

Cloud Assignment #2
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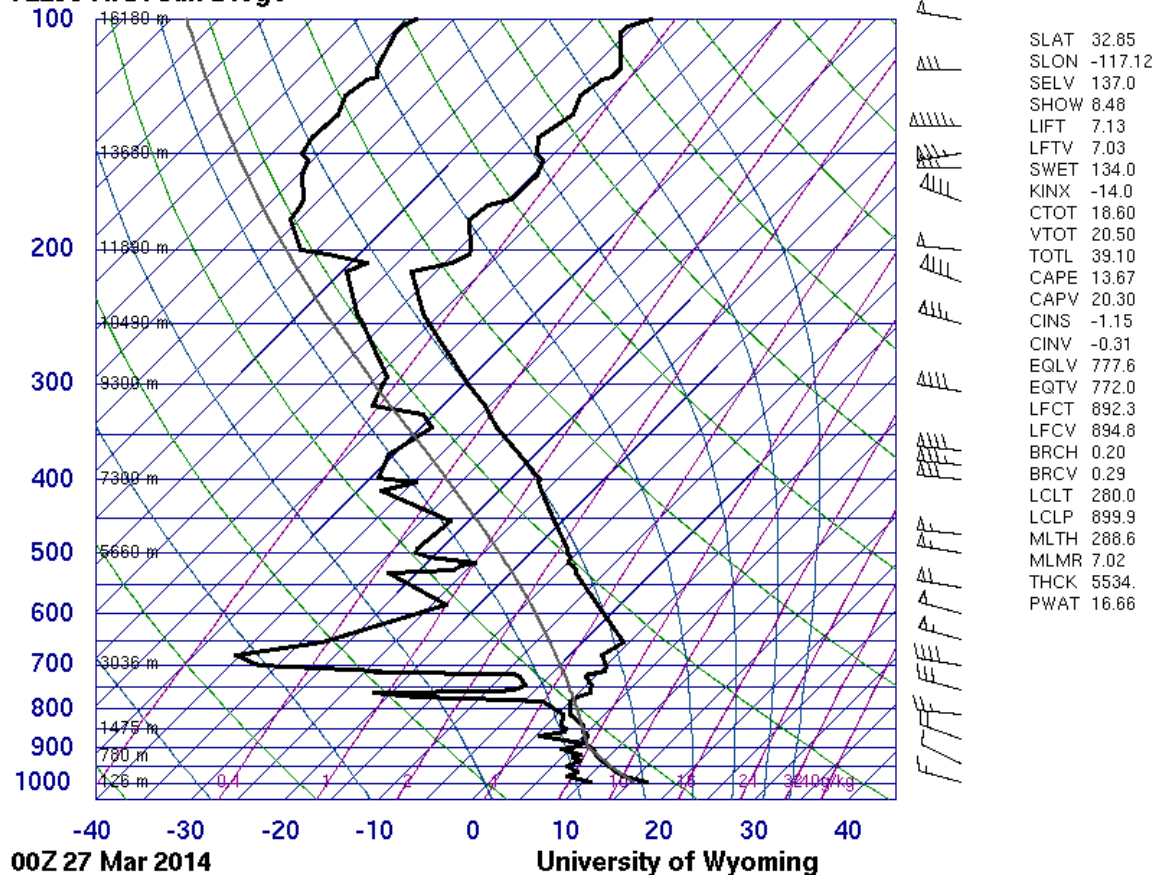


This image is of clouds and is used to give a visual interpretation of the physics behind this cloud type and what allows it to form and look the way it does. I was trying to visualize what clouds look like at sunset in ocean side areas.

This cloud image was taken off of the end of the pier overlooking the ocean in Ocean Beach. Ocean beach is in San Diego, California. The camera was facing west out toward the ocean at an elevation of about 50 feet created from the pier. The camera was angled a bit upward from the horizontal line of the ocean. The picture was shot at 7 PM on 3/26/14.

The clouds in the image I took were mainly Cumulus Clouds. The clouds were formed on the end of a warm day. The water vapor from the ocean heated up causing evaporation and convection of warm air. This caused convection and the rising of warm air, which then cooled and condensed to form this cloud type. There was no rain or cold fronts before or after the time the picture was taken. The cloud was in an unstable atmosphere where warmer air was rising through surrounding denser atmosphere. My Skew-T had a cape level of 13.67 showing that the atmosphere was unstable shown by the cloud type of cumulus cloud.

72293 NKX San Diego



There was no wind and the sky was filled with cumulus clouds. I would estimate the clouds to be about 5000 feet up and in the troposphere layer of the atmosphere. The pink and yellow in the clouds were created due to the scattering of light as the sun became low in the sky during sunset. This caused the light to have to go through more atmosphere therefore scattering more light. During the daytime sunlight comes down through less atmosphere and has less scattering leaving the sky a blue color with a shorter wavelength. The blue light is scattered more easily leaving the sky with a yellow and pink hue.

For this cloud photograph I choose to use a wide-angle lens in order to capture most of my view of the clouds. I shot the picture at sun set in order to get the beautiful pink and yellow colors created from the longer wavelengths of light. I shot the photo at f/16 in order to get all of the depth of the clouds in focus. I used a shutter speed of 1/400 in order to stabilize the picture for any shake in my hands. I used ISO 800 in order to use the shutter speed and aperture in this low light situation.

Field of view: 1000 feet

Distance from lens: Few thousand feet

Lens focal length and specs:
EF-S 18-135mm f/3.5-5.6 Lens

Focal Length: 39 mm
Type of camera: Canon 7D DSLR

Pixels: 5184 x 3456

Exposure specs

Aperture: f/16

Shutter Speed: 1/400

ISO: 800

Post-processing:

I used Adobe Bridge to tone down highlights while also increasing contrast.

This image reveals cumulous cloud with bright yellow and pink shades in the clouds created from the low angle of light from the sun during sunset coming through the clouds at longer wavelengths. I like how the picture has a range of colors due to the sun set time of photography but I wish the picture had some interesting foreground. The fluid physics are shown well describing the physics of clouds along with the physics of light at that angle of the sun. If I developed this idea further I would have done a time lapse in order to show the movement of the clouds along with the change in color as the sun began to set.