# DOWNLOAD PDF THE WIND SHIFTING WEST

## Chapter 1 : THE WIND SHIFTING WEST by Shirley Ann Grau | Kirkus Reviews

*The Wind Shifting West [Shirley Ann Grau] on theinnatdunvilla.com *FREE* shipping on qualifying offers. An attractive middle-aged woman, sailing with her brother-in-law to rescue her husband, stranded in a summer squall.*

Description[ edit ] A very large trough about km or more crosses the North Atlantic Ocean from north east to south west. The elongated cloud is surrounded by two big areas of higher atmospheric pressure, clearly shown with no clouds at all. A trough is not in a general term a boundary but an elongated area of lower air pressure. There are changes in wind direction across a trough but there is no change in air mass. While not specifically a surface boundary, troughs reflect the change in atmospheric conditions in the upper atmosphere. As such, troughs can be areas where showers and thunderstorms can form. If a trough forms in the mid-latitudes, a temperature difference at some distance between the two sides of the trough usually exists and the trough might become a weather front at some point. However such a weather front is usually less convective than a trough in the tropics or subtropics such as a tropical wave. Inversely, sometimes collapsed frontal systems will degenerate into troughs. Sometimes the region between two high pressure centers may also assume the character of a trough when there is a detectable wind shift noted at the surface. In the absence of a wind shift, the region is designated a col, akin to a geographic saddle between two mountain peaks. Formation[ edit ] A trough is the result of the movements of the air in the atmosphere. In regions where there is upward movement near the ground and diverge at altitude, there is a loss of mass. The pressure becomes lower at this point. At upper level of the atmosphere, this occurs when there is a meeting of a mass of cold air and another hot along a thin ribbon called a frontal baroclinic zone. We then have the creation of a jet stream that plunges the cold air towards the equator and hot air towards the poles, creating a ripple in the circulation that is called a Rossby wave [8]. These undulations give the hollows and peaks of altitude. In general, absolute vorticity advection is positive between these two features, but closer to the ridge, whereas it is negative just behind a trough. At the surface, lifting air under positive vorticity advection is reflected by the formation of depressions and troughs. There will therefore be a slope between the barometric high altitude and that on the ground, this slope going towards the mass of cold air at high altitude generally towards the Pole. In the Northern Hemisphere, positively tilted troughs will extend from the lowest pressure northeast to southwest while negatively tilted troughs have a northwest to southeast orientation [9]. In the Southern Hemisphere, the positive tilt will be southeast to northwest and the negative one southwest to northeast. A trough will usually begin with a positive tilt as cold air moves toward the Equator [9]. The trough will become neutral North-South and then negatively tilted as the energy carried by the cold air races east though the atmospheric circulation and distorts its shape [9]. The positive tilt is thus the building phase of the trough and the negative tilt is the dissipation of its energy. Therefore, the clouds and precipitation will develop in the positive phase and the most severe weather will be in the negative phase [9]. Types of trough[ edit ] In addition to standard troughs, some may be described further with a qualifying term indicating a specific or a set of characteristics. Inverted trough[ edit ] An inverted trough is an atmospheric trough which is oriented opposite to most troughs of the mid-latitudes. Most but not all inverted troughs are tropical waves also commonly called easterly waves. Most troughs of low pressure in the mid-latitudes of the Northern Hemisphere are characterized by decreasing atmospheric pressure from south to north while inverted troughs are characterized by decreasing pressure from north to south. The situation is opposite in the Southern Hemisphere. Inverted troughs in both hemispheres move to the west from the east, while mid-latitude troughs generally move with the westerlies toward the east. Lee trough[ edit ] A lee trough, also known as a dynamic trough, is "A pressure trough formed on the lee side of a mountain range in situations where the wind is blowing with a substantial component across the mountain ridge; often seen on United States weather maps east of the Rocky Mountains, and sometimes east of the Appalachians, where it is less pronounced. Some tropical or subtropical regions such as the Philippines or south China are greatly affected by convection cells along a trough. In the mid-latitude westerlies , upper level troughs and ridges often alternate in a high-amplitude pattern. For a trough in the westerlies, the region just west of the trough axis is typically an area of convergent winds and descending air - and hence high pressure -

while the region just east of the trough axis is an area of fast, divergent winds and low pressure. Tropical waves are a type of trough in easterly currents, a cyclonic northward deflection of the trade winds.

