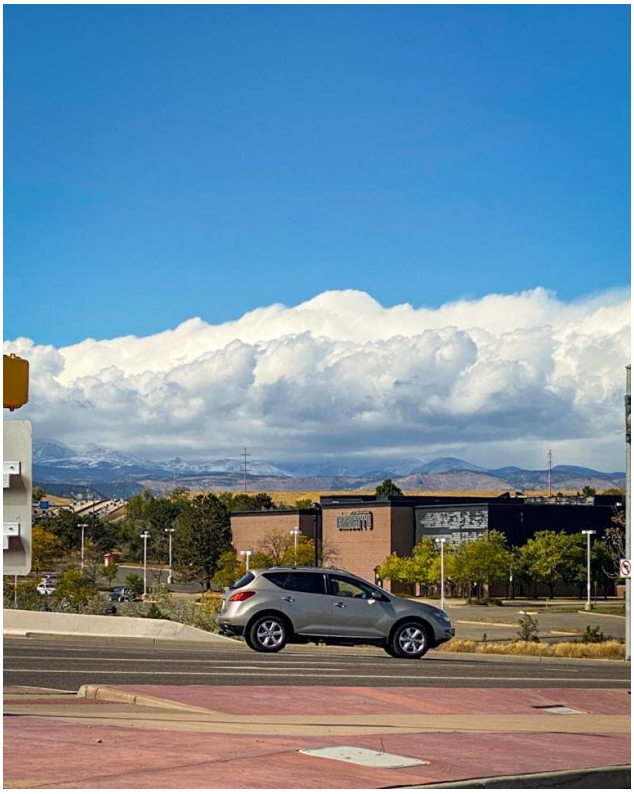
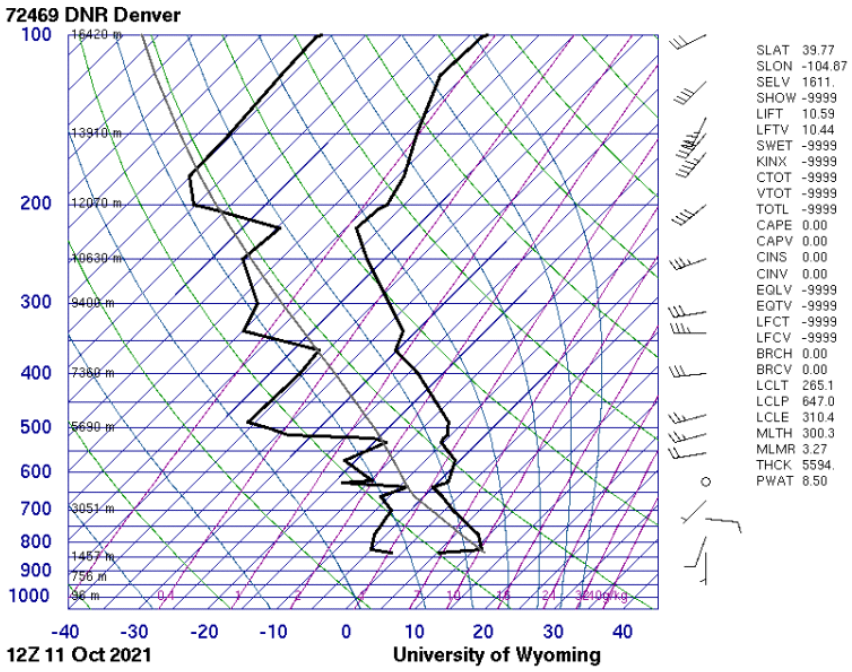
**Cloud Report 1**



The purpose of the image is to analyze the weather patterns that led up to the cloud formation.  The clouds are accumulated on one side and the rest is the blue sky. Throughout the photography, I was trying to capture the movement of the clouds and how they come together to form different types of clouds. The image was passed from one activity to another. At first, I tried to do this with a base64 String of the image. an intent-based cloud management framework was used and focused on the realization of a resource design framework that enabled the translation of the user intent into cloud computation amount. The RDF was able to realize a precision of 88.9-90.6 % for resource design and reduced time cost as opposed to conventional resource design.

The image was located in Boulder, Colorado, and was used to depict cloud pattern formation above the mountains. A directional polarimetric camera with nine views and eight channels was used. The camera provided a lot of cloud detection and property invasion based on the channel radiance. The camera was facing the south providing a 3-d cloud property inversion. A multi-angle data and 3-d cloud reconstruction were used. Overlapping positions were taken to enhance better caption. The image was captured on October 9th, 2021, around 11:18 a.m.

The clouds captured are cumulus. The clouds have a flat base and are cotton-like and fluffy in appearance. The rest of the sky is pure blue.  Previously the sky was full of cumulus clouds before accumulating in the same place. In later hours it is expected to be cold and hot. The clouds have been similar the day before. There was no rain or snow appearance at the hours of the image. However, there was a wind that was slow and occurred inconsistently. The air that was rising was warm and less dense than the air that was surrounding.



The cloud height expected is 2000 feet above the mountains. In the later hours, there are expected to have vertical cumulonimbus clouds. The clouds are expected to have a base of 200-400 meters which means they will be mid-level clouds. The physics that resulted in the clouds are cloud microphysics incorporated with holography. They were techniques that provided the position in three-dimensional space and shape. When the real image was reconstructed, the virtual images reconstruct as blurry backgrounds that appeared around the reconstructed "focused" real image.

The micrometer was staged at 100x with an Olympus compound microscope. The diameter of the field of view was 0.4mm and the magnification was 400x. the distance from the object to the lens was 5 cm. the image distance was placed 10 cm in front of the convex lens and the focal point of 7 cm. The photograph was captured using a Nikon D5000 DSLR with a VR 18-200mm f/3.5-5.6G lens on a Nikon D5000, for its renowned high speed and quality image (Nicholson and Mertes, 2017). An aperture of f/14 was used in conjunction with a fast shutter speed of 1/800s and a low ISO of 200 to create this image. Because the sun was not visible in the picture, there was not sufficient light to allow such a fast shutter speed, which was justified in this case. Using GIMP 2, the photo was then modified to simply raise the contrast of the photograph and cause the foreground plants to appear like silhouettes.

The image shows a white cloud that is thick and high-cold. It represents positivity and temperature stability. I don't like how the images are accumulated on the same side. They are supposed at least to spread over the visible sky to show better stability of the atmosphere. The question I have is that why do most clouds accumulate at the same place and leave the other places pure blue. I would like to improve the aspect of quality. I am at using 3D rendering image

resolution next time. I will research more about image quality and reach out to the professional photographer for more insights.

# References

Nicholson, L., & Mertes, J. (2017, April). Sampling supraglacial debris thickness using terrestrial photogrammetry. In *EGU General Assembly Conference Abstracts* (p. 9901).