

# Ams weather studies investigation 8a

## answers

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**Which flow is known as the Geostrophic wind from point C and onward the air parcel will flow to the isobars?** At Point C the Coriolis Effect will be acting directly opposite to the pressure gradient force. The two forces are then in balance. From Point C and onward, the air parcel will flow [(perpendicular)(parallel)] to the isobars. This flow is known as the geostrophic wind.

**What are the five measurements on which weather observations are based?** Temperature, humidity, precipitation, air pressure, wind speed, and wind direction are key observations of the atmosphere that help forecasters predict the weather.

**Which direction is geostrophic flow?** Geostrophic winds and currents flow counterclockwise around low-pressure zones and clockwise around high-pressure zones in the Northern Hemisphere. In the Southern Hemisphere, they flow clockwise around low-pressure zones and counterclockwise around high-pressure zones.

**What do you call the wind when the flow is curved but follows the isobars?** gradient wind, wind that accounts for air flow along a curved trajectory. It is an extension of the concept of geostrophic wind—i.e., the wind assumed to move along straight and parallel isobars (lines of equal pressure).

**What are the four scales of meteorology?** The four meteorological scales are: microscale, mesoscale, synoptic scale, and global scale. Meteorologists often focus on a specific scale in their work. Microscale meteorology focuses on phenomena that range in size from a few centimeters to a few kilometers, and that have short life spans (less than a day).

**At which time of day was the greatest wind velocity recorded?** Wind trace taken at Barrow Island, Australia, during Tropical Cyclone Olivia. The wind scale is in meters per second. The peak gust of 113.2 m/s (253 mph) occurred at around 6:15 pm local time.

**What are 4 common measurements collected by meteorologists?** Collecting atmospheric data is crucial for understanding the global climate and for forecasting the weather around the world. In this module, we will learn about the weather instruments that meteorologists use to measure temperature, moisture, pressure, wind speed, and rainfall.

**What is the geostrophic flow in weather?** In atmospheric science, geostrophic flow (/ˈdʒiːstrəfɪk, ˈdʒiːoʊ-, -ˈstrə-/) is the theoretical wind that would result from an exact balance between the Coriolis force and the pressure gradient force. This condition is called geostrophic equilibrium or geostrophic balance (also known as geostrophy).

**How do you identify geostrophic wind?** Remember that the geostrophic wind always blows parallel to the isobars, with lower pressure on the left (in the Northern Hemisphere). Remembering that winds flow counterclockwise around lows (and clockwise around highs) in the Northern Hemisphere helps, too.

**What is an example of a Geostrophic flow?** The major currents of the world's oceans, such as the Gulf Stream, the Kuroshio Current, the Agulhas Current, and the Antarctic Circumpolar Current, are all approximately in geostrophic balance and are examples of geostrophic currents.

**What is a swirl of wind called?** whirlwind, a small-diameter columnar vortex of rapidly swirling air. A broad spectrum of vortices occurs in the atmosphere, ranging in scale from small eddies that form in the lee of buildings and topographic features to fire storms, waterspouts, and tornadoes.

**What is the name of a wind that blows constantly from the same direction?** Prevailing winds are winds that blow from a single direction over a specific area of the Earth. Areas where prevailing winds meet are called convergence zones. Generally, prevailing winds blow east-west rather than north-south.

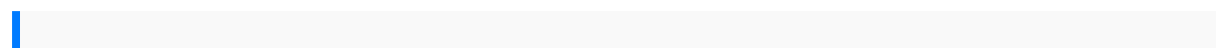
**What is the curving of winds called?** Instead of circulating in a straight pattern, the air deflects toward the right in the Northern Hemisphere and toward the left in the Southern Hemisphere, resulting in curved paths. This deflection is called the Coriolis effect.

**What is the geostrophic wind and isobars?** The geostrophic wind is directed parallel to isobars (lines of constant pressure at a given height). This balance seldom holds exactly in nature. The true wind almost always differs from the geostrophic wind due to other forces such as friction from the ground.

**What is the geostrophic wind flow?** Geostrophic winds are winds that are moving parallel to the isobars under the effect of the pressure gradient force and the Coriolis effect.

**What is a geostrophic wind quizlet?** fast winds, high latitude.

**Why is Jet Stream called geostrophic wind?** Because these winds are geostrophic, i.e., they flow at great speeds due to low friction and are subjected to greater Coriolis force. So they deflect greatly giving rise to three distinct cells called Hadley cell, Ferrel Cell and Polar cell.



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