## Chapter 2 : Wind Shift Across A Cold Front: from south-southwest to west-northwest

*The Wind Shifting West has 9 ratings and 0 reviews. Wind Shifting West, The, by Grau, Shirley Ann.*

Wind from the West Wind from the West, fish bite the best. Wind from the East, fish bite the least. Wind from the North, do not go forth. Wind from the South blows bait in their mouth. Observations of the weather turn into predictions, which sometimes turn into proverbs. This lesson will explore the link between observation, prediction and proverbs. Weather is a driving force everywhere. Weather and climate conditions affect all aspects of life on earth. As have people in other places and other times, we link our observations of weather with our experiences of it. This is the first step in learning to predict weather. By observing the sky and keeping track of what happened, people learned to associate particular cloud types with a high chance of rain. By observing certain plants, people could predict a change in the weather. By observing animal behaviors or appearance, people could predict temperature changes. For many people, predicting the weather through observation has been a necessary part of life. Farmers, hunters, sailors and others who are most directly affected by weather use these observations to protect themselves and their livelihood from the elements. Today, few people in Wisconsin rely solely on prediction by observation. Radars and satellite data provide detailed information that professional forecasters interpret and deliver via print, radio, television and internet sources. Many non-professional weather buffs seek out the same data to interpret on their own. Even with our access to sophisticated weather prediction techniques, most people still utilize informal understandings of the weather. We all inherit traditional lore that serve as tools for predicting local weather. Proverbs - short sayings that convey advice or beliefs - are one type of this lore. Proverbs often use poetic devices in order to be easily remembered. Proverbs may or may not be rhymed; they are generally full of vivid imagery that adds to their memorability. Whether we realize it or not, proverbs are all around us. Proverbs are a fascinating and intricate part of day-to-day life here in Wisconsin. Focus Questions What is a proverb? Why do individuals and communities use them? How do proverbs as folklore forecasts fit with other types of forecasting methods? Learning Objectives To understand that weather lore is a part of everyday life. To understand that weather lore is linked to cultural communities. Language Arts To understand what a proverb is. To build an appreciation for the narrative artistry of proverbs. Meteorology To understand the different types of predictive methods used in meteorology. Proverbs can tell us a lot about the people who say them. Proverbs act as tiny packages of community advice. In them one can read the value system of a community. Even though they originate in a specific local community, some proverbs contain universal truths and so resonate with people outside the originating community. These proverbs are mobile, and travel from place to place with the movement of people. This saying was recorded as early as the s in England, and can be heard today in 21st century Wisconsin. The proverb is memorable and snappy; it is practical and applicable to day-to-day life. This proverb is clearly one that can be identified with fishing communities. The value with which Wisconsin holds its sport and commercial fishing economy makes it unsurprising that this old saying is found on the "new" continent. Immigrants, probably from England or Scotland, brought this saying to America and eventually Wisconsin, and because of the economy and environment, the saying stuck. Those who fish, whether for profit, subsistence or recreation, hope for a successful day of fishing. Using wind direction to predict fishing is both successful and easy. This proverb makes this simple method easy to remember and to relate to others. Photo by Ruth Olson Analyzing the Proverb There are many kinds of language arts, both contemporary or traditional in origin: One form of the language arts which students may have considered is the proverb or folk saying. Proverbs have many literary attributes; some rhyme, some have a regular meter, some use imagery or alliteration. This folk saying probably has its origins in the British Isles and may be five hundred years old or more. Even today, anglers use this saying to predict success for the day or to excuse a poor day of fishing. In this old saying you can see some of the most commonly used literary methods in a utilitarian setting. A poem in itself, the proverb makes good use of poetic techniques. First, this proverb is very rhythmically appealing. In other words, it has a good beat. A dactyl is an accented syllable followed by two unaccented syllables. The end of each line contains an iamb, which is an accented syllable that follows an unaccented syllable. Unlike

