

The Barometer

By Richard Sorokin

The barometer is a device that measures air pressure. By observing changes in air pressure and the direction of the wind we can make weather forecasts.

We measure the air's weight, or pressure, in inches of mercury. A barometer is made from a glass tube about 3 to 4 feet long. One end is sealed the other open. The tube is filled with mercury and a temporary stopper at the open end. The stopped end is put into a vessel of mercury and the tube is supported in a vertical position. The stopper is removed while the end is below the surface of the mercury. The mercury in the tube will drop causing a vacuum at the top of the tube. Between the vacuum at the top of the tube and the air pressure on the surface of the mercury in the vessel; the column of mercury will balance itself in the glass tube. Any change in air pressure will make the mercury in the tube go up (more pressure) or down {less pressure}. Put a scale in inches next to the tube and you have a barometer.

This device is not very practical at sea so another type of barometer was invented; called aneroid barometer. It uses a sealed disk and springs to measure the air pressure.

How does a barometer predict weather? If the barometer is showing high pressure then we know that the air above us is dropping downwards. This air in the upper atmosphere is usually dry and gives us fair weather. If the barometer shows falling mercury (low air pressure) we know that the air around us is going up (rising). When the air rises, other air has to come in and take its place. If the new air comes across water it will pick up and carry the moisture to the area of low pressure. High winds and wet weather are being drawn into the low pressure area.

A few general rules on the East Coast. Foul weather is usually forecast by falling barometer and winds from the East. Clearing and fair weather are usually forecast by winds from the West with rising barometer readings.

The rate and the amount of the fall in the barometer will indicate the rapidity of the storm's approach and its intensity.

A barometer is an excellent device to have if weather changes are important to you.