



My ... what a Very Large Array you have there ...

Description



New Mexico

is a study in contrasts. It offers beauty and culture that enchants; massive landscapes, gorgeous sunsets, diverse wildlife, rich cultural history, interesting architecture and beautiful art, and also science that fascinates and challenges: various types of scientific research facilities, military testing, a space shuttle landing strip and the [Very Large Array \(VLA\)](#).



is from the nearest town, Socorro, and 20 minutes from the village of (00) at 7,000 feet on the plains of San Augustine.



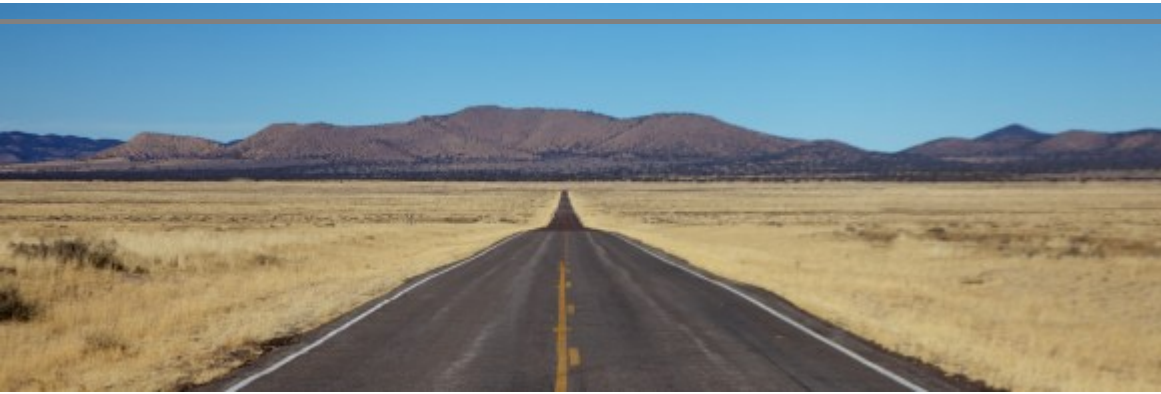
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Some of you may

recall seeing the VLA in the movie "Contact", starring Jodie Foster, about listening for sounds from alien life in space. But that is not at all the function of these radio antennas that are spread out throughout this area of the desert.



There is a visitor center that provides lots of information in a compact location. The visitor center also offers a very informative and interesting 45-minute film about the VLA narrated by Jodie Foster. And some mind numbing technical videos narrated by several geeky scientists :-).



short walking tour (pets are allowed!) that brings you up close and personal with one of the antennas and provides even more information. In fact, when we walked up to the dish, it, along with all of the other radio antennas, began to rotate. The direction that the antennas faced changed about four times during our short visit!

I've included some information from the VLA brochure and [website](#) in my comments below.

The walking tour begins by “The Bracewell Radio Sundial”, a large metal sphere mounted atop a slim metal post. Ronald N. Bracewell made major contributions to developing the mathematical techniques for combining the radio signals received by multiple antennas to produce detailed images of astronomical objects.



Concrete piers from Bracewell's Stanford radio telescope serve as markers. Bracewell invited his peers to sign these, and many of the signatures belong to the early pioneers of radio astronomy.



The Very Large Array (VLA) is one of the world's premier astronomical radio observatories and consists of 27 radio antennas in a Y-shaped configuration, tuned to a kind of light, radio waves, that is outside the range of visible light. Each antenna is 92 feet across, over 90 feet in height and weighs over 230 tons.



telescope.

Radio waves reveal previously unseen activities of stars, galaxies, and planets and map the chemical workings of the gas and dust clouds that create them. Optical telescopes cannot see into these places, because those same clouds block their view.



The VLA is an interferometer; it operates by multiplying the data from each pair of telescopes together to form interference patterns. The scientists take these patterns and use a mathematical technique called the Fourier transform to make maps.



Unhindered, radio waves can travel for billions of years across the vastness of space. They provide the VLA with the data that help construct a timeline of the Universe – from its ancient past to its possible future. Since it first began watching the skies back in 1976, the VLA has observed nearly 43,000 different cosmic objects.



Discoveries of the VLA have ranged from the surprising detection of water ice on Mercury, the nearest planet to the Sun, to major contributions to our understanding of active regions on the Sun, the physics of superfast “cosmic Jets” of material pouring from the hearts of distant galaxies, the mysterious central region of our own Galaxy, and the atmospheres of other stars.



Every four months, the configuration (separation between the antennas) is changed. The different separations yield observations over 40 miles



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these tracks.

Most of the astronomers who are awarded observing projects on the VLA are located elsewhere around the globe. On their behalf, a telescope operator controls the VLA as it observes the sky for 5,000 hours every year, both day and night.



In 2012, the VLA was transformed by a new suite of receivers, a supercomputer, and the replacement of its old antennas to save on costs. as to save
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It's quite an experience



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~ Brenda

Category

1. New Mexico
2. RV fulltimers
3. States Visited

Tags

1. desert

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Author
islandgirlwalkabout

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