

CVEN 5153 Flow Visualization Report

Clouds First Project

Luke Parker, 17 OCT 2026

<https://www.flowvis.org/2026/09/30/luke-parker-clouds-first/>



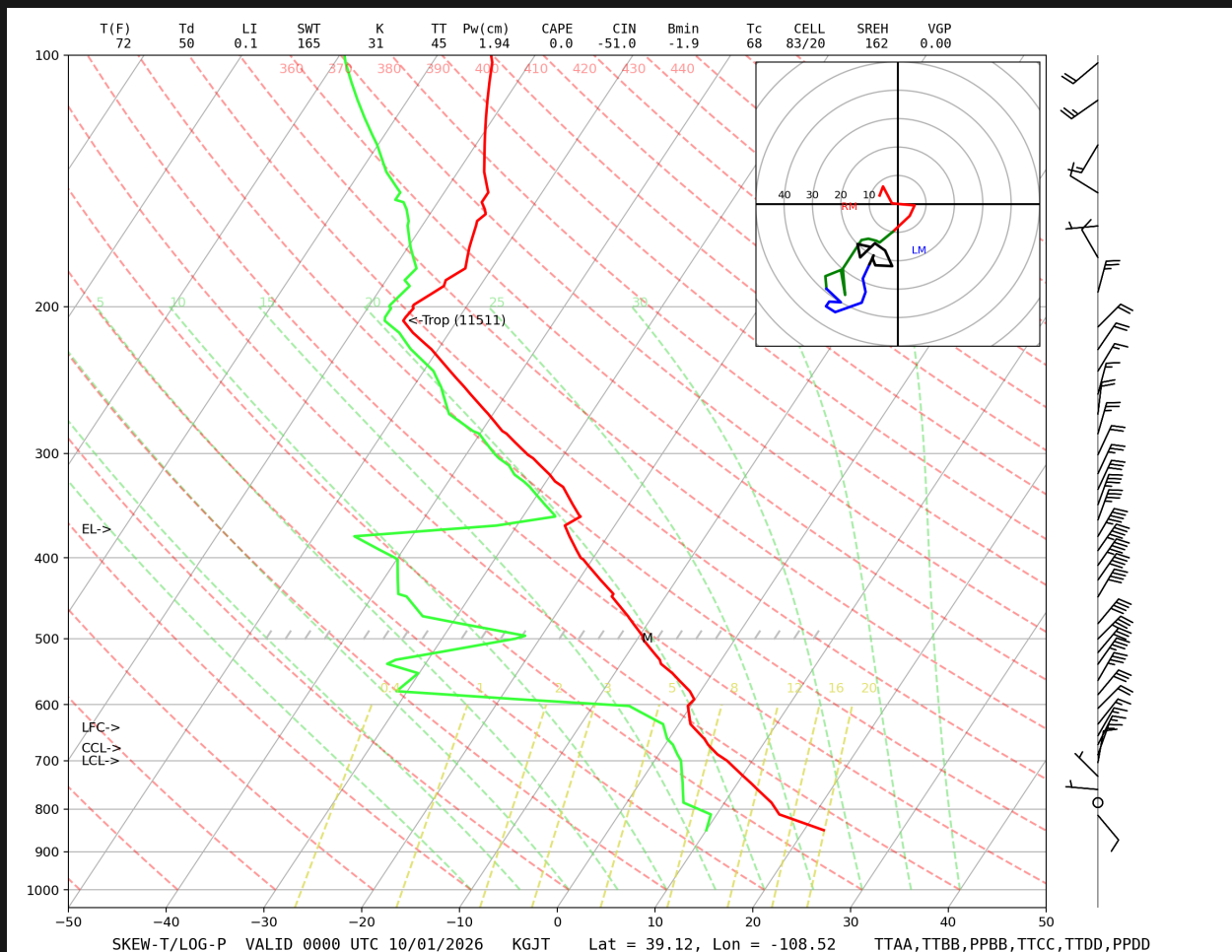
Please see the post on FlowVis.org linked above for a higher-resolution version of this image.

This image was taken as part of the Clouds First project. The intent was to capture a particularly gorgeous sunset.

The image was taken in East Boulder, near the junction of the South Boulder Creek trail and the BNSF Front Range Subdivision 476 rail track, where the view to the west is unobstructed. The camera was pointed up and northwest, at an estimated bearing of 300 and elevation of 30 degrees. The image was captured at 6:49PM MST on September 30, which was right in the middle of the sunset.

The image is dominated by stratocumulus clouds, estimated to be at a pressure altitude between 700 and 600 millibar. This classification is supported by the atmospheric inversion at 600 millibar directly above the LCL at 700 millibar in the sounding data, as inversions above clouds generally result in large, spread-out layers of clouds such as stratocumulus. These clouds covered the entire sky at the time, and had been in the sky for most of the day. The week had been somewhat cloudy, however it had also been dry. No precipitation followed. The wind is of note, as there is a clear wind shear at the 700 millibar altitude. This is corroborated by some very small fluctus clouds rolling off of the larger stratocumulus band in the bottom quarter of the image.

The following Skew-T Log P plot was collected from the UCAR Real Time Weather Upper-air sounding data website, for the GJT station: <https://weather.ral.ucar.edu/upper/>



The image was taken on an iphone 16 main camera, f/1.6 equivalent. Shutter speed was 1/121s, focal length was 52 mm equivalent, and the ISO value was 32. The original image was 4032x3024 pixels, and the image posted to FlowVis.org was 1300x900 pixels. In post-processing, the image was cropped to final dimension and the contrast was increased so that the brighter and darker cloud bands would stand out.

The image reveals the altitude variations in the stratocumulus bands, via the lighter and darker regions, as the sun hits the bottom of the clouds but does not illuminate the gaps between bands. The intent of capturing a representative image of the effect that was spread across the entire sky was met, but to improve I would have liked to have captured it on a better camera and perhaps with a shorter focal length for a wider field of view. As it was, there was no time to return home and obtain my professional camera.

The image discussed in this report, along with supporting images, calculations, and writing, are the sole work of Luke Parker. No other collaborators, human or otherwise, participated in the production of any of the above work in any way whatsoever.