

**TEMA:** 0296 FLT/DSP - (CHAP. 08) METEOROLOGY AND WEATHER SERVICES

**COD PREG:** PREG20085213  
**PREGUNTA:** Where are jetstreams normally located?  
**RPTA:** B  
**OPCION A:** In areas of strong low pressure systems in the stratosphere.  
**OPCION B:** At the tropopause where intensified temperature gradients are located.  
**OPCION C:** In a single continuous band, encircling the Earth, where there is a break

PREG20085211 Which type jetstream can be expected to cause the greater turbulence? C  
**OPCION A:** A straight jetstream associated with a high pressure ridge.  
**OPCION B:** A jetstream associated with a wide isotherm spacing.  
**OPCION C:** A curving jetstream associated with a deep low pressure trough.

PREG20085210 Where do the maximum winds associated with the jetstream usually occur? A  
**OPCION A:** In the vicinity of breaks in the tropopause on the polar side of the jet core.  
**OPCION B:** Below the jet core where a long straight stretch of the jetstream is located.  
**OPCION C:** On the equatorial side of the jetstream where moisture has formed cirriform clouds.

PREG20085209 What is likely location of clear air turbulence? A  
**OPCION A:** In an upper trough on the polar side of a jetstream.  
**OPCION B:** Near a ridge aloft on the equatorial side of a high pressure flow.  
**OPCION C:** Downstream of the equatorial side of a jetstream.

PREG20085208 Turbulence encountered above 15,000 feet AGL, not associated with cloud formations, should be reported as C  
**OPCION A:** convective turbulence.  
**OPCION B:** high altitude turbulence.  
**OPCION C:** clear air turbulence.

PREG20085207 Clear air turbulence (CAT) associated with a mountain wave may extend as far as B  
**OPCION A:** 1,000 miles or more downstream of the mountain.  
**OPCION B:** 5,000 feet above the tropopause.  
**OPCION C:** 100 miles or more upwind of the mountain.

PREG20085206 Which action is recommended regarding an altitude change to get out of jetstream turbulence? A  
**OPCION A:** Descend if ambient temperature is falling.  
**OPCION B:** Descend if ambient temperature is rising.

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**OPCION C:** Maintain altitude if ambient temperature is not changing.

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PREG20085204 Which type clouds may be associated with the jetstream? B

**OPCION A:** Cumulonimbus cloud line where the jetstream crosses the cold front.

**OPCION B:** Cirrus clouds on the equatorial side of the jetstream.

**OPCION C:** Cirrostratus cloud band on the polar side and under the jetstream.

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PREG20085183 Atmospheric pressure changes due to a thunderstorm will be at the lowest value B

**OPCION A:** during the downdraft and heavy rain showers.

**OPCION B:** when the thunderstorm is approaching.

**OPCION C:** immediately after the rain showers have stopped.

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PREG20085212 What weather feature occurs at altitude levels near the tropopause? A

**OPCION A:** Maximum winds and narrow wind shear zones.

**OPCION B:** Abrupt temperature increase above the tropopause.

**OPCION C:** Thin layers of cirrus (ice crystal) clouds at the tropopause level.

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PREG20085181 What is indicated by the term "embedded thunderstorms"? C

**OPCION A:** Severe thunderstorms are embedded in a squall line.

**OPCION B:** Thunderstorms are predicted to develop in a stable air mass.

**OPCION C:** Thunderstorms are obscured by other types of clouds.

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PREG20085158 Where is a common location for an inversion? B

**OPCION A:** At the tropopause.

**OPCION B:** In the stratosphere.

**OPCION C:** At the base of cumulus clouds.

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PREG20085157 What term describes an elongated area of low pressure? A

**OPCION A:** Trough.

**OPCION B:** Ridge.

**OPCION C:** Hurricane or typhon.

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PREG20085156 Where is the usual location of a thermal low? C

