

Activity 4.3.1 Making a Weather and Climate Timeline
Teacher Reference sheet

(not intended as comprehensive but to provide dates and ideas as discussion starters)

Pre-History

Ancient peoples worshipped sun gods, acknowledging the Sun's role in food production. Other "weather gods" include Marduk, Mesopotamian god of the atmosphere; Teshub, Hittite god of thunder and Arinna, goddess of lightning; Indra, god of rain and storms in Ancient India; Thor, the bringer of thunderstorms for early northern Europeans, and Zeus and Jupiter for the Greeks and Romans.

circa 580 BC Thales of Miletus makes the "first climate forecast" by predicting abundant olive crop based on preceding season.

300 BC Chinese astronomers create calendar dividing the year into 24 sections, noting weather found in each section.

circa 350 BC Aristotle writes "Meteorologica" and accurately records observations about wind and weather.

circa 300 BC Theophrastus, pupil of Aristotle writes "On Weather Signs", about rain, wind, storms and fair weather.

Roman author Seneca, 2-65 AD, writes "Natural Questions" including comments on rainbows, thunder, lightning, wind.

1281 AD Mongol Emperor Kublai Khan's battle fleet to invade Japan wrecked by typhoon.

Copernicus (1473-1543 AD) theorizes that the Earth rotates once each day and revolves around the Sun once a year. Uses this to explain equinoxes, the solstices and the seasons.

Leonard da Vinci (1452-1519 AD) studies weather and invented instruments, like the hygrometer, to measure humidity.

1588 Spanish Armada invading England largely destroyed by wind and waves.

1593 Galileo develops thermometer that he calls a "thermoscope".

1644 Evangelista Torricelli, student of Galileo, makes the first mercury barometer to measure air pressure.

Blaise Pascal (1623-1662 AD) makes connection between atmospheric pressure and weather and determines that air pressure lessens with altitude.

1644 Rev. John Campanius, in Delaware, USA makes the first weather observations in America.

1661 Robert Boyle, Anglo-Irish scientist invents water barometer and the siphon barometer.

Robert Hooke (1635-1703) invents a wheel barometer and a rain gauge.

Gabriel Daniel Fahrenheit, from Germany (1686-1736 AD) designs and builds many weather instruments, and develops the Fahrenheit temperature scale.

1730 John Lining, in Charleston, S.C., makes the first thermometer and barometer measurements in America.

1736 George Hadley describes how the Sun's heat results in complex wind patterns later referred to as the "Hadley Cell".

1755 Benjamin Franklin (1706-1790) makes many weather observations and invents the lightning conductor.

1742 Anders Celsius develops temperature scale where 0 is the boiling point of water and 100 degrees is the freezing point. He does this to avoid negative numbers in winter. Carolus Linnaeus (1707-1778) reverses this scale, but it's still known as the Celsius scale today.

1751 Charles Le Roy defines dew point.

1781 Horace Benedict de Sussure develops a hygrometer using human hair as an indicator for humidity.

1793 John Dalton's "Meteorological Observations and Essays" In 1802 he makes the connection that the amount of moisture that air can hold varies greatly with its temperature.

1776-1778 Thomas Jefferson and James Madison make the first simultaneous weather observations in America.

1803 English natural scientists Luke Howard develops cloud classifications still in use today.

1806 English naval officer Sir Francis Beaufort devises way to observe and report wind speed.

1812 Napoleon's invasion of Russia defeated by "General Winter".

1835 Gaspard Gustave de Coriolis first describes the apparent Coriolis force, which makes winds curve due to the rotation of the Earth.

1826 Brandes makes the first pressure chart.

1869 Cleveland Abbe begins to issue weather bulletins from the Cleveland Observatory where he's Director.

1875 Coulier discovers role of condensation nuclei in cloud formation.

1888 Record blizzard dumps feet of snow up and down the East Coast.

1891 Cleveland Abbe heads up the U.S Weather Bureau as it is spun off from the Army.

1891 W.H. Dines, Britain, invents efficient pressure-tube wind gauge.

1900 Hurricane hits Galveston, TX, resulting in 6-8,000 deaths—most ever in U.S. hurricane.

1920 Bjerknes and Solberg develop theory of weather “fronts” and battling air masses—after Europe suffers Great War of 1914-18.

1942 First use of radar in weather forecasting during WWII.

1944 Discovery of jet streams by Bjerknes.

1950 Use of the ENIAC by John von Neuman for first computerized 24 hour weather prediction.

1957 Soviet Union launches first satellite, Sputnik.

1958 First use of Doppler radar to measure a tornado.

1960 First weather satellite, TIROS, predecessor of today’s GOES, beams down TV images of weather systems.

1971 Fujita-Pearson tornado intensity scale developed (F1-F6+).

1990 first Doppler radar network becomes operational.