

Owen Brown

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### Clouds One

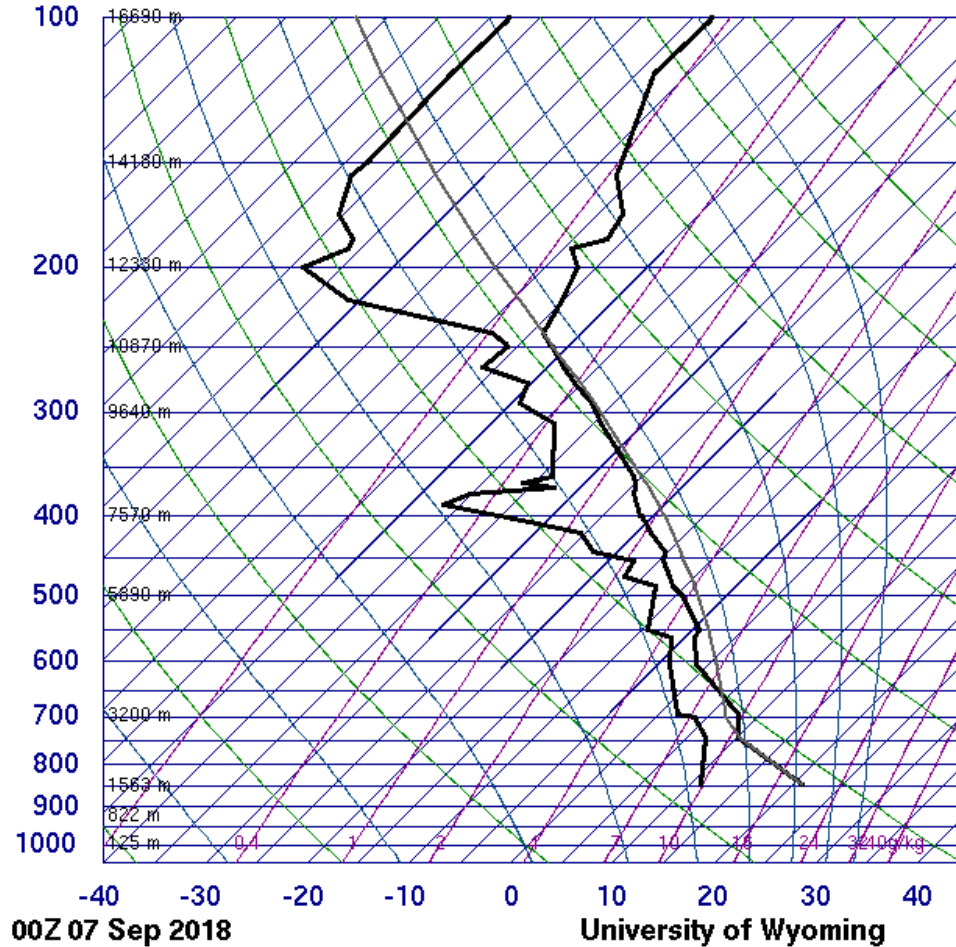
This image was taken on a domestic flight from Denver to Cleveland, just after takeoff from Denver International Airport (DIA) at 2.54 PM MCT on September 9<sup>th</sup>, 2018. The plane was pointed due east with the image taken out of a window pane to the aviator's right, facing south. The sun was unfiltered creating a bright, fluffy well-lit foreground of rising clouds.



*Figure 1: Towering cumulus clouds, rising across the horizon east of Denver*

The towering cloud features can be best categorized as cumulus congestus or cumulus castellanus[1]. This name originates from the crenellation on medieval castles, which rise across the skyline. The Skew-T plot shown below indicates significant instability in the morning with the CAPE at approximately 345.9. The clouds are forming at multiple elevations with the most concentrated formation at just over 5890 m[2]. Each plume is a rising instability, the ground area east of DIA is heavily populated with farmer's fields and may be the cause of some of these plumes.

72469 DNR Denver



SLAT	39.77
SLON	-104.87
SELV	1611.
SHOW	-9999
LIFT	-1.55
LFTV	-1.75
SWET	-9999
KINX	-9999
CTOT	-9999
VTOT	-9999
TOTL	-9999
CAPE	345.9
CAPV	398.7
CINS	-25.6
CINV	-15.4
EQLV	240.8
EQTV	240.8
LFCT	659.2
LFCV	670.1
BRCH	19.88
BRCV	22.91
LCLT	281.3
LCLP	723.0
MLTH	308.6
MLMR	9.53
THCK	5765.
PWAT	25.00

Handwritten notes on the right side of the plot, including several vertical lines and symbols, possibly representing cloud characteristics or data points.

Figure 2: Skew-T plot showing air & dew conditions the day of the cloud formation

The image was taken on an iPhone 7. The dimensions of the image were 3444 x 2502 pixels with a 96x96 dpi resolution. The exposure time was 1/9615 sec, with an ISO speed of 25. The focal length of the micro lensed camera was a fixed length of 4 mm. It was difficult to reduce glare off of the window pane, so the camera was held at a low downward angle.

The image came out very nicely with a ton of impact coming from the view of the shot. It is not normally how clouds are seen, and changing the unfiltered sun gives nice clear contrast within the cloud. It may have been interesting to see how different levels of saturations, or possibly going black and white would have changed the image. Overall, I think it is an effective and interesting shot.

References:

[1] Warrilow, C. (2013, March 21). Sky Watching: Cumulus Clouds. Retrieved October 24, 2018, from <https://weather.com/science/news/sky-watching-cumulus-20130320>

[2] <http://weather.uwyo.edu/cgi-bin/sounding?region=naconf&TYPE=GIF%3ASKEWT&YEAR=2018&MONTH=09&FROM=0700&TO=0700&STNM=72469>