

Clouds Second Image Assignment

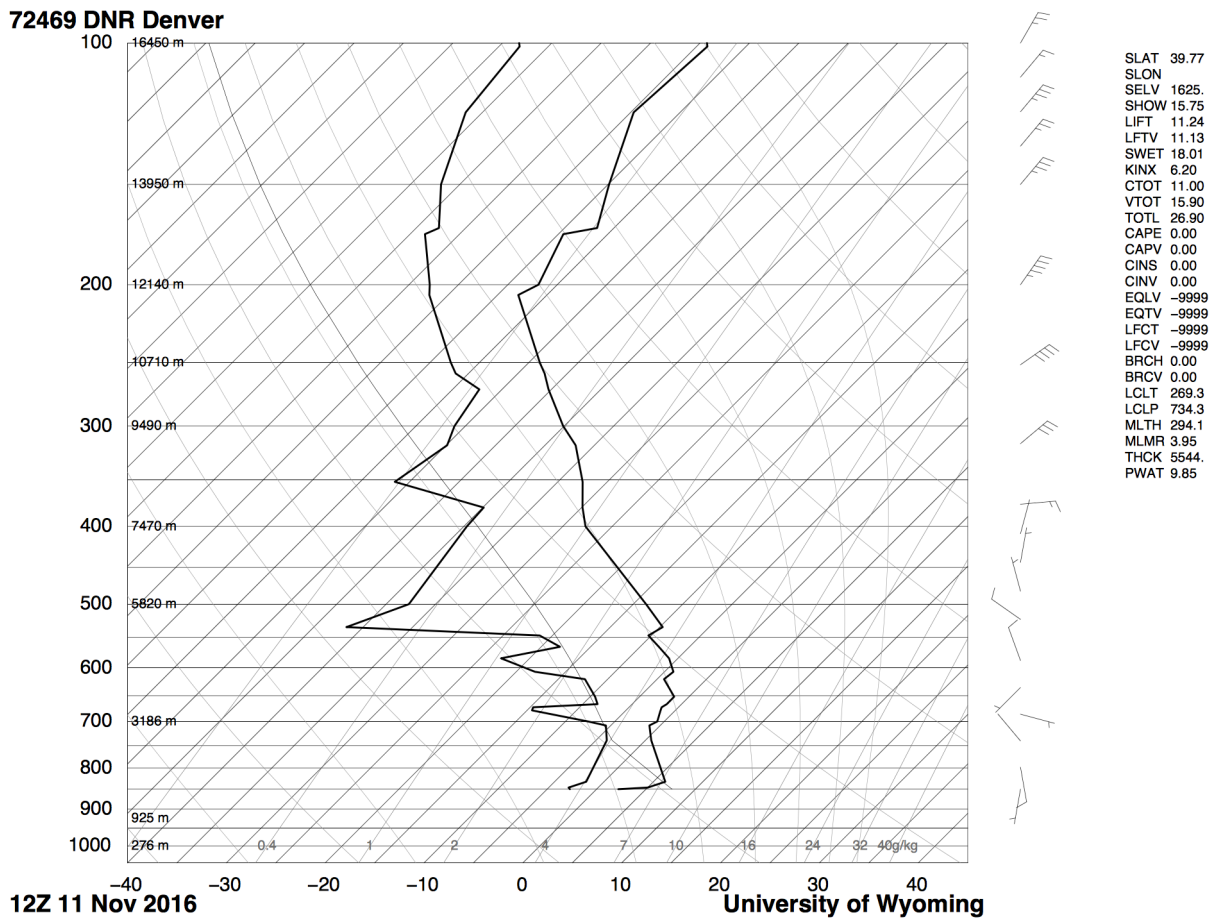
Schuyler Vandersluis
Flow Visualization - Professor Jean Hertzberg
11/18/2016



The image depicted above represents a sunset during a stable atmosphere looking towards the mountains (West) from the University of Colorado Boulder. The photograph was taken at 4:50 p.m. on November 11, 2016. The image was taken for the Clouds Second Image Report with a purpose of capturing particular types of clouds during a sunset. The image was captured with the camera pointing approximately 10 degrees above the horizontal, while the clouds moved towards the East at the time of image capture.

The clouds seen in the image include stratocumulus clouds caused by an inversion (stable layer that stops upward convection). The broken up stratus clouds shown are reflecting UV and visible light above, and absorbing light on the bottom face. This creates an unstable cloud which wants to turn over. The instability causes the the breaking up of the stratus layer. However, there is also some stability in the stratus clouds from a widespread uplift from the mountains.

The Skew-T Diagram below shows that the atmosphere was stable during the time that the photograph was taken.



As seen above, the CAPE was zero, indicating a stable atmosphere. This is in agreement with the image taken because the clouds depicted seem to be stable during the sunset. The camera settings are shown below for the original image.

Canon EOS DIGITAL REBEL XS
 Canon EF-S 18-55mm f/3.5-5.6 IS
 4272 × 2848 3 MB
 ISO 200 45mm 0 ev f/9 1/125

Post-processing included increasing exposure and contrast with Adobe Lightroom. The sharpness was also increased to make the cloud stand out against the sky.

Cited Sources

"Atmospheric Soundings." University of Wyoming, n.d. Web. 17 Nov. 2016.