



Next class starts:        **not scheduled**

Duration: 7 weeks (Tuesday nights, 7:15pm - 9:15pm)

Pre-requisties: none

Cost: tbd.

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**Global Weather** expands on concepts introduced in the Fundamentals of Weather. You may choose to take this course for general interest or because the far horizon tempts you to sail beyond sheltered waters.

In this course you will study topics like El Niño, summer monsoons, or lake effect snows. Work with measurements such as air pressure, temperature, dew point and wind direction/speed to sharpen your forecasting skills.

Appreciate the inner workings of tropical cyclones (hurricanes) and chinooks. Develop skills in offshore sailing and advance planning including the use of weather services and interpreting data.

Whatever your reasons, “**Global Weather**” is your chance to study the weather in all its moods.

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### Subject Areas:

**Equilibrium in the Atmosphere** - Causes of stability and instability. The Adiabatic process. Relationship between the environment and vertically moving air. Dry and saturated adiabatic lapse rates. The Chinook. How medium and upper level clouds are formed.

**General circulation** - Terrestrial circulation: development of Hadley and Ferrel cells. Primary high and low pressure belts. Primary global wind systems. El Nino and La Nina. Rossby waves - the great eddies. Jet streams, monsoons, mid-latitude storm zones and local winds.

**Air masses** - Source regions and classifications of air masses. Air mass characteristics. Summer and winter air masses. Lake effect snows. Permanent fronts between major air masses.

**Extratropical Cyclones** - What is a cyclone? Air masses on the move. Development of a frontal depression. The TROWAL (TRough Of Warm Air aLoft). Weather in the extratropical regions of the southern hemisphere.

**Tropical Cyclones** - What is a tropical cyclone? Stages of development of a cyclone. Hurricanes: formation, structure, classification. The eye of the hurricane. Warning signs of approaching hurricanes. Dangerous and navigable semicircles. Forecasting tropical cyclones.

**Forecasting** - The professional weather map. Selecting forecast information. Offshore sailing. Local weather. Forecasting from visual observations. Observation data in detail.