

MONSOON SEASON



High winds, incredibly low humidity, and fear of wildfire have created a tension throughout the Big Bend that will only be relieved by summer rains. In an ideal world they would be spring rains, falling tomorrow (or even tonight) but the probability of that happening in the Big Bend is almost nonexistent. We have entered the driest season of our desert year. The seasons and months are not the same as those we learned about in grade school with April showers bringing May flowers. Our year has winter and spring rolled into a long dry period with gradually increasing temperatures. This dry period will end with the beginning of the monsoon, a weather pattern that brings over two thirds of the yearly rainfall to the deserts of the Southwest, beginning, with any luck, in early July.

The word monsoon is derived from the Arabic word *mausim*, meaning season. We use it to refer to the weather pattern that brings our rainy season. These rains result from a large-scale atmospheric change in wind direction as a result of intense summer heating in the tropics. As the air over land becomes hotter it becomes less dense and rises, creating an area of low pressure that then pulls moist tropical ocean air over the land. This causes changes in wind direction, moving this moisture rich air toward the deserts of North America. As the humid

air rises with the heat of summer it condenses into clouds that bring us rain. Prior to this change the Big Bend suffers from low humidity and very high temperatures from late April on into July. Occasional thunderstorms can break through the heat of this time but the rainfall they deliver is generally too little to do much good. The temperatures continue to rise as the days increase in length and life in the desert retreats to the shade.

Our monsoon rains are actually Mexican in origin with most of the moisture-rich air being drawn up from either the tropical Pacific or the subtropical Gulf of Mexico. Such rains can come from the southeast, the southwest or the south, sometimes simultaneously! As the rains move further north from Mexico they lose strength and deliver less rainfall: a hundred mile difference in distance north can cut rainfall by one half. By watching rainfall patterns in Mexico it is possible to predict the arrival of rainfall to the Big Bend. However, it is also important to remember that predicting weather is considered by some a fool's folly! Sometimes the monsoon season is not as productive as we would like. In 1994 Shafter had one of its driest years with 2.85 inches of rain: nothing fell until May and then nothing after July until 0.88 inches fell that December. Our wettest year was 2004 with over 20 inches of rain, most falling as monsoonal rains. The monsoon begins shortly after the summer solstice, but the rains that fall are scattered. While some places receive large amounts of rain, others receive very little. When Shafter had its wet year of 20+ inches, El Paso had 2.42 inches for the entire year. True, we are a little further south than El Paso, but that is a significant difference in rainfall.

Although rains do sometimes fall in late autumn, winter, and early spring these, technically, are not monsoonal in nature. They are usually the result of weather fronts moving into the area from the north and/or the west. These fronts gather moisture over cool Pacific waters and must be carried by powerful upper level winds to make it this far inland. Although any rainfall is welcomed by desert people, these storms do not usually provide much rainfall. The plants and animals of the desert southwest, however, have adapted to the moisture rich monsoons of summer and for now are just waiting out the heat.

POSTED BY Patt Sims - April, 2011