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Where air temperature starts! The sun does not heat the atmosphere directly: it heats the surface of the earth first and the heat then spreads upwards. Surfaces vary greatly in their ability to absorb heat; sand is the best. While the highest air temperature observed is 136 degrees, the ground surface temperature may be as high as 190 degrees in more favored places like Arizona. Often, in temperature latitudes, the difference between air and ground temperatures may be as much as 60 degrees. The air gets its heat by conduction, by contact with the earth's heated surface, and also by radiation of the earth's heat to the air. This heated air is distributed by convection (rising air) and by the winds.
