

## WESTERN KANSAS WEATHER MODIFICATION PROGRAM

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### WEEKLY NEWSLETTER

No. 2012-15

For the period July 14 – July 20, 2012

**Note:** The incredible U.S. drought just gets worse by the day in both area and intensity. An update on the drought will be presented next week as I am sure conditions in Kansas will likely deteriorate further even if we get some rain around July 25<sup>th</sup> and 26<sup>th</sup>

**General Interest:** This week highlights the driest inhabited region on earth and makes the parched land of western Kansas seem like a tropical oasis! The Atacama Desert in Chile is an amazing place in a rather abysmal way. According to Wikipedia.org, the annual rainfall in the Atacama totals a whopping 0.04 inches with some weather stations there having never received even a drop of rain. Further evidence points to the region having gone through a nearly rainfall free time during the period 1570 to 1971 resulting in an absolutely unfathomable 401-year drought! The desert is a plateau region situated between the Chilean Coast Range to the west and the Andes mountains to the east. Several features prohibit precipitation in the Atacama. The desert is on the dry side of the Chilean Coast Range which severely limits Pacific Ocean moisture transport into the area from the west. To the east, the extreme heights of the Andes Mountains effectively block storms that were formed over the Amazon from reaching the area. Also, a feature called the Humboldt ocean current provides for cooler air over the region which is generally not favorable for precipitation formation. Compounding the problem further is a nearly permanent high pressure system called the South Pacific High which provides for sinking air that forms an inversion layer which again is not favorable for storms. According to Softpedia.com, the Atacama aridity is so extreme that metal does not oxidize and food left out in the open air does not rot.

Is the Atacama unique? According to an article on OurAmazingPlanet.com, there are several populated areas in the Sahara Desert with an average annual rainfall ranging from 0.48 inches to 0.338 inches. The driest place on earth is McMurdo Dry Valleys region of Antarctica where the precipitation average is zero.

#### Sources:

[www.ouramazingplanet.com](http://www.ouramazingplanet.com)  
[en.wikipedia.org](http://en.wikipedia.org)  
[www.softpedia.com](http://www.softpedia.com)

**Weather:** Warm and tranquil conditions started the week with high pressure continuing to play a major influence on the weather pattern. A few small storms traveled out of Colorado and into western Kansas on Tuesday. However, these storms remained rather weak and disorganized due to the high pressure aloft and the absence of organized upper level wind flow support. A heat wave returned to the area again by Thursday. With high pressure firmly anchored over western Kansas, the mercury climbed to above 100 by early Thursday afternoon. The extreme heat combined with a weak surface boundary in the area allowed for some isolated scattered brief and weak showers and some occasional thunder Thursday and Friday.

**Operations:** There was one operational day this week. Seeding for rain optimization occurred that day.

#### July 17<sup>th</sup>, Program Operations Day #13

One aircraft was launched at 3:38 p.m. to investigate weak storm activity moving into western Kansas from Colorado along and slightly behind a southeast moving gust front. Radar indicated these storms were typical of the majority of storms as of late with lifetimes of roughly 25 minutes. Brief seeding for rain optimization occurred from 4:24 to 4:38 on a storm just west of Leoti. The plane then moved to northern Hamilton and conducted rain optimization on a couple of storms from 4:44 to 5:04 before returning to base at 5:50.

**Acknowledgement:** The Western Kansas Weather Modification Program is funded, in part, through the State Water Plan, administered by the Kansas Water Office.

**Walter Geiger, Meteorologist**  
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