most literary poetry, this proverb is extremely regular in its rhythm; the regular meter seems to be a tool to aid memorization rather than a form of artistic expression. In addition to a regular meter, this proverb has a consistent rhyme scheme. The proverb consists of four coupletsâ€”that is, a set of two lines that rhyme. This rhyme scheme helps one to remember the next line; if you know the first line, you know that the second line must rhyme with the first line. The aabbccdd pattern is simple and memorable; the rhymes themselves are pleasing to the ear. As a whole, the proverb is very repetitive. Each couplet uses the literary technique of parallelism, or incremental repetition. The four couplets closely resemble each other in sound and structure, with only a few word changes to distinguish the differences. The repetition keeps the proverb easy to remember; it also defines the purpose of the proverb by repeating key words: This proverb consists of simple, one-syllable words that convey a concise meaning. The language of the saying is straightforward and utilitarian. This simplicity makes the proverb accessible to most people. Instead of being confused or put off by unfamiliar terms, nearly any listener can understand and remember this saying after hearing it once or twice. Its influence can be both dramatic and subtle. Weather tempers how we dress, how we live, the music we play, and the art we create. It can destroy our homes and threaten our lives. It affects our daily activities, leisure, holidays, transportation, commerce, agriculture, and nearly every aspect of our lives. Our fascination with the weather has led to hour weather networks, feature-length motion pictures, and an explosion of detailed weather data over the Internet. Weather and its ever-changing nature has always drawn the attention of people and sometimes even alters their lives. The atmosphere is very complicated, yet easily observable. People have always observed the atmosphere and have used their observations to explain atmospheric phenomena. Observing and then analyzing the atmosphere to gain an understanding is a scientific way of thinking. Folklore forecasts are rooted in observations and passed down through the generations. While memorable, the folklore forecasts are of uneven qualityâ€”some good, others bad. This is just one method of forecasting the weather. A persistence forecast is simple: The accuracy of this forecast is very dependent on where you are, the type of upper-troposphere winds that exist over your location, and how long a forecast you want. Low winds usually means a good persistence forecast. As a result, a longterm average of weather on a certain day or month should be a good guess as to the weather for that day or month. The success of this forecast derives from the fact that weather, although changeable, is strongly determined by the tilt of the Earth and the global energy budget. Climatology forecasts can be quite specific. What is the percent chance that at least one inch of snow will be on the ground at a particular location on December 25? This forecast depends on the past thirty years of weather observations on Christmas Day across the United States. It would change somewhat if more, fewer, or different years were used in the climatology. A trend forecast acknowledges that weather does change, but assumes that the weather-causing patterns, such as an extratropical cyclone, are themselves unchanging in speed, size, intensity, and direction of movement. Benjamin Franklin pioneered the concept of trend forecasting in  Clouds ruined an eclipse for Ben in Philadelphia, but his brother in Boston saw the eclipse clearly. The clouds did not reach Boston until many hours later. Trend forecasts work quite well for a period of several hours. Forecasting for such a brief period is called "nowcasting. Satellite observations are very useful in nowcasting. The analog forecast acknowledges that weather changes, but unlike the trend method, it assumes that weather patterns can evolve with time.

## Chapter 3 : Finding Warm Fronts Using Wind Direction: shift from east-southeast to south-southwest

*Eighteen stories (the first Grau collection) published from on, which exhibit both the extensions and limitations of the author's established talents.*

