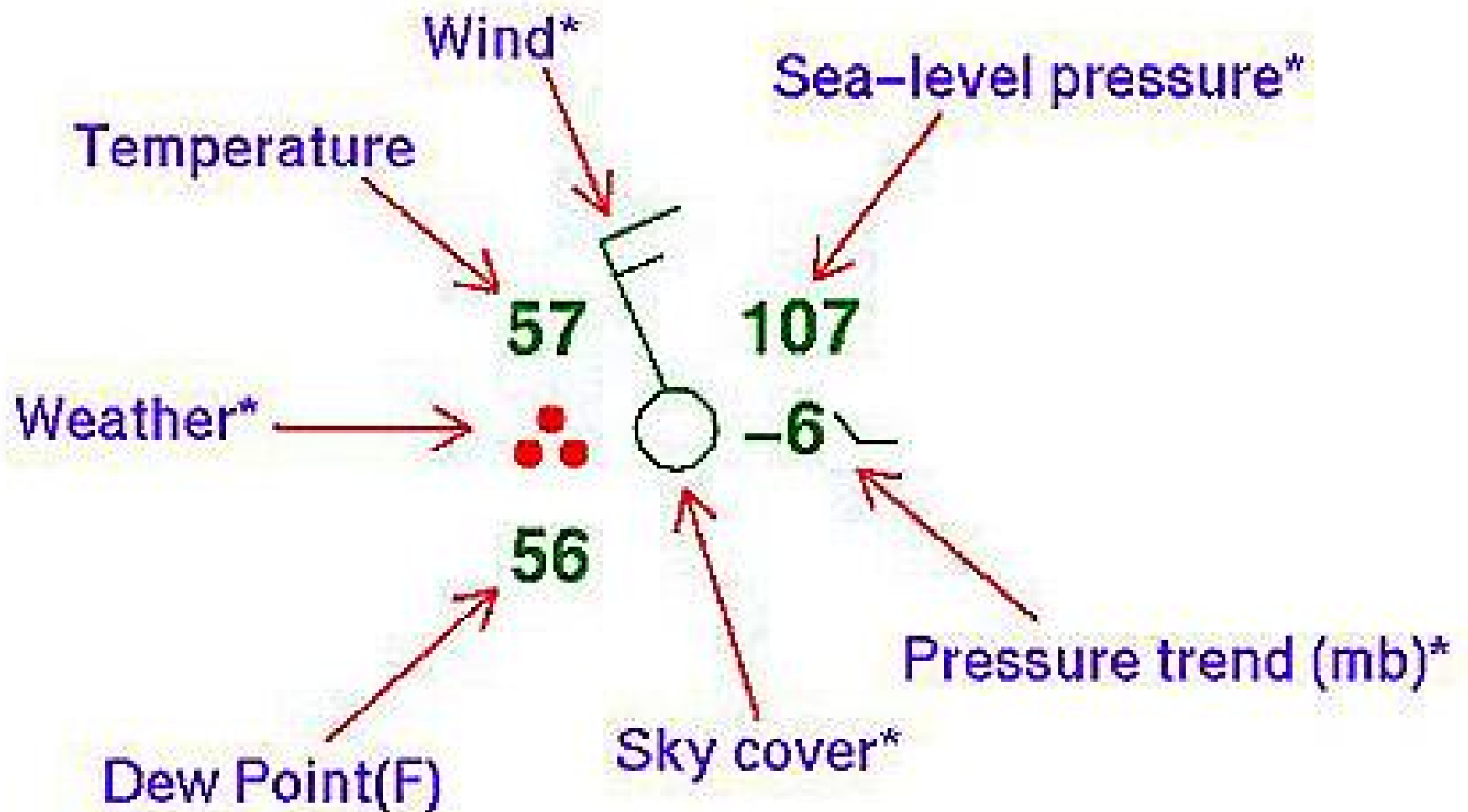


# Weather Maps and Forecasting



# Station Models

- Meteorologists collect data from all over the country to help them predict the weather.
- The data is represented in a station model, which is comprised of symbols that stand for different things. The data represented includes:
  - Temperature
  - Dew point
  - Precipitation
  - Air pressure
  - Cloud cover
  - Wind speed and direction



# Collected Data

- Once you have collected data from all of your station models, you can put it together and form a weather map.

