

## WEATHER

By Richard Sorokin

It is extremely important that mariners are aware of the weather now and what's coming. Weather dominates our life and must be respected and understood. The Earth is surrounded by a layer of gases, mostly nitrogen and oxygen. It extends upward with decreasing density for many miles. The state of this gas is our weather. When these gases move we have wind. Wind is created by the sun heating the surface of the Earth unevenly. The spinning of the Earth also creates wind. The Earth at the equator is about 25,000 miles around. If the Earth spins one revolution per day the wind could be going at 1000 miles per hour. 25000 divided by 24 hour day. In fact the trade winds are a result of the Earth's spin. Local weather is more dependent on the sun's effect heating the air, land and waters. To understand weather and what is happening you must understand the four ways we measure weather.

**Temperature:** With a thermometer we can find the temperature of the air. What this tells us is the capacity of the air to hold water. The warmer it is the more water it can hold. If the air cools of fits capacity to hold water lessens and it must release the water, rain or snow.

**Speed and Direction:** This can be measured with a wind speed meter and a compass. The speed or strength of the wind is caused by the sun's energy.

**Air pressure:** When air is warmed by the sun and expands, it becomes lighter; it will rise up into the atmosphere. This creates a low pressure area and the surrounding air comes in to fill the void. Often this incoming air is moving fast and carries moisture it picked up over the Earth. Low pressure means dirty weather. When the device to measure air pressure drops {barometer}, watch out. When air in the higher atmospheres drops down, causing higher pressures we have nice weather. The air coming down is usually dry.

**Humidity:** How much water is in the air and how much can it hold. Most times we speak of relative humidity. This is the amount of water it can hold due to its temperature. The warmer it is the more it can hold. We get rain and snow because wet air is forced to rise, cool off, and dump its water.

**On the water a sudden drop in temperature, a sudden change of wind direction and the dropping of air pressure means the weather is about to change for the worse. Some times it's the color of the sky or the movement of the clouds that will give the warning. Take proper precautions. Be aware.**

**Weather Proverbs:** Red skies at morning, Sailors take warning; Red shies at night Sailors' delight.

Mackerel skies and mares' tails Make tall ships carry low sails.

When boat horn sound hollow, Rain will surely follow

When a halo rings the moon or sun the rain will come upon the run.