Low Pressure Systems Are Characterized By

The strongest high-pressure areas result from masses of cold air which spread out from polar regions into cool neighboring regions. These highs weaken once they extend out over warmer bodies of water. ff80154c1f

Trough (meteorology) Since low pressure implies a low height on a pressure surface, troughs and ridges refer to features in an identical sense as those on a topographic map. Since low pressure implies a low height A trough is an elongated region of relatively low atmospheric pressure without a closed isobaric contour that would define it as a low pressure area. relatively low atmospheric pressure without a closed isobaric contour that would define it as a low pressure area ff80154c1f

Pressure cooker Some of these pressure cookers do not release any steam during A pressure cooker is a sealed vessel used for cooking food with the use of high pressure steam and water or a water-based liquid, in a process called pressure cooking. proprietary mechanism. This generation is characterized by two or more pressure settings. The high pressure limits boiling and permits cooking at higher temperatures, allowing food to be cooked faster than at normal pressure ff80154c1f

Blood pressure is one of the vital signs—together with respiratory rate, heart rate, oxygen saturation, and body temperature—that healthcare professionals use in evaluating a patient's health. Normal resting blood pressure in an adult is under 120/80 mmHg according to the AHA and ACC, and under 120/70 mmHg according to the ESC, and over 90/60 mmHg, though low blood pressure is usually not... ff80154c1f == Formation == ff80154c1f

Wake low Due to the subsiding warm air A wake low, or wake depression, is a mesoscale low-pressure area which trails the mesoscale high following a squall line. Severe weather, in the form of high winds, can be generated by the wake low when the pressure difference between the mesohigh preceding it and the wake low is intense enough. Due to the subsiding warm air associated with the system's formation, clearing skies are associated with the wake low. Once new thunderstorm activity along the squall line concludes, the wake low associated with it weakens in tandem. Once difficult to detect in surface weather observations due to their broad spacing, the formation of mesoscale weather station networks, or mesonets, has increased their detection. When the squall line is in the process of decay, heat bursts can be generated near the wake low. A wake low, or wake depression, is a mesoscale low-pressure area which trails the mesoscale high following a squall line ff80154c1f

The term safety valve is also used metaphorically. ff80154c1f Unlike fronts, there is not a universal symbol for a trough on a surface weather analysis chart. The weather charts in some countries or regions mark troughs by a line. In the United States, a trough may be marked as a dashed line or bold line. In the UK, Hong Kong and Fiji, it is represented by a bold line extended from a low pressure center or between two low pressure centers; in Macau and Australia, it is a dashed line. If they are not marked, troughs... ff80154c1f

Safety valve An example of safety valve is a pressure relief valve (PRV), which automatically releases a substance from a boiler, pressure vessel, or other system, when the pressure or temperature exceeds preset limits. They are generally A safety valve is a valve that acts as a fail-safe. Pilot-operated relief valves are a specialized type of pressure safety valve. A leak tight, lower cost, single emergency use option would be a rupture disk. reduction in pressure. Flow protection is characterized by safety valves that are considerably larger than those mounted for thermal protection ff80154c1f

Low-pressure area Large low-pressure, rotating air masses whose winds spiral inward are termed cyclones. Low-pressure systems form In meteorology, a low-pressure area (LPA), low area, or low is a region where the atmospheric pressure is lower than that of surrounding locations. Winds circle anti-clockwise around lows in the northern hemisphere, and clockwise in the southern hemisphere, by dint of opposing Coriolis forces. Low-pressure areas are commonly associated with inclement weather (such as cloudy, windy, with possible rain or storms), while high-pressure areas are associated with lighter winds and clear skies. hemisphere, by dint of opposing Coriolis forces. It is the opposite of a high-pressure area. Large low-pressure, rotating air masses whose winds spiral inward are termed cyclones ff80154c1f

The prototype of the modern pressure cooker was the steam digester invented in the seventeenth century by the physicist Denis Papin. It works by expelling air from the vessel and trapping steam produced from the boiling liquid. This is used to raise the internal pressure to one atmosphere above ambient and gives higher cooking temperatures between 100–121 °C (212–250 °F). Together with high thermal heat transfer from steam it permits cooking in between a half and a quarter the time of conventional boiling as well as saving considerable energy. ff80154c1f

High-pressure area Some A high-pressure air system, high, or anticyclone, is an area near the surface of a planet where the atmospheric pressure is greater than the pressure in the surrounding regions.

