

John Whiteman

ATLS 4151-001

Clouds First

Image Taken: Sep 15, 2022, 3:09 pm

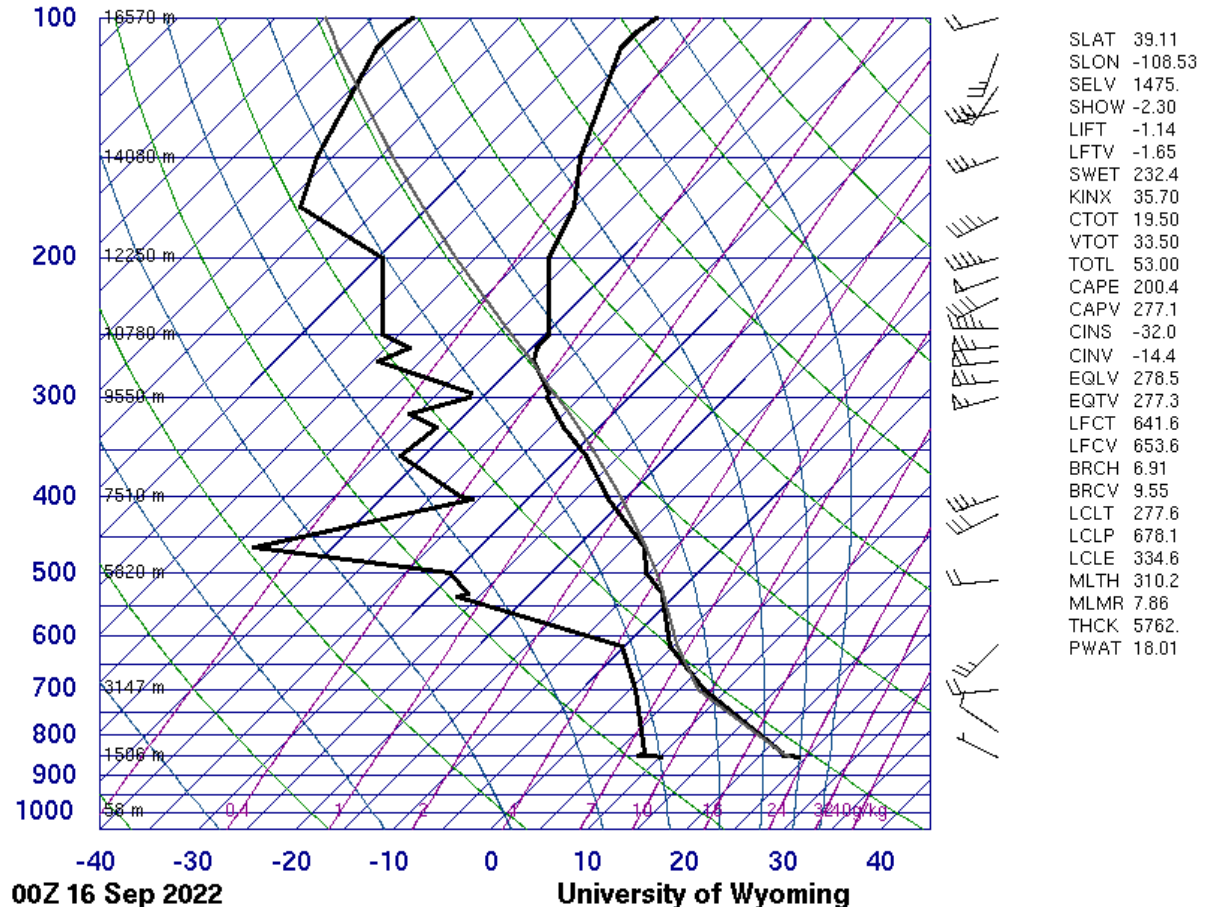
This image was taken for the first clouds flow vis assignment to capture a nice visual of some low-hanging clouds. Using appropriate photo techniques and knowledge of the atmospheric conditions we can use this image to gain some understanding of the flow physics present within these clouds. Both the original and edited images can be found at the end of this document.

This image was taken adjacent to the CASE building on the campus of CU Boulder at 3:09 pm on Sep 15, 2022 . The conditions on and around this day were primarily blue and sunny skies with minimal wind or inclement weather. The photo was taken at approximately a 45-degree angle facing northwest.

Using the appropriate skew-T diagram (found below) from this time and date and grand junction we can gain a better understanding of the clouds we're seeing. Visually we can identify the clouds to be of the cumulus humilis variety, due to their puffy shape, relatively short vertical reach, and low altitude. The skew-T plot helps to confirm this hypothesis as we can see these clouds likely formed around 4500 meters in altitude, where the dewpoint and temperature lines come the closest together. The relatively low CAPE value of 200.4 means that the atmosphere is slightly unstable, this combined with the altitude at which the clouds are forming supports the

presence of our calm and puffy cumulus humilis clouds.

72476 GJT Grand Junction



I capture this image using the wide lens of an iPhone 13 Pro Max. The distance to the clouds was approximately 3000 meters, though the very large field of view distorts this estimate between the far reaches of the image. The lens of the iPhone's wide lens has a focal length of 26 mm. The image was taken with a shutter speed of 1/16,393 seconds, an f-stop of 1.5, and an ISO setting of 40. The original photo was taken at a resolution of 4032x3024 px and the edited version has a resolution of 4032x2746 px. In terms of edits made, only minor adjustments were applied to the brightness and resolution of the image to further accentuate the details within the bright and dark spots present in the cloud formations.

I enjoyed capturing this image and love the way it turned out due to the beautiful skies and bright puffy clouds. The skew-T diagram does a wonderful job illustrating the conditions that cause these large clouds to puff up only a little bit and drift lazily in rather calm conditions. In developing my cloud photography further I believe this image could be enhanced a lot by a

more interesting background, such as mountain scenery present with the flatirons or something else.

Original:



Edited:

