

## **Weather Help - Satellite Imagery**

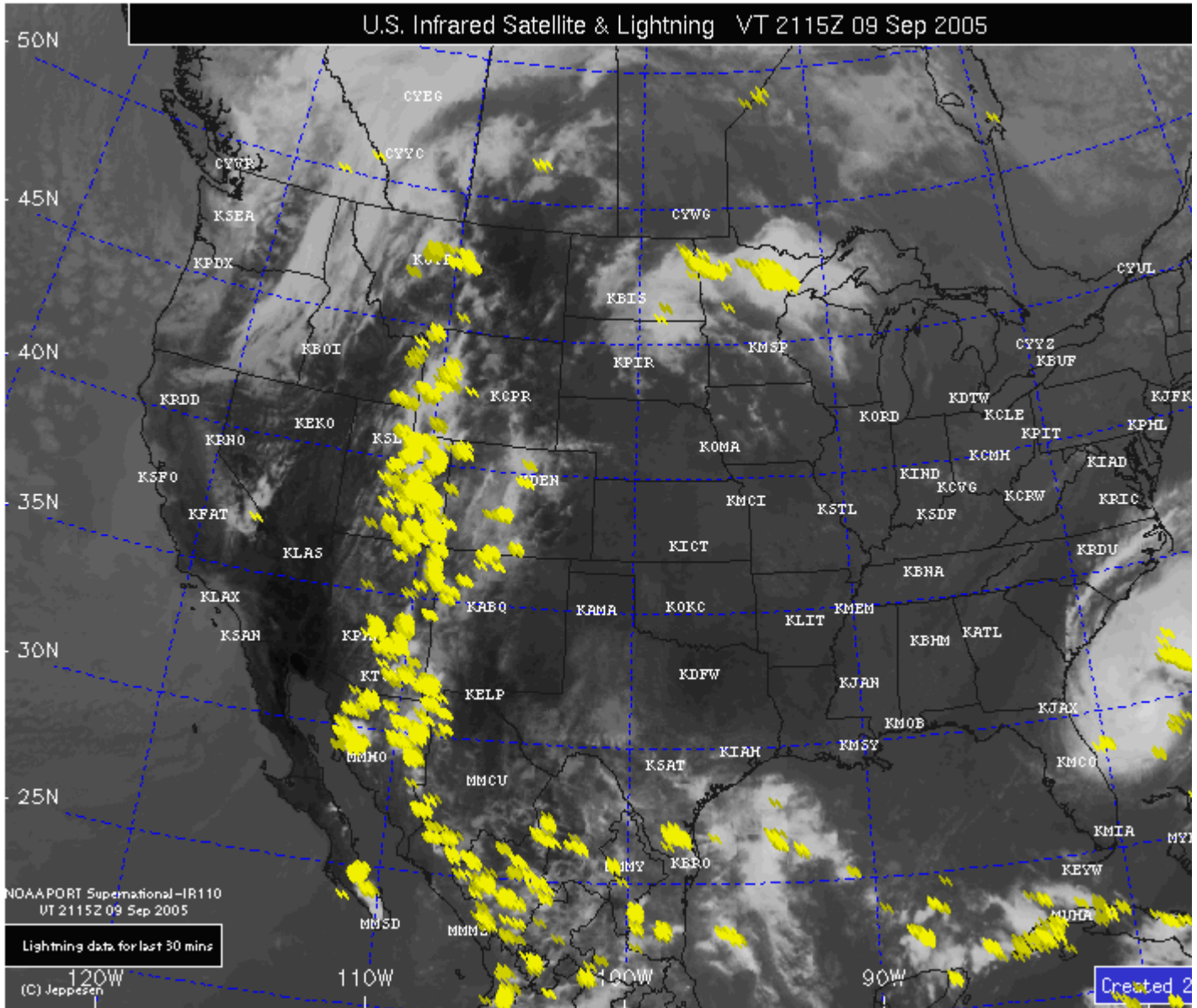
### **Infrared Features**

<b>Clouds</b>	Infrared satellite imagery measures the temperature of the reflecting surface. Cold objects appear white and warm objects appear dark. Generally, high clouds are cold and appear white, and warm land or oceans appear dark.
<b>Lightning</b>	Lightning strikes are included on selected satellite imagery for North America and adjacent areas from the USPLN lightning network. Lightning strikes include cloud to ground strikes as well as strikes within and between clouds for the previous 30 minutes and are depicted with a yellow lightning bolt. The brightest yellow strikes are the most recent and have occurred in the past 10 minutes, slightly faded yellow strikes occurred in the past 10-20 minutes, and very faded yellow strikes occurred in the past 20-30 minutes.
<b>Airport Locations</b>	Selected airport locations are depicted using the 4 letter ICAO identifier at the location.