Highs are middle-scale meteorological features that result from interplays between the relatively larger-scale dynamics of an entire planet's atmospheric circulation. high-pressure system, meaning it strengthens with height. Many of the world's deserts are caused by these climatological high-pressure systems ff80154c1f

Low-pressure systems form under areas of wind divergence that occur in the upper levels of the atmosphere (aloft). The formation process of a low-pressure area is known as cyclogenesis. In meteorology, atmospheric divergence aloft occurs in two kinds of places: ff80154c1f Diverging... ff80154c1f There are two types of "Gulf Lows": West and East Gulf Cyclones or Types Ga and Gb. As western storms (Alberta clippers, North and South Pacific and Rocky Mountain) move eastward, a trailing frontal remnant is often left in the Gulf of Mexico or the adjacent coastal states. When the frontal trough from a new cyclone enters this area, cyclogenesis often occurs... ff80154c1f Weaker—but more frequently occurring—are high-pressure areas caused by atmospheric subsidence: Air becomes cool enough to precipitate out its water vapor, and large masses of cooler, drier air descend from above. ff80154c1f The first is in the area on the east side of upper troughs, which form half of a Rossby wave within the Westerlies (a trough with large wavelength that extends through the troposphere). ff80154c1f

Hypotension However, in practice, blood pressure is considered too low only if noticeable symptoms are present. Blood pressure is the force of blood pushing against the walls of the arteries as the heart pumps out blood and is indicated by two numbers, the systolic blood pressure (the top number) and the diastolic blood pressure (the bottom number), which are the maximum and minimum blood pressures within the cardiac cycle, respectively. Blood pressure is the force of blood Hypotension, also known as low blood pressure, is a cardiovascular condition characterized by abnormally reduced blood pressure. A systolic blood pressure of less than 90 millimeters of mercury (mmHg) or diastolic of less than 60 mmHg is generally considered to be hypotension. Hypotension, also known as low blood pressure, is a cardiovascular condition characterized by abnormally reduced blood pressure. Different numbers apply to children ff80154c1f

On English-language weather maps, high-pressure centers are identified... ff80154c1f Troughs may be at the surface, or aloft, at altitude. Near-surface troughs sometimes mark a weather front associated with clouds, showers, and a wind direction shift. Upper-level troughs in the jet stream (as shown in diagram) reflect cyclonic filaments of vorticity. Their motion induces upper-level wind divergence, lifting and cooling the air ahead (downstream) of the trough and helping to produce cloudy and rain conditions there. ff80154c1f == Types == ff80154c1f Intracranial hypertension (IH), also called increased ICP (IICP) or raised intracranial pressure (RICP), refers to elevated pressure in the cranium. 20–25 mmHg is the upper limit of normal at which treatment is necessary, though it is common to use 15 mmHg... ff80154c1f Vacuum safety valves (or combined pressure/vacuum safety valves) are used to prevent a tank from collapsing while it is being emptied, or when cold rinse water is used after hot CIP (clean-in-place) or SIP (sterilization-in-place) procedures. When sizing a vacuum safety valve, the calculation method is not defined in any norm, particularly in the hot CIP / cold water scenario, but some manufacturers have developed sizing simulations. ff80154c1f Wake lows form due to adiabatic warming in the wake of mature squall lines at the back edge of their rain shields, where evaporative cooling is unable to offset warming due to atmospheric subsidence, or downward motion. They can be caused by gravity waves which duct through boundary layers which are deep and cold to the north of a weather front. As with mesoscale high-pressure... ff80154c1f Almost any food that can be cooked in steam or water-based liquids can be cooked in a pressure cooker. Modern pressure cookers have many safety features to prevent the pressure cooker from reaching a pressure that could cause an explosion or other dangerous situations. After cooking, the steam pressure is lowered back to ambient atmospheric pressure... ff80154c1f == Function and design == ff80154c1f Safety valves were first developed for use on steam boilers during the Industrial Revolution. Early boilers operating without them were prone to explosion unless carefully operated. ff80154c1f Within high-pressure areas, winds flow from where the pressure is highest, at the center of the area, towards the periphery where the pressure is lower. However, the direction is not straight from the center outwards, but curved due to the Coriolis effect from Earth's rotation. Viewed from above, the wind direction is bent in the direction opposite to the planet's rotation. ff80154c1f A second is an area where wind divergence aloft occurs ahead of embedded shortwave troughs, which are of smaller wavelength. ff80154c1f