Directly under the subtropical ridge are the doldrums, or horse latitudes, where winds are lighter. The term was first used in English in India, Bangladesh , Pakistan, and neighboring countries to refer to the big seasonal winds blowing from the Indian Ocean and Arabian Sea in the southwest bringing heavy rainfall to the area. These prevailing winds blow from the west to the east, [35] [36] and steer extratropical cyclones in this general manner. The winds are predominantly from the southwest in the Northern Hemisphere and from the northwest in the Southern Hemisphere. The westerlies can be particularly strong, especially in the southern hemisphere, where there is less land in the middle latitudes to cause the flow pattern to amplify, which slows the winds down. Polar easterlies The polar easterlies, also known as Polar Hadley cells, are dry, cold prevailing winds that blow from the high-pressure areas of the polar highs at the north and south poles towards the low-pressure areas within the Westerlies at high latitudes. Unlike the Westerlies, these prevailing winds blow from the east to the west, and are often weak and irregular. Local considerations[ edit ] Local winds around the world. These winds are formed through the heating of land from mountains or flat terrain Sea and land breezes[ edit ] Main article: Sea breeze occurs at daytime , B: The warm air is less dense than the surrounding environment and so it rises. The cooler air above the sea, now with higher sea level pressure , flows inland into the lower pressure, creating a cooler breeze near the coast. When large-scale winds are calm, the strength of the sea breeze is directly proportional to the temperature difference between the land mass and the sea. At night, the land cools off more quickly than the ocean because of differences in their specific heat values. This temperature change causes the daytime sea breeze to dissipate. When the temperature onshore cools below the temperature offshore, the pressure over the water will be lower than that of the land, establishing a land breeze, as long as an onshore wind is not strong enough to oppose it. The wind flows towards a mountain and produces a first oscillation A. A second wave occurs further away and higher. The lenticular clouds form at the peak of the waves B. Over elevated surfaces, heating of the ground exceeds the heating of the surrounding air at the same altitude above sea level , creating an associated thermal low over the terrain and enhancing any thermal lows that would have otherwise existed, [46] [47] and changing the wind circulation of the region. In areas where there is rugged topography that significantly interrupts the environmental wind flow, the wind circulation between mountains and valleys is the most important contributor to the prevailing winds. Hills and valleys substantially distort the airflow by increasing friction between the atmosphere and landmass by acting as a physical block to the flow, deflecting the wind parallel to the range just upstream of the topography, which is known as a barrier jet. The airflow can remain turbulent and erratic for some distance downwind into the flatter countryside. These conditions are dangerous to ascending and descending airplanes. In Europe, similar winds are known as the Bora , Tramontane , and Mistral. When these winds blow over open waters, they increase mixing of the upper layers of the ocean that elevates cool, nutrient rich waters to the surface, which leads to increased marine life. Jagged terrain combines to produce unpredictable flow patterns and turbulence, such as rotors , which can be topped by lenticular clouds. Strong updrafts , downdrafts and eddies develop as the air flows over hills and down valleys. Orographic precipitation occurs on the windward side of mountains and is caused by the rising air motion of a large-scale flow of moist air across the mountain ridge, also known as upslope flow, resulting in adiabatic cooling and condensation. In mountainous parts of the world subjected to relatively consistent winds for example, the trade winds , a more moist climate usually prevails on the windward side of a mountain than on the leeward or downwind side. Moisture is removed by orographic lift, leaving drier air on the descending and generally warming, leeward side where a rain shadow is observed. These winds are warm and dry. In Europe downwind of the Alps , they are known as foehn. In Poland, an example is the halny wiatr. In Argentina, the local name for downsloped winds is zonda. In Java, the local name for such winds is koembang. Downslope winds also occur in the foothills of the Appalachian mountains of the United States, [53] and they can be as

strong as other downslope winds [54] and unusual compared to other foehn winds in that the relative humidity typically changes little due to the increased moisture in the source air mass. Wind atlas As described earlier, prevailing and local winds are not spread evenly across the earth, which means that wind speeds also differ by region. In addition, the wind speed also increases with the altitude. Wind power density[ edit ] Nowadays, a yardstick used to determine the best locations for wind energy development is referred to as wind power density WPD. It is a calculation relating to the effective force of the wind at a particular location, frequently expressed in terms of the elevation above ground level over a period of time. It takes into account wind velocity and mass. The larger the WPD calculation, the higher it is rated by class. It is commonly observed near microbursts and downbursts caused by thunderstorms , [66] weather fronts, areas of locally higher low level winds referred to as low level jets, near mountains, [67] radiation inversions that occur because of clear skies and calm winds, buildings, [68] wind turbines , [69] and sailboats. As a natural force, the wind was often personified as one or more wind gods or as an expression of the supernatural in many cultures. Vayu is the Hindu God of Wind. The ancient Greeks also observed the seasonal change of the winds, as evidenced by the Tower of the Winds in Athens. According to legend, he was present at the creation of the world and first let the winds out of his bag to clear the world of mist. He is said to be the ancestor grandfather of the winds of the eight directions. The term is first known to have been used as the name of a pair or series of typhoons that are said to have saved Japan from two Mongol fleets under Kublai Khan that attacked Japan in and again in Grains of sand whirled by the wind blinded the soldiers and created electrical disturbances that rendered compasses useless. Except for rotor ships using the Magnus effect , every sailing ship has a hull , rigging and at least one mast to hold up the sails that use the wind to power the ship. While taking off with a tailwind may be necessary under certain circumstances, a headwind is generally desirable. A tailwind increases takeoff distance required and decreases the climb gradient.