**OPCION A:** Over the arctic region.

**OPCION B:** Over the eye of a hurricane.

**OPCION C:** Over the surface of a dry, sunny region.

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PREG20085155 What is a feature of air movement in a high pressure area? B

**OPCION A:** Ascending from the surface high to lower pressure at higher altitudes.

**OPCION B:** Descending to the surface and then outward.

**OPCION C:** Moving outward from the high at high altitudes and into the high at the surface.

PREG20085154	Which type wind flows downslope becoming warmer and dryer?	C
OPCION A:	Land breeze.	
OPCION B:	Valley wind.	
OPCION C:	Katabatic wind.	
PREG20085153	At lower levels of the atmosphere, friction causes the wind to flow across isobars into a low because the friction	A
OPCION A:	decreases windspeed and Coriolis force.	
OPCION B:	decreases pressure gradient force.	
OPCION C:	creates air turbulence and raises atmospheric pressure.	
PREG20085182	Where do squall lines most often develop?	B
OPCION A:	In an occluded front.	
OPCION B:	Ahead of a cold front.	
OPCION C:	Behind a stationary front.	
PREG20085152	When does minimum temperature normally occur during a 24-hour period?	A
OPCION A:	After sunrise.	
OPCION B:	About 1 hour before sunrise.	
OPCION C:	At midnight.	
PREG20085151	What feature is associated with a temperature inversion?	A
OPCION A:	A stable layer of air.	
OPCION B:	An unstable layer of air.	
OPCION C:	Air mass thunderstorms.	
PREG20085150	What characterizes a ground-based inversion?	C
OPCION A:	Convection currents at the surface.	
OPCION B:	Cold temperatures.	
OPCION C:	Poor visibility.	
PREG20085149	What is the primary cause of all changes in the Earth's weather?	A
OPCION A:	Variations of solar energy at the Earth's surface.	
OPCION B:	Changes in air pressure over the Earth's surface.	
OPCION C:	Movement of air masses from moist areas to dry areas.	
PREG20085148	What is a characteristic of the troposphere?	B
OPCION A:	It contains all the moisture of the atmosphere.	
OPCION B:	There is an overall decrease of temperature with an increase of altitude.	
OPCION C:	The average altitude of the top of the troposphere is about 6 miles.	

PREG20085147	Which is a definition of "severe wind shear"?	B
<b>OPCION A:</b>	Any rapid change of horizontal wind shear in excess of 25 knots; vertical shear excepted.	
<b>OPCION B:</b>	Any rapid change in wind direction or velocity which causes airspeed changes greater than 15 knots or vertical speed changes greater than 500 ft/min.	
<b>OPCION C:</b>	Any rapid change of airspeed greater than 20 knots which is sustained for more than 20 seconds or vertical speed changes in excess of 100 ft/min.	
PREG20085146	Which wind-shear condition results in an increase in airspeed?	C
<b>OPCION A:</b>	Increasing tailwind and decreasing headwind.	
<b>OPCION B:</b>	Increasing tailwind and headwind.	
<b>OPCION C:</b>	Decreasing tailwind and increasing headwind.	
PREG20085145	Which wind-shear condition results in a loss of airspeed?	B
<b>OPCION A:</b>	Decreasing headwind or tailwind.	
<b>OPCION B:</b>	Decreasing headwind and increasing tailwind.	
<b>OPCION C:</b>	Increasing headwind and decreasing tailwind.	
PREG20085144	Which condition would INITIALLY cause the indicated airspeed and pitch to increase and the sink rate to decrease?	C
<b>OPCION A:</b>	Sudden decrease in a headwind component.	
<b>OPCION B:</b>	Tailwind which suddenly increases in velocity.	
<b>OPCION C:</b>	Sudden increase in a headwind component.	
PREG20085143	Which INITIAL cockpit indications should a pilot be aware of when a headwind shears to a calm wind?	C
<b>OPCION A:</b>	Indicated airspeed decreases, aircraft pitches up, and altitude decreases.	
<b>OPCION B:</b>	Indicated airspeed increases, aircraft pitches down, and altitude increases.	
<b>OPCION C:</b>	Indicated airspeed decreases, aircraft pitches down, and altitude decreases.	
PREG20085159	What condition produces the most frequent type of ground- or surface-based temperature inversion?	C
<b>OPCION A:</b>	The movement of colder air under warm air or the movement of warm air over cold air.	
<b>OPCION B:</b>	Widespread sinking of air within a thick layer aloft resulting in heating by compression.	
<b>OPCION C:</b>	Terrestrial radiation on a clear, relatively calm night.	
PREG20085160	Which term applies when the temperature of the air changes by compression or expansion with no heat added or removed?	C
<b>OPCION A:</b>	Katabatic.	