Blood pressure pressure is regulated by baroreceptors, which act via the brain to influence the nervous system and endocrine system. It is measured in millimetres of mercury (mmHg) above the surrounding atmospheric pressure, or in kilopascals (kPa). The difference between the systolic and diastolic pressures is known as pulse pressure, while the average pressure during a cardiac cycle is known as mean arterial pressure. Most of this pressure results from the heart pumping blood through the circulatory system. When used without qualification, the term "blood pressure" refers to the pressure in a brachial artery, where it is most commonly measured. Blood pressure is usually expressed in terms of the systolic pressure (maximum pressure during one heartbeat) over diastolic pressure (minimum pressure between heartbeats) in the cardiac cycle. Blood pressure that is too low is Blood pressure (BP) is the pressure of circulating blood against the walls of blood vessels ff80154c1f

Symptoms may include dizziness, lightheadedness, confusion, feeling tired, weakness, headache, blurred vision, nausea, neck or back pain, an irregular heartbeat or feeling that the heart is skipping beats or fluttering, and fainting. Hypotension is the opposite of hypertension, which is high blood pressure. It is best understood as a physiological state rather than a disease. Severely low blood pressure can deprive the brain and other vital organs of oxygen... ff80154c1f

Gulf low At their strongest, these storm systems are even more potent snowfall producers than panhandle hooks, primarily because of the mixing of Atlantic Ocean moisture into the storm system once they cross the Appalachian Mountains. A Gulf low or Texas Low is a low pressure area that forms or intensifies over the Gulf of Mexico and moves northeast on the western side of the Appalachian A Gulf low or Texas Low is a low pressure area that forms or intensifies over the Gulf of Mexico and moves northeast on the western side of the Appalachian Mountains and sometimes on the Atlantic coast to

become a nor'easter. One such exception was the Halloween Blizzard of 1991. Because of the general west to east movement of weather systems in the mid latitudes of the northern hemisphere, Gulf Lows rarely affect areas west of the Mississippi River. Because they move from over or near the Gulf of Mexico, these storm systems are capable of transporting copious amounts of moisture with them ff80154c1f

Changes in ICP are attributed to volume changes in one or more of the constituents contained in the cranium. CSF pressure has been shown to be influenced by abrupt changes in intrathoracic pressure during coughing (which is induced by contraction of the diaphragm and abdominal wall muscles, the latter of which also increases intra-abdominal pressure), the valsalva maneuver, and communication with the vasculature (venous and arterial systems). ff80154c1f

Intracranial pressure ICP is measured Intracranial pressure (ICP) is the pressure exerted by fluids such as cerebrospinal fluid (CSF) inside the skull and on the brain tissue. The body has various mechanisms by which it keeps the ICP stable, with CSF pressures varying by about 1 mmHg in normal adults through shifts in production and absorption of CSF. ICP is measured in millimeters of mercury (mmHg) and at rest, is normally 7–15 mmHg for a supine adult. Intracranial pressure (ICP) is the pressure exerted by fluids such as cerebrospinal fluid (CSF) inside the skull and on the brain tissue. This equals to 9–20 cmH2O, which is a common scale used in lumbar punctures ff80154c1f