## Chapter 4 : The Wind Shifting West : Shirley Ann Grau : Free Download, Borrow, and Streaming : Internet

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The sea is warmed by the sun to a greater depth than the land due to its greater specific heat. As the temperature of the surface of the land rises, the land heats the air above it. The warm air is less dense and so it rises. This rising air over the land lowers the sea level pressure by about 0. The cooler air above the sea, now with higher sea level pressure, flows towards the land into the lower pressure, creating a cooler breeze near the coast. The strength of the sea breeze is directly proportional to the temperature difference between the land mass and the sea. At night, the land cools off more quickly than the ocean due to differences in their specific heat values, which forces the daytime sea breeze to dissipate. If the temperature onshore cools below the temperature offshore, the pressure over the water will be lower than that of the land, establishing a land breeze, as long as an onshore wind is not strong enough to oppose it. The wind flows towards a mountain and produces a first oscillation A. A second wave occurs further away and higher. The lenticular clouds form at the peak of the waves B. Over elevated surfaces, heating of the ground exceeds the heating of the surrounding air at the same altitude above sea level, creating an associated thermal low over the terrain and enhancing any lows which would have otherwise existed, [19] [20] and changing the wind circulation of the region. In areas where there is rugged topography that significantly interrupts the environmental wind flow, the wind can change direction and accelerate parallel to the wind obstruction. Jagged terrain combines to produce unpredictable flow patterns and turbulence, such as rotors. Strong updrafts , downdrafts and eddies develop as the air flows over hills and down valleys. Wind direction changes due to the contour of the land. If there is a pass in the mountain range, winds will rush through the pass with considerable speed due to the Bernoulli principle that describes an inverse relationship between speed and pressure. The airflow can remain turbulent and erratic for some distance downwind into the flatter countryside. These conditions are dangerous to ascending and descending airplanes. At night, the sides of the hills cool through radiation of the heat. The air along the hills becomes cooler and denser, blowing down into the valley, drawn by gravity. This is known a katabatic wind or mountain breeze. If the slopes are covered with ice and snow, the katabatic wind will blow during the day, carrying the cold dense air into the warmer, barren valleys. The slopes of hills not covered by snow will be warmed during the day. The air that comes in contact with the warmed slopes becomes warmer and less dense and flows uphill. This is known as an anabatic wind or valley breeze. Orographic lift , Precipitation types meteorology , and United States rainfall climatology Orographic precipitation occurs on the windward side of mountains and is caused by the rising air motion of a large-scale flow of moist air across the mountain ridge, resulting in adiabatic cooling and condensation. In mountainous parts of the world subjected to consistent winds for example, the trade winds , a more moist climate usually prevails on the windward side of a mountain than on the leeward or downwind side. Moisture is removed by orographic lift, leaving drier air see katabatic wind on the descending and generally warming, leeward side where a rain shadow is observed. Dune , Erosion , and Insect Insects are swept along by the prevailing winds, while birds follow their own course. Because of this, wind barrier strips have been developed to minimize this type of erosion. The strips can be in the form of soil ridges, crop strips, crops rows, or trees which act as wind breaks. They are oriented perpendicular to the wind in order to be most effective.

