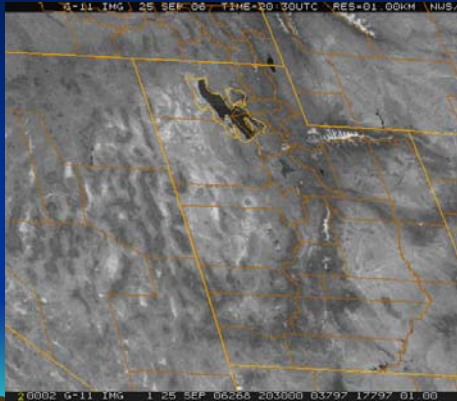


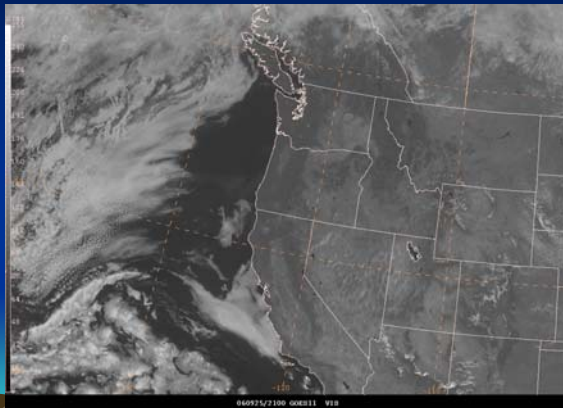
## GOES Visible Image



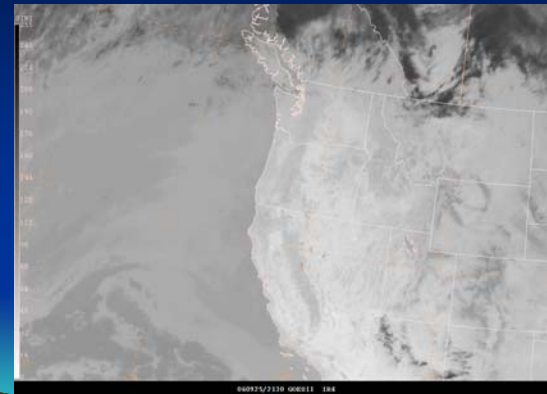
## Interpreting Visible Satellite Imagery

- Satellite is measuring amount of solar radiation reflected back to space
  - White indicates large amount of energy reflected back to space
  - Black indicates small amount of energy reflected back to space
- High albedo (low absorption of solar radiation) objects appear white
  - Clouds
  - Snow
  - Salt playas
- Low albedo (high absorption of solar radiation) objects appear black
  - Water
  - vegetation

## GOES Visible Image



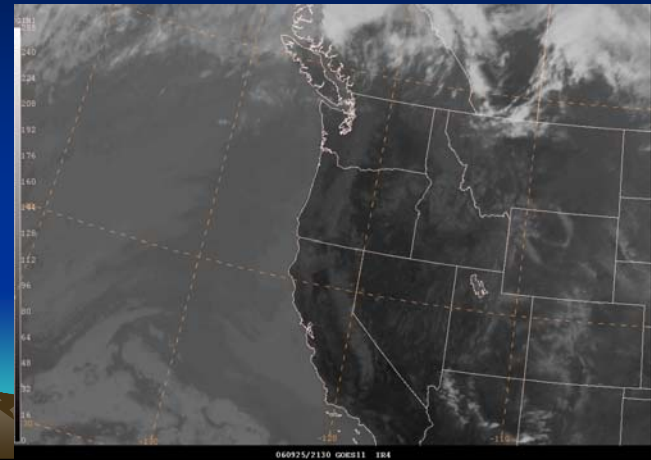
## GOES Infrared Image: No inversion of grey shades (not commonly used)



## Interpreting Infrared Satellite Imagery: No Inversion of color table

- Satellite is measuring amount of infrared radiation emitted by objects out to space
  - White indicates large amount of energy emitted
  - Black indicates small amount of energy reflected back to space
- Relatively high temperature objects appear white or light grey
  - Ground during day
  - Low elevation regions
  - Low clouds
- Relatively cold temperature objects appear black or dark grey
  - High clouds
  - Ground at night
  - High elevation regions

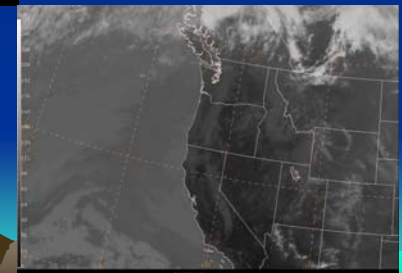
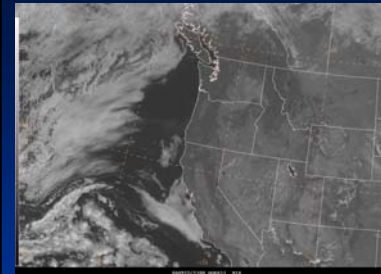
## GOES Infrared Image: Inverted grey shades (common IR display)



## Interpreting Infrared Satellite Imagery: Inverted color table

- Satellite is measuring amount of infrared radiation emitted by objects out to space
  - Black indicates large amount of energy emitted
  - White indicates small amount of energy reflected back to space
- Relatively high temperature objects appear black or dark grey
  - Ground during day
  - Low elevation regions
  - Low clouds
- Relatively low temperature objects appear white or light grey
  - High clouds
  - Ground at night
  - High elevation regions

## Using Multiple images



## Using Multiple Images

- Difficult to distinguish between clouds and snow in visible image
  - High clouds will be colder than snow, so can use IR to distinguish
- Difficult to detect high, thin clouds in visible images
  - High clouds will be colder than ground, so can use IR to identify
- Difficult to tell low lying clouds (fog) from ground in IR images
  - Use visible image



## MODIS Visible Imagery

- Measures energy reflected by object in distinct bands of the visible spectrum (red, green, blue)
- Objects that absorb more red light will appear green/blue
- Objects that absorb more green/blue light will appear red