Infrared satellite imagery measures the temperature of the closest reflecting surface as observed from the satellite. Geosynchronous satellites are in orbit 22, 500 miles above a fixed point at the earth. Clouds appear white in the image, the brightness of the cloud depends on the temperature of the cloud. Higher clouds, which are colder, appear bright white. Lower clouds, which are warmer, appear gray. Land and oceans appear gray or black in the image. The warmer the temperature of the land or water, the darker the feature looks on the image.

Infrared satellite images can be viewed 24 hours per day, since it is the temperature that is being measured. Land temperature varies between night and day, and this can be seen in IR satellite images taken at night versus during the day. Very low clouds, such as stratus and fog are sometimes difficult to see in IR imagery, as the temperature is very close to the nearby land temperature.

Maps are valid at different intervals depending on the satellite. Generally images are taken every 15-30 minutes for GOES imagery, every 1-3 hours for GMS imagery, and every 3-6 hours for Meteosat imagery. Map valid time indicates the time the image was taken. Maps are created generally 15-30 minutes after the valid time of the image.



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**Visible Features**

**Clouds**

Visible satellite imagery sees the earth as the human eye would. Clouds appear white or gray and land or oceans appear dark. Generally, thick clouds appear white, and land or oceans appear dark.

**Lightning**

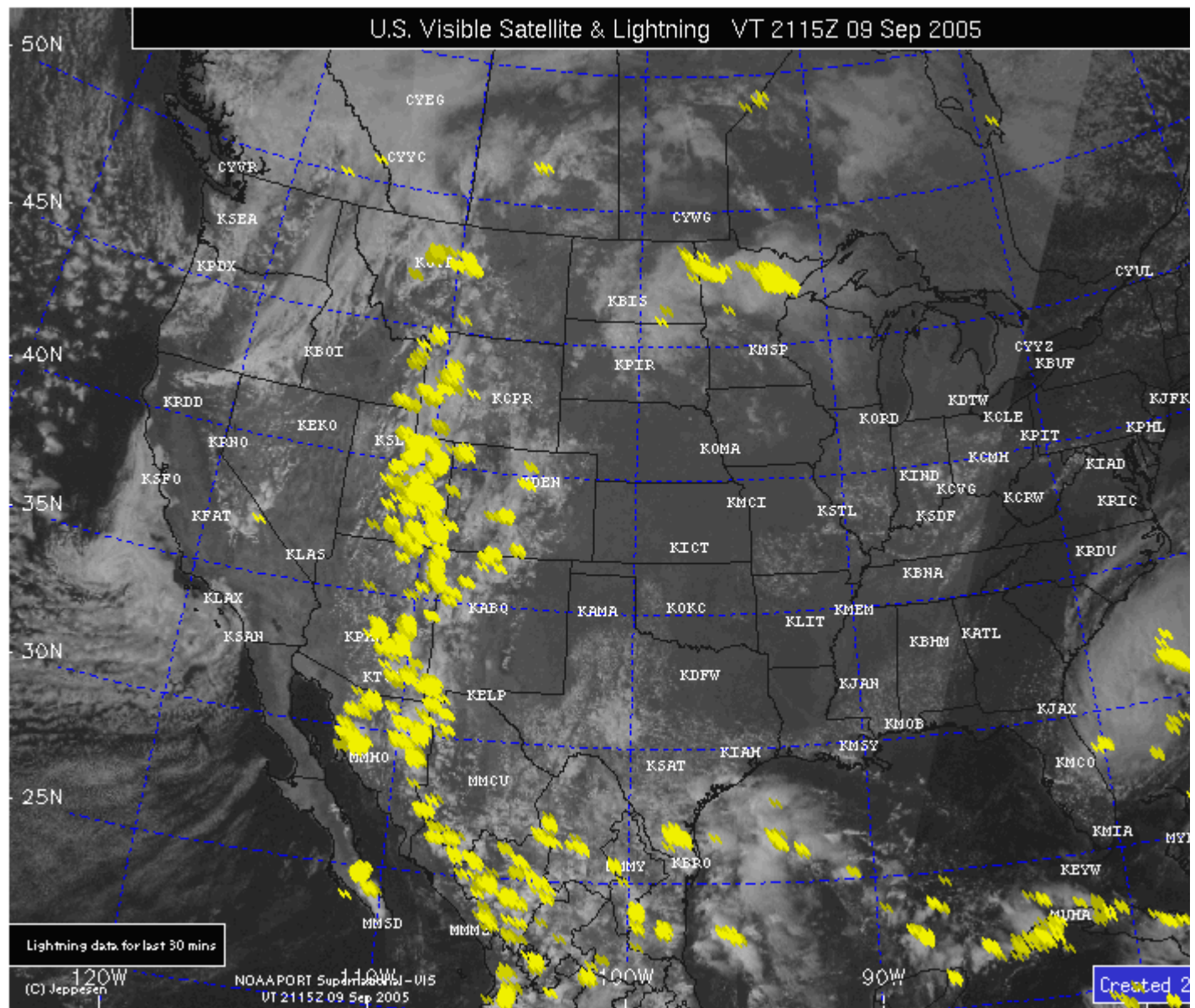
Lightning strikes are included on selected satellite imagery for North America and adjacent areas from the USPLN lightning network. Lightning strikes include cloud to ground strikes as well as strikes within and between clouds for the previous 30 minutes and are depicted with a yellow lightning bolt. The brightest yellow strikes are the most recent and have occurred in the past 10 minutes, slightly faded yellow strikes occurred in the past 10-20 minutes, and very faded yellow strikes occurred in the past 20-30 minutes.