**OPCION B:** Advection.

**OPCION C:** Adiabatic.

PREG20085142 Fig. 8 - 21 C

What is the expected duration of an individual microburst?

**OPCION A:** Five minutes with maximum winds lasting approximately 2 to 4 minutes.

**OPCION B:** One microburst may continue for as long as an hour.

**OPCION C:** Seldom longer than 15 minutes from the time the burst strikes the ground until dissipation.

PREG20085162 At which location does Coriolis force have the least effect on wind direction? C

**OPCION A:** At the poles.

**OPCION B:** Middle latitudes (30° to 60°).

**OPCION C:** At the Equator.

PREG20085180 What feature is normally associated with the cumulus stage of a thunderstorm? C

**OPCION A:** Beginning of rain at the surface.

**OPCION B:** Frequent lightning.

**OPCION C:** Continuous updraft.

PREG20085179 During the life cycle of a thunderstorm, which stage is characterized predominately by downdrafts? B

**OPCION A:** Cumulus.

**OPCION B:** Dissipating.

**OPCION C:** Mature.

PREG20085178 Which weather phenomenon signals the beginning of the mature stage of a thunderstorm? B

**OPCION A:** The appearance of an anvil top.

**OPCION B:** The start of rain at the surface.

**OPCION C:** Growth rate of the cloud is at its maximum.

PREG20085177 How can the stability of the atmosphere be determined? A

**OPCION A:** Ambient temperature lapse rate.

**OPCION B:** Atmospheric pressure at various levels.

**OPCION C:** Surface temperature/dewpoint spread.

PREG20085176 Which condition produces weather on the lee side of a large lake? A

**OPCION A:** Warm air flowing over a colder lake may produce fog.

**OPCION B:** Cold air flowing over a warmer lake may produce advection fog.

**OPCION C:** Warm air flowing over a cool lake may produce rain showers.

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PREG20085161	What is the approximate rate unsaturated air will cool flowing upslope?	A
OPCION A:	3° per 1,000 feet.	
OPCION B:	2° per 1,000 feet.	
OPCION C:	4° per 1,000 feet.	

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PREG20085174	Which event usually occurs after an aircraft passes through a fron into the colder air?	C
OPCION A:	Temperature/dewpoint spread decreases.	
OPCION B:	Wind direction shifts to the left.	
OPCION C:	Atmospheric pressure increases.	

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PREG20085173	What is a feature of a stationary front?	C
OPCION A:	The warm fron surface moves about half the speed of the cold front surface.	
OPCION B:	Weather conditions are a combination of strong cold front and strong warm front weather.	
OPCION C:	Surface winds tend to flow parallel to the frontal zone.	

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PREG20085172	Which type clouds are indicative of very strong turbulence?	B
OPCION A:	Nimbostratus.	
OPCION B:	Standing lenticular.	
OPCION C:	Cirrocumulus.	

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PREG20085175	What minimum thickness of cloud layer is indicated if precipitation is reported as light or greater intensity?	A
OPCION A:	4,000 feet thick.	
OPCION B:	2,000 feet thick.	
OPCION C:	A thickness which allows the cloud tops to be higher than the freezing level.	