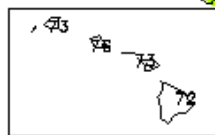
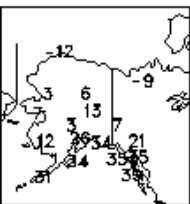
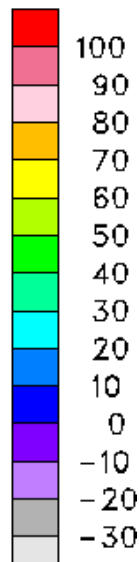
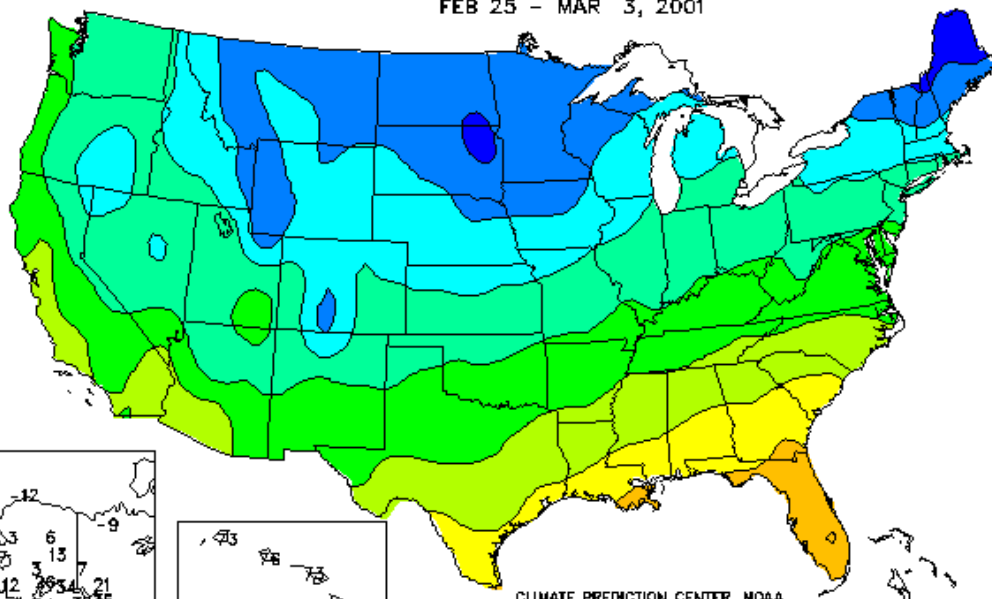
<http://www.weather.com/weather/map/USNC0558?mapdest=US> Current Weather:EC

# Weather Maps

- Isobars: connect points of equal pressure.
  - Closely spaced = increased wind speed.
  - Widely spaced = calm winds.
  - Closed circles = areas of high or low pressure.
- Isotherms: connect points of equal temperature.