## Chapter 5 : The Wind Shifting West by Shirley Ann Grau

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An example of a veering wind would be a southeast wind at the surface and a west wind at millibars. The wind turns in the same direction as a clock from the surface to millibars. A veering wind is associated with warm air advection and dynamic lifting primarily because a south wind in the PBL transports warmer air to the north. The magnitude of warm air advection is a function of wind speed and the pre-existing thermal gradient. Weak winds will result in weak advection. Winds often veer ahead of cold fronts in the warm sector of a mid-latitude cyclone. A backing wind is a wind that turns counter-clockwise with height. An example of a backing wind would be a north wind at the surface with a west wind at millibars. A backing wind is associated with cold air advection and dynamic sinking. Winds back behind cold fronts. A veering wind turns clockwise with height. Since warmer air is in the southern latitudes, a south wind will promote the bringing of warmer air into the forecast region. Winds having a southerly component at the surface and a westerly component aloft is a veering wind. The middle and upper level winds in the mid-latitudes will generally have a westerly component to them. The upper level winds blow from a much more persistent direction than the surface winds. It is primarily the surface wind direction that determines whether the wind is backing or veering with height. A backing wind turns counterclockwise with height. A north wind at the surface and a westerly wind aloft is an example of a wind that is backing. A north wind generally brings in cooler air. In the warm sector of a mid-latitude cyclone the wind will almost always veer with height generally a WAA pattern will be present. In the cold sector of a mid-latitude cyclone the wind will almost always back with height generally a CAA pattern will be present. Thermal advection is most significant in the mid-latitudes and in the vicinity of low pressure or a tight pressure gradient.

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The Lord responded by shifting the wind, and the strong west wind blew the locusts into the Red Sea. Not a single locust remained in all the land of Egypt. God sent a deliverer found in a basket in crocodile-infested waters. That deliverer was discovered by the daughter of the one who was executing the sentence of captivity upon the very people that God had blessed with promise, possibility and possession of a place where they could freely worship him. God set the stage for the captive to become the captain and the captain to be resigned to captivity. What held them was not only going to release them but eject them from residence. Those who held them were not only going to let them go, but were also going to bless them with the spoils of their labor in one lump-sum payment. The wind was shifting. The first notation in the text is a petition. Pharaoh asks Moses for something. The slaveholder asks the slave to get in touch with the Savior on behalf of the slaveholder. Bishop Richard Allen, the founder of the African Methodist Episcopal Church â€" the oldest black institution in America â€" witnessed to his slave master who accepted Jesus and once spiritually free from sin, he then freed Richard Allen from slavery. The ones who held you down, held you down because they were afraid of what was in you to make you rise. Pharaoh asked Moses to talk to the Lord on his behalf. That lets you know who really had the power. That must have been a difficult prayer to pray. Moses knew the outcome: Prayer is not always just for the object or issue but is also for the one praying the prayer. God wants to teach us that in our prayers he will prove his power. God wants to teach us that in our prayers he will stand with his saints. Imagine how Moses while felt praying. Pray in the season and watch me shift the wind. It never did and it never will. Finally, as we survey the text, we see the object of the prayer: Were they pests or were they provision? Locusts are ravenous grasshopper-like insects that can ravage the vegetation of a nation and can befall an entire country. Their numbers cannot be counted. Often their flight obscured the sun and cast a thick shadow on the earth. Every terrace, court, and inner chamber was filled. The locusts were blown to the Red Sea. That has its own implications. What is important is that the pests were moved by the wind! The wind was moved by the Lord. The Lord was moved by the prayer. The prayer was lifted because of the petition. What is the clarion call for today? What is the prophetic declaration for this moment in your life? When we pray, the Lord will move. I feel a shift in the wind.

## Chapter 7 : 56 Bible verses about Wind

*The Wind Shifting West by Shirley Ann Grau. Alfred A. Knopf. Hardcover. POOR. Noticeably used book. Heavy wear to cover. Pages contain marginal notes, underlining, and or highlighting.*

## Chapter 8 : Cold Front Effects on Wind Direction | Sciencing

*Wind wikipedia, wind is the flow of gases on a large scale on the surface of the earth, wind consists of the bulk movement of air in outer space, solar wind is the movement of gases or charged particles from the sun through space, while.*

## Chapter 9 : Wisconsin Weather Stories

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