations when I'm absent; these are an AM radio and chart recorder for thunder, and "hail pads" (styrofoam wrapped in heavy-duty aluminum foil) for hail.



The longer thunderstorm record adds on 13 years of my observations of Boulder thunderstorm days, multiplied by a ratio determined from about ten years of overlapping records.