# Average Temperature (°F)

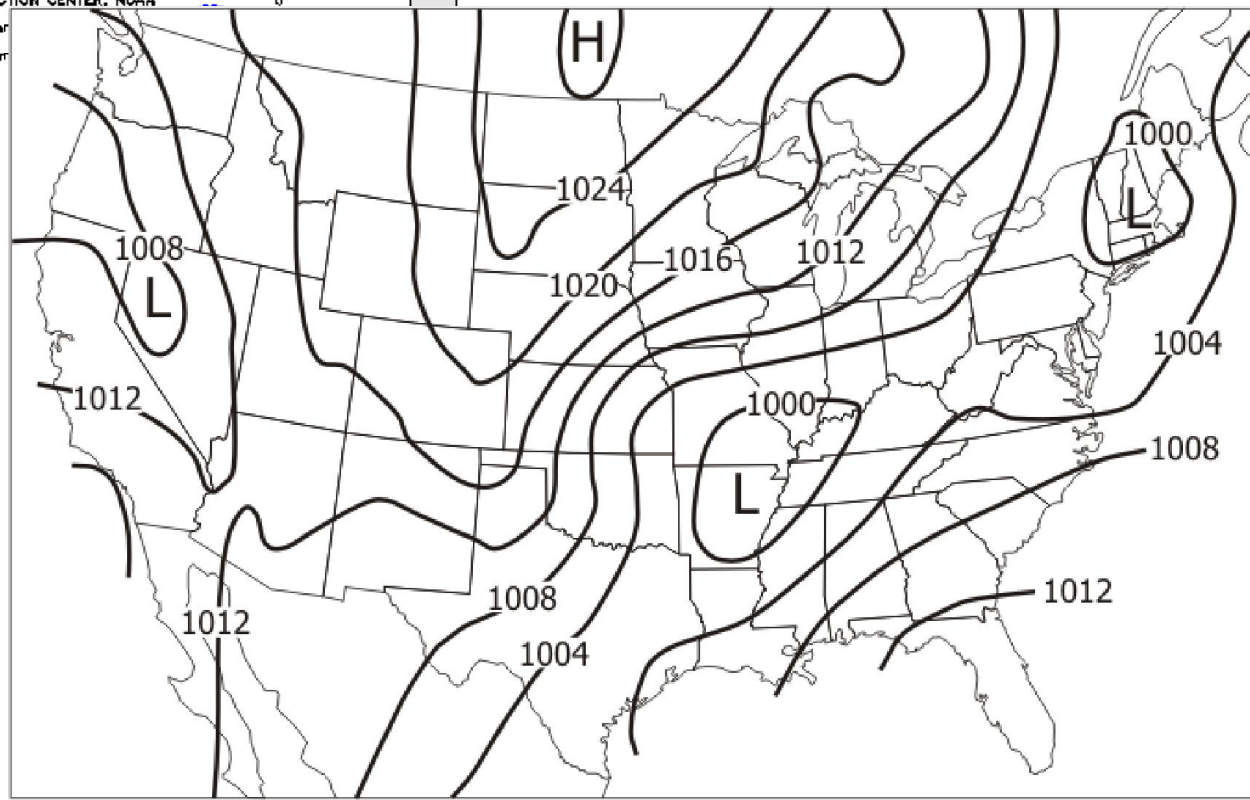
FEB 25 - MAR 3, 2001



CLIMATE PREDICTION CENTER, NOAA

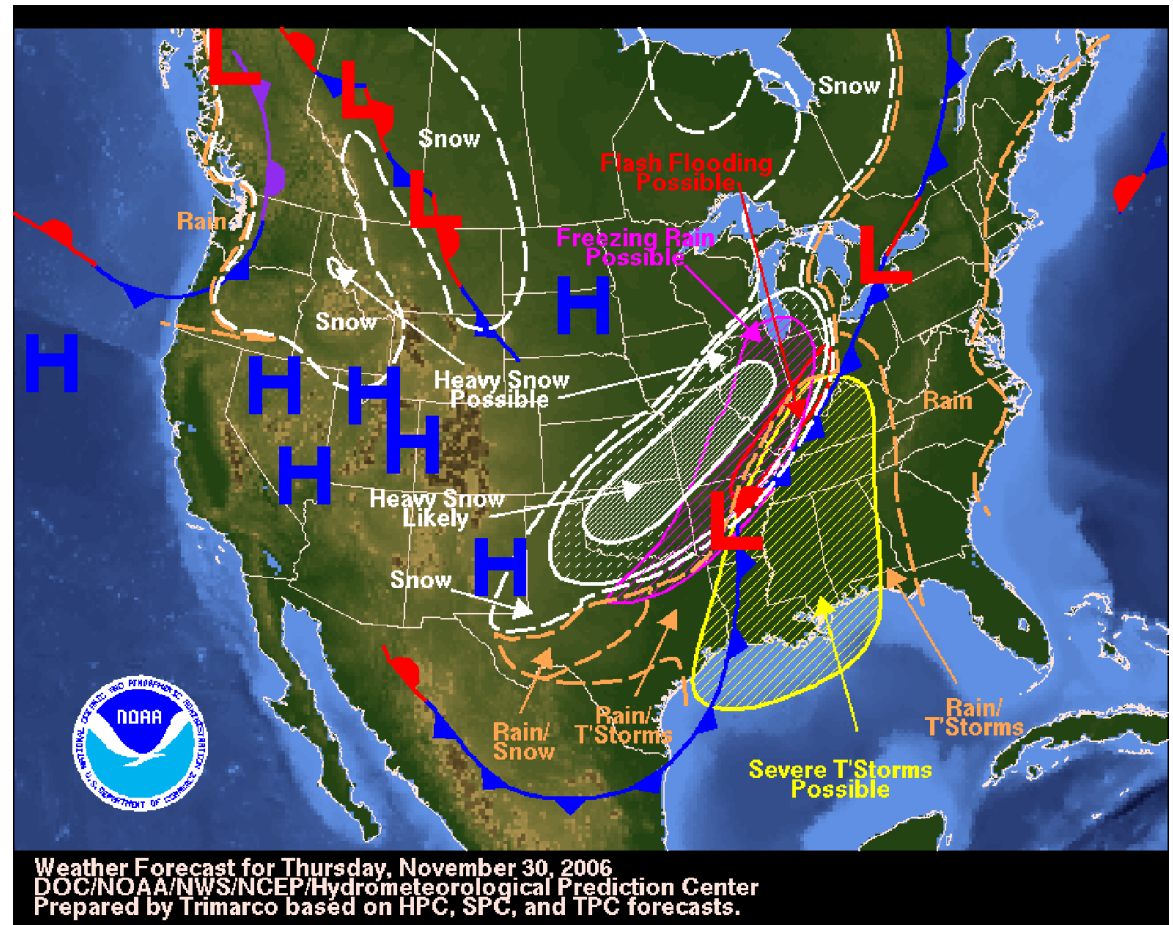
Computer generated

Based on preliminary data