**Airport Locations**

Selected airport locations are depicted using the 4 character ICAO identifier. Green circles may also appear on some regional maps at the airport location.

Visible satellite imagery is a picture taken by the satellite. It therefore needs sunlight on the viewing surface in order for anything to be seen. For this reason, visible satellite images are only useful during daylight hours. Visible images show various clouds and land features very differently than infrared images. Clouds that appear bright white are thick and are reflecting sunlight. High thin clouds appear opaque, whereas low clouds such as stratus and fog appear quite bright. You can also see terrain features in the land in visible images, such that mountains and forested areas appear darker than desert or farmland areas. Snow capped mountain ranges and ice packs also appear white and are sometimes difficult to differentiate between clouds. Visible images are best viewed during the middle of the local day when the sun is at the highest azimuth.

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Satellite/Radar Composite

<b>Winter Radar Mosaic</b>	16 levels for three distinct precipitation types, rain (green, yellow and red); mixed precipitation (light to dark pink) and snow (light to dark blue) are depicted using 3 distinct color palettes. Legend associates colors with precipitation intensity.
<b>Clouds</b>	Infrared satellite imagery measures the temperature of the reflecting surface. Cold objects appear white and warm objects appear dark. Generally, high clouds are cold and appear white, and warm land or oceans appear dark.
<b>Severe Thunderstorm/Tornado Watch Areas</b>	Yellow box indicates a Severe Thunderstorm Watch area. A Red box indicates a Tornado Watch area. Watch areas represent areas where the conditions are favorable for the development of severe thunderstorms or tornadoes.
<b>Airport Locations</b>	Selected airport locations are indicated on the background map using the 4 letter ICAO identifier in white.

This map combines Infrared Satellite imagery with NEXRAD Radar Base Reflectivity. The valid times for the satellite image and base reflectivity may not be exactly the same, as the data does not always coincide, but they are normally within 30 minutes of each other.

Maps are available every 15 minutes, and contain the latest GOES IR satellite image combined with the latest NEXRAD Base reflectivity mosaic. Radar mosaic will typically be more current than the corresponding satellite image.

