



Figure 1, Final image.

## Sunset Over Santa Fe

Image and Report by Summer Thompson for the Spring 2018 Flow Visualization class at CU Boulder.

I took this image on a road trip through New Mexico. It was taken about 20 minutes outside of Santa Fe between the towns Ribera and Glorieta. The elevation was 6,821 feet and the camera is looking North-East and parallel with the ground. The image was taken on March 24th at 7:20 just as the last light illuminated the wispy clouds that were over the mountains. The sun was setting out of view on the left side of the image. My perspective was perpendicular to the direction of the light.

## 72365 ABQ Albuquerque

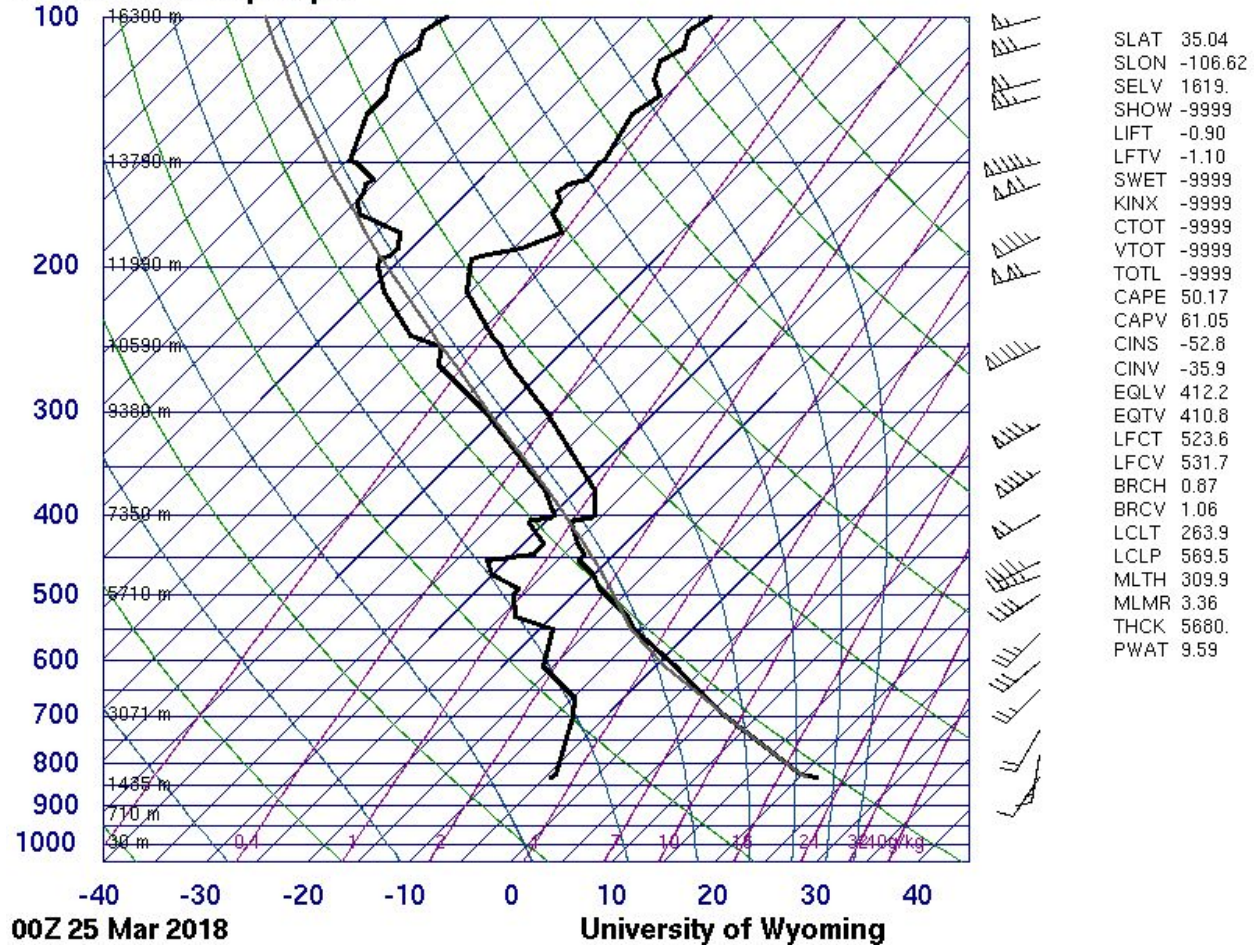


Figure 2, Skew-t diagram of albuquerque at sunset on March 24th.

According to the skew-t diagram, the atmosphere was unstable at the time of this image. The elevation of these clouds were from the surface at around 1435 meters to 7350 meters. I believe the cloud type was stratus nebulosus, because of the layered, undefined shape and low altitude. The clouds formed from a rising sheet of air off the surface of the ground, warmed by the light of the setting sun. The shape of the clouds could have been impacted by the surface features like the mountains and valleys visible as well as the turbulence caused by the rising air creating an unstable atmosphere. The first arm of the skew-t diagram supports this as it is jagged. The light from the sun warmed the ground enough for a thermal layers of air to rise.

These layers would have condensed into water vapor as the non-adiabatic cooling increased the relative humidity. These water droplets, in upward motion would make the thin veil cloud visible in the image.



Figure 3, unedited original.

For this Image, I used my Fujifilm x-pro 1 with a Nikon lens adapter and my 135mm Tele-Lentar 1:2.8 Nikon mount lens. The lens has a little bit of fungus in it, which could have helped create the soft focus of this image. The lens was focused at infinity and the aperture was 2.8. The ISO was 800 and the shutter speed was 1/125 sec. Since the mountains were in the distant background, I estimate the field of view to be at least 10 miles wide and more than 5 miles from the camera. The editing I did on this photo was boosting the contrast and removing the car visible in Figure 3. I also dodged the road reflectors in the bottom half of the image. I chose to make these edits to remove the distracting elements and allow the viewer to focus on the clouds on the horizon.

I really like this image because of the contrast between the cool dark bottom half and the illuminated upper half. I think the setting sun brought out really lovely but subtle colors and details of the atmospheric flow. I wish the clouds were a little sharper but I think the image reflect the cloud type and the flow phenomenon accurately. If I were to develop this idea further, I would want to explore the physical effect of the sun setting on the atmosphere in other geographic surroundings. This could be difficult; I think I lucked out on this photo, as I was really just in the right spot at the right time.