# Weather maps also tell where fronts are moving

- Cold front
- Warm front
- Occluded front
- Stationary front





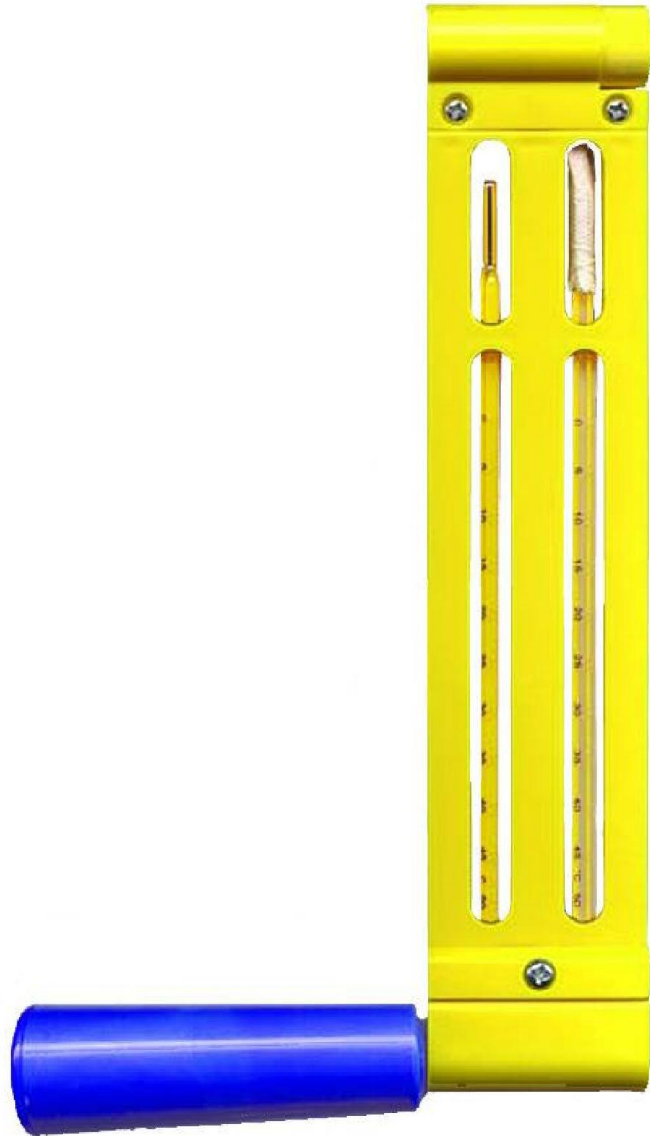
# Weather Instruments

- What is it?
- Barometer
- What does it measure?
- Air pressure

