Sons of Norway
HERITAGE PROGRAMS

MiniPresentation#32

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Regardless of where we live, we all get our fair share of weather—good or bad. We have weather reports and weather forecasts to help us in our daily planning whenever necessary and we have watches and warnings for our safety when needed. All weather information is easily accessible and very useful. If not good for any other purpose it is always a great conversation piece.

Weather today is kept track of via radar, satellites, and other high technology. The weather-casters are well-educated and their field is a well-established and respected one. But it was not always like that.

Already in the 1850s an international weather forecasting service was founded with Norway as one of the first nations to join. This new and very much-needed service was met with great enthusiasm but unfortunately, the approach to meteorology at that time was not very scientific. It took a Norwegian to come up with the theories which made meteorology a real science. His name was Vilhelm Bjerknes.

He was originally a physicist. Studying hydro-dynamics, he found that the theories he was working with applied very well to what was going on in the atmosphere. This discovery led him to the polar frontal theory which explains how weather systems form and travel. In other words—he found out what causes different types of weather. This knowledge also made forecasting possible—it was really a discovery of major importance.

The so-called Bergen School of meteorology is based on Bjerknes' findings. His son, Jacob, and a couple of other Norwegian scientists helped develop this method of weather forecasting. It has been refined and adjusted throughout the years, but is still the basis of modern forecasting. Bjerknes also worked out the basic physics that allow today's meteorologists to forecast weather by computer, so Bjerknes' work has also had a direct impact on the use of technology which did not exist when he formulated his theories.

It is interesting to note that Bjerknes' research work was funded partly with American money. On a visit to the United States in 1905, he presented his theories in Washington and this resulted in financial support for his research programs from the Carnegie Institute. Seen on this background it is ironic that the National Weather Bureau was very slow to accept the theories of the Bergen School. There were no cold or warm fronts to be seen on a U.S. weather map until 1938.

Today, however, the United States is a leader in weather forecasting—both in terms of applied science and technology. But remember—it is partly due to a Norwegian that you can keep track of the weather and take advantage of the information which is provided through the weather reports.