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PREG20085170	Which condition is present when a local parcel of air is stable?	A
OPCION A:	The parcel of air resists convection.	
OPCION B:	The parcel of air cannot be forced uphill.	
OPCION C:	As the parcel of air moves upward, its temperature becomes warmer than the surrounding air.	

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PREG20085171	Convective clouds which penetrate a stratus layer can produce which threat to instrument flight?	C
OPCION A:	Freezing rain.	
OPCION B:	Clear air turbulence.	
OPCION C:	Embedded thunderstorms.	

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PREG20085163	How does Coriolis force affect wind direction in the Southern Hemisphere?	A
<b>OPCION A:</b>	Causes clockwise rotation around a low.	
<b>OPCION B:</b>	Causes wind to flow out of a low toward a high.	
<b>OPCION C:</b>	Has exactly the same effect as in the Northern Hemisphere.	
PREG20085164	Which weather condition is defined as an anticyclone?	B
<b>OPCION A:</b>	Calm.	
<b>OPCION B:</b>	High pressure area.	
<b>OPCION C:</b>	COL.	
PREG20085165	What is the result when water vapor changes to the liquid state while being lifted in a thunderstorm?	A
<b>OPCION A:</b>	Latent heat is released to the atmosphere.	
<b>OPCION B:</b>	Latent heat is transformed into pure energy.	
<b>OPCION C:</b>	Latent heat is absorbed from the surrounding air by the water droplet.	
PREG20085167	What weather condition occurs at the altitude where the dewpoint lapse rate and the dry adiabatic lapse rate converge?	A
<b>OPCION A:</b>	Cloud bases form.	
<b>OPCION B:</b>	Precipitation starts.	
<b>OPCION C:</b>	Stable air changes to unstable air.	
PREG20085168	Which process causes adiabatic cooling?	A
<b>OPCION A:</b>	Expansion of air as it raises.	
<b>OPCION B:</b>	Movement of air over a colder surface.	
<b>OPCION C:</b>	Release of latent heat during the vaporization process.	
PREG20085169	When saturated air moves downhill, its temperature increases	B
<b>OPCION A:</b>	at a faster than dry air because of the release of latent heat.	
<b>OPCION B:</b>	at a slower rate than dry air because vaporization uses heat.	
<b>OPCION C:</b>	at a slower rate than dry air because condensation releases heat.	
PREG20085166	What is indicated about an air mass if the temperature remains unchanged or decreases slightly as altitude is increased?	C
<b>OPCION A:</b>	The air is unstable.	
<b>OPCION B:</b>	A temperature inversion exists.	
<b>OPCION C:</b>	The air is stable.	
PREG20085195	Which weather condition is an example of a nonfrontal instability band?	A
<b>OPCION A:</b>	Squall line.	
<b>OPCION B:</b>	Advection fog.	



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**OPCION C:** Frontogenesis.

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PREG20085196 Which atmospheric factor cause rapid movement of surface fronts? A

**OPCION A:** Upper winds blowing across the front.

**OPCION B:** Upper low located directly over the surface low.

**OPCION C:** The cold front overtaking and lifting the warm front.

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PREG20085198 What weather difference is found on each side of a "dry line"? B

**OPCION A:** Extreme temperature difference.

**OPCION B:** Dewpoint difference.

**OPCION C:** Stratus versus cumulus clouds.

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PREG20085199 What action is recommended when encountering turbulence due to a wind shift associated with a sharp pressure trough? A

**OPCION A:** Establish a course across the trough.

**OPCION B:** Climb or descend to a smoother level.

**OPCION C:** Increase speed to get out of the trough as soon as possible.

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PREG20085200 In comparison to an approach in a moderate headwind, which is an indication of a possible wind shear due to a decreasing headwind when descending on the glide slope? B

**OPCION A:** Less power is required.

**OPCION B:** Higher pitch attitude is required.

**OPCION C:** Lower descent rate is required.

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PREG20085194 What type weather change is to be expected in an area where frontolysis is reported? B