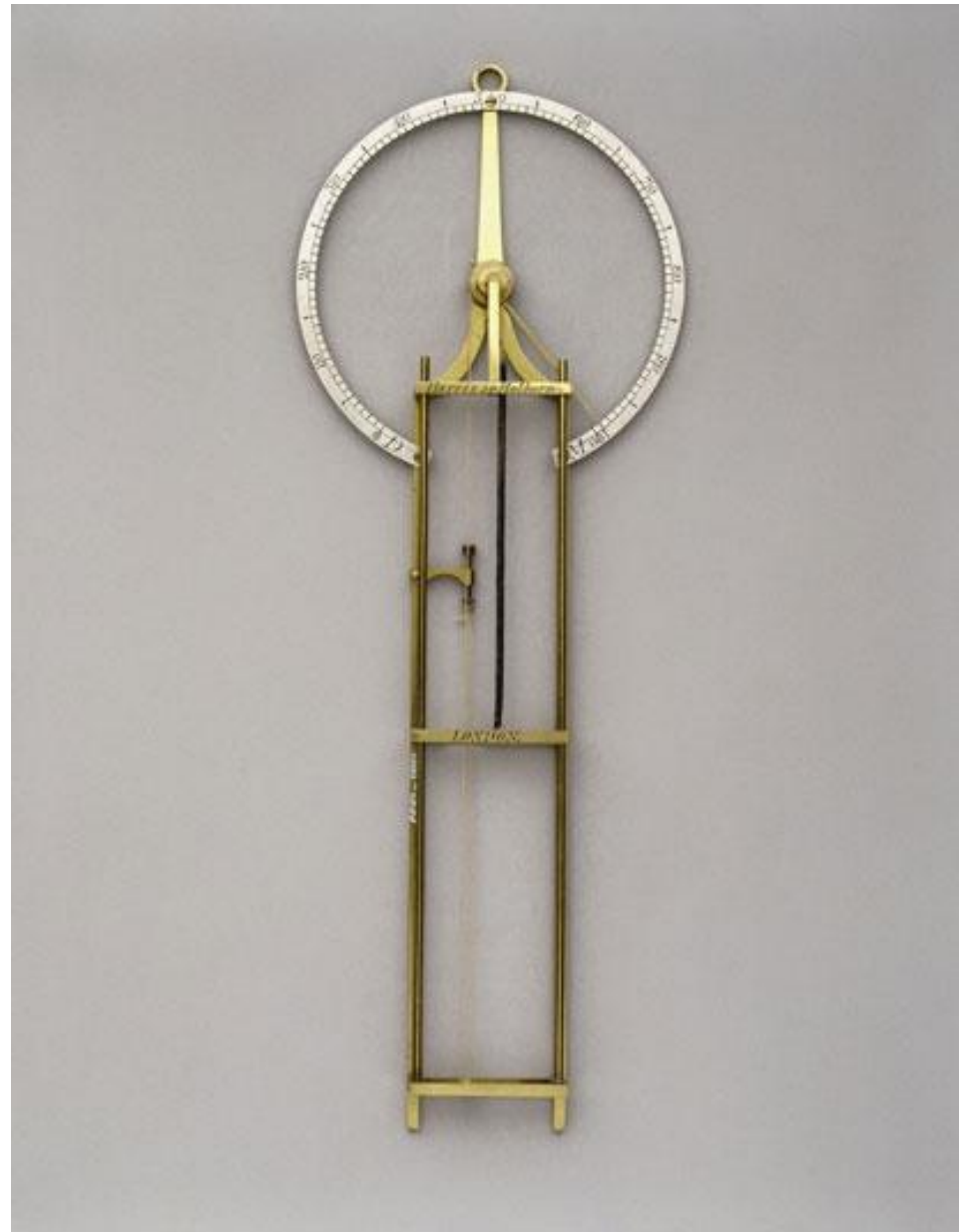




- What is it?
- Psychrometer
- What does it measure?
- Relative humidity



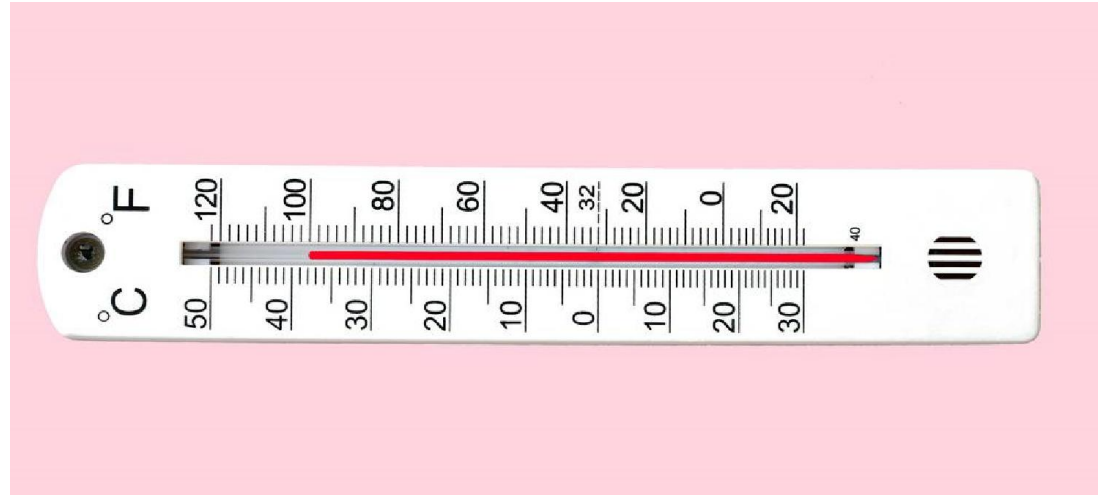
- What is it?
- Hair Hygrometer
- What does it measure?
- Humidity



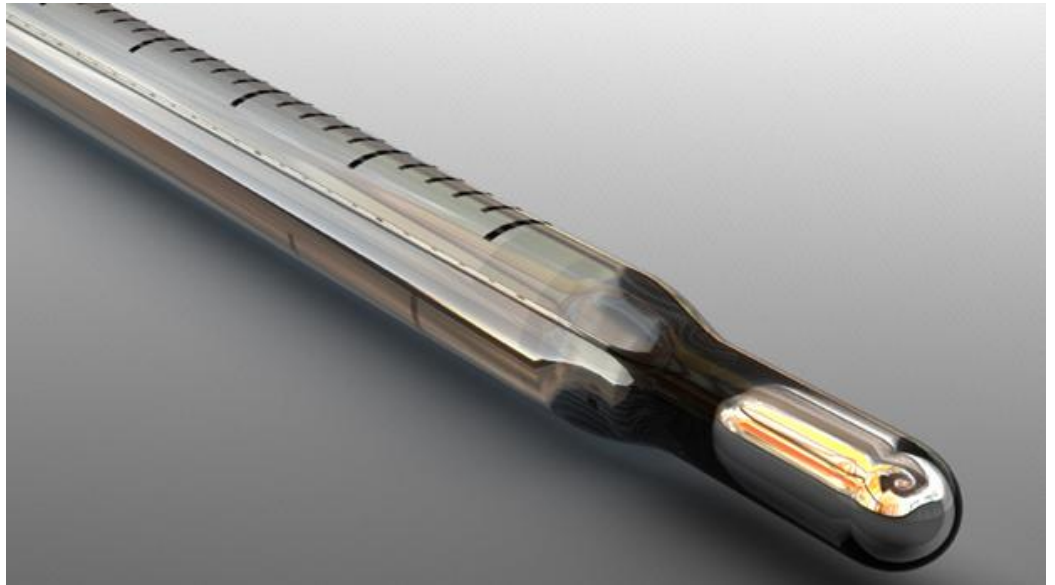
- What is it?
  - Rain gauge
- 
- What does it measure?
  - Liquid precipitation



- What is it?
- Thermometer



- What does it measure?
- Temperature



- What is it?
- Anemometer

- What does it measure?
- Wind speed

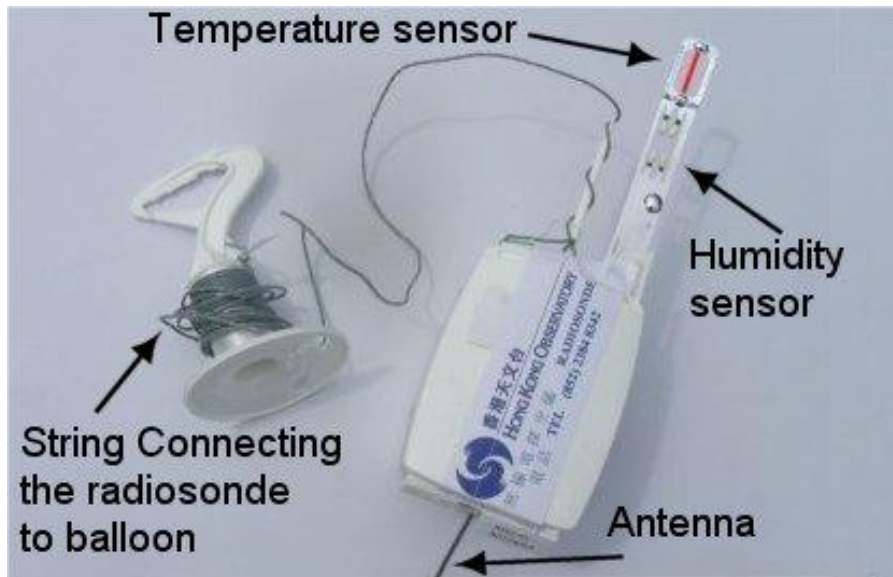




- What is it?
- Wind vane
- What does it measure?
- Direction of Wind



- These instruments typically measure conditions in the lower atmosphere.
- A radiosonde is a weather balloon with instruments attached.





# Satellite

Satellites can be used to determine weather conditions in the upper atmosphere.