**OPCION A:** The frontal weather is becoming stronger.

**OPCION B:** The front is dissipating.

**OPCION C:** The front is moving at a faster speed.

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PREG20085197 In which meteorological conditions can frontal waves and low pressure areas form? B

**OPCION A:** Warm fronts or occluded fronts.

**OPCION B:** Slow-moving cold fronts or stationary fronts.

**OPCION C:** Cold front occlusions.

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PREG20085201 What is the lowest cloud in the stationary group associated with a mountain wave? A

**OPCION A:** Rotor cloud.

**OPCION B:** Standing lenticular.

**OPCION C:** Low stratus.

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PREG20085190 Which feature is associated with the tropopause? C



<b>OPCION A:</b>	Absence of wind and turbulence.	
<b>OPCION B:</b>	Absolute upper limit of cloud formation.	
<b>OPCION C:</b>	Abrupt change of temperature lapse rate.	
PREG20085192	A clear area in a line of thunderstorm echoes on a radar scope indicates	C
<b>OPCION A:</b>	the absence of clouds in the area.	
<b>OPCION B:</b>	an area of no convective turbulence.	
<b>OPCION C:</b>	an area where precipitation drops are not detected.	
PREG20085191	Which type cloud is associated with violent turbulence and a tendency toward the production of funnel clouds?	A
<b>OPCION A:</b>	Cumulonimbus mamma.	
<b>OPCION B:</b>	Standing lenticular.	
<b>OPCION C:</b>	Stratocumulus.	
PREG20085189	How are haze layers cleared or dispersed?	B
<b>OPCION A:</b>	By convective mixing in cool night air.	
<b>OPCION B:</b>	By wind or the movement of air.	
<b>OPCION C:</b>	By evaporation similar to the clearing of fog.	
PREG20085188	Which conditions are necessary for the formation of upslope fog?	A
<b>OPCION A:</b>	Moist, stable air behind moved over gradually rising ground by a wind.	
<b>OPCION B:</b>	A clear sky, little or no wind, and 100 percent relative humidity.	
<b>OPCION C:</b>	Rain falling through stratus clouds and a 10- to 25-knot wind moving the precipitation up the slope.	
PREG20085187	When advection fog has developed, what may tend to dissipate or lift the fog into low stratus clouds?	B
<b>OPCION A:</b>	Temperature inversion.	
<b>OPCION B:</b>	Wind stronger than 15 knots.	
<b>OPCION C:</b>	Surface radiation.	
PREG20085186	Which type storms are most likely to produce funnel clouds or tornadoes?	B
<b>OPCION A:</b>	Air mass thunderstorms.	
<b>OPCION B:</b>	Cold front or squall line thunderstorms.	
<b>OPCION C:</b>	Storms associated with icing and supercooled water.	
PREG20085185	What is a difference between an air mass thunderstorm and a steady-state thunderstorm?	B
<b>OPCION A:</b>	Air mass thunderstorms produce precipitation which falls outside of the updraft.	
<b>OPCION B:</b>	Air mass thunderstorm downdrafts and precipitation retard and reverse the updrafts.	

**OPCION C:** Steady-state thunderstorms are associated with local surface heating.

PREG20085202 Where is the normal location of the jetstream relative to surface lows and fronts? A

**OPCION A:** The jetstream is located north of the surface systems.

**OPCION B:** The jetstream is located south of the low and warm front.

**OPCION C:** The jetstream is located over the low and crosses both the warm front and the cold front.

PREG20085193 When flying over the top of a severe thunderstorm, the cloud should be overflowed by at least A

**OPCION A:** 1,000 feet for each 10 knots windspeed.

**OPCION B:** 2,500 feet.

**OPCION C:** 500 feet above any moderate to a severe turbulence layer.

PREG20085203 Which type frontal system is normally crossed by the jetstream? C

**OPCION A:** Cold front and warm front.

**OPCION B:** Warm front.

**OPCION C:** Occluded front.

PREG20085215 What type turbulence should be reported when it causes in altitude and/or attitude more than two-thirds of the time, with the aircraft remaining in positive control at all times? B

**OPCION A:** Continuous severe chop.

**OPCION B:** Continuous moderate turbulence.

**OPCION C:** Intermittent moderate turbulence.

PREG20085205 Which action is recommended if jetstream turbulence is encountered with a direct headwind or tailwind? C

**OPCION A:** Increase airspeed to get out of the area quickly.

**OPCION B:** Change occurs to fly on the polar side of the jetstream.

**OPCION C:** Change altitude or course to avoid a possible elongated area.

PREG20085184 Why are downdrafts in a mature thunderstorm hazardous? A

**OPCION A:** Downdrafts are kept cool by cold rain which tends to accelerate the downward velocity.

**OPCION B:** Downdrafts converge toward a central location under the storm after striking the surface.

**OPCION C:** Downdrafts become warmer than the surrounding air and reverse into an updraft before reaching the surface.

PREG20085223 Clouds or obscuring phenomena aloft, through which blue sky or higher sky cover is visible, is known as a C

**OPCION A:** thin overcast.

**OPCION B:** partial obscuration.

**OPCION C:** "transparent" sky cover.

PREG20085222 A squall line is a sudden increase of at least 15 knots in average wind speed to a sustained speed of **C**

**OPCION A:** 25 knots or more for at least 1 minute.

**OPCION B:** 20 knots or more for at least 2 minutes.

**OPCION C:** 20 knots or more for at least 1 minute.

PREG20085221 A severe thunderstorm is one in which the surface wind is **A**

**OPCION A:** 50 knots greater and/or surface hail is 3/4 inch or more in diameter.

**OPCION B:** 55 knots or greater and/or surface hail is 1/2 inch or more in diameter.

**OPCION C:** 45 knots or greater and/or surface hail is 1 inch or more in diameter.

PREG20085220 The horizontal wind shear, critical for turbulence (moderate or greater) per 150 miles is **B**

**OPCION A:** 18 knots or less.

**OPCION B:** greater than 18 knots.

**OPCION C:** not a factor, only vertical shear is a factor.

PREG20085219 SPECI KGLS 131802Z 10012G21KT 060V140 **B**  
2SM+SHRA SCT005BKN035 OVC050CB24/23 A2980  
RMK RAB57 WS TKO RW09L WSHFT 58 FROPA.

This SPECI report at Galveston (KGLS) indicates which condition?

**OPCION A:** Wind steady at 100° magnetic at 12 knots, gusts to 21.

**OPCION B:** Precipitation started at 57 after the hour.

**OPCION C:** 5,000 feet overcast with towering cumulus.

PREG20085218 Figure 145 **C**  
What condition is reported at Dallas (KDAL)?

**OPCION A:** The tops of the overcast is 10,000 feet.

**OPCION B:** Temperature/dewpoint spread is 8°F.

**OPCION C:** Altimeter setting is 30.07.

PREG20085217 Figure 145 **A**  
What condition is reported at Childress (KCDS)?

**OPCION A:** Light rain showers.

**OPCION B:** Heavy rain showers began 42 minutes after the hour.

**OPCION C:** The ceiling is solid overcast at an estimated 1,800 feet above sea level.

PREG20085216 What type turbulence should be reported when it momentarily causes slight, erratic changes in altitude and/or attitude, one-third to two-thirds of the time? **C**

**OPCION A:** Occasional light chop.

**OPCION B:** Moderate chop.

**OPCION C:** Intermittent light turbulence.

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PREG20085214 Which measurement is reported as runway visibility? C

**OPCION A:** Visibility reported by a ground observer from the airport control tower.

**OPCION B:** Slant range visibility in the landing area of the active runway.

**OPCION C:** Distance down the runway a pilot can see unlighted objects.

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