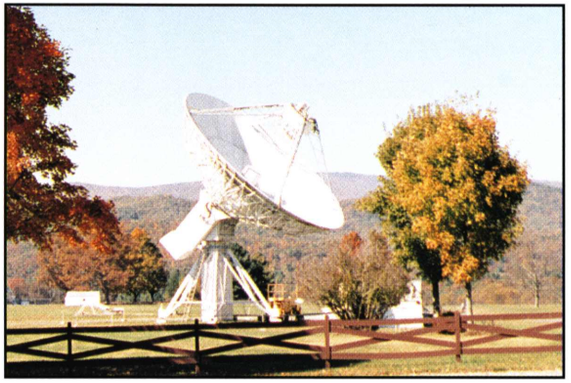
NRAO Background Information

The National Radio Astronomy Observatory was created in 1958. Its goal is to provide *state of the art* equipment for exploring the universe to all qualified scientists. Each year about 250 are fortunate enough to gain access to the telescopes in Green Bank.

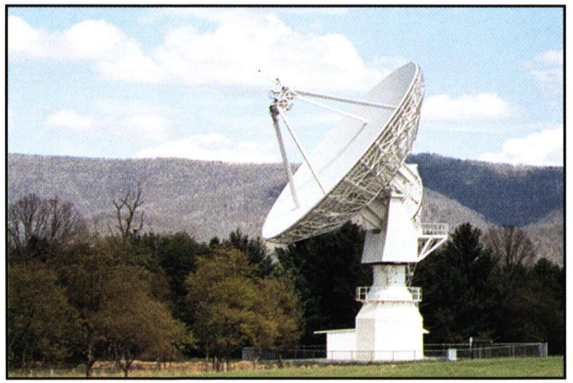
The Observatory is located in the Deer Creek Valley for good reason. The remoteness of the area and surrounding mountains protect the sensitive receivers used on our telescopes against unwanted man-made radio interference.

Other NRAO Telescopes



Space VLBI 45 Foot Telescope

NRAO is participating in an international venture to place a radio telescope into orbit around the earth. The 45 Foot Telescope will be a tracking station for the orbiting telescope.



USNO 20 Meter Telescope

NRAO operates the 20 Meter Telescope on behalf of the U.S. Naval Observatory. The USNO uses this telescope and others like it to determine the earth's orientation in space.

Come Visit With Us!

The Observatory is located in Pocahontas County on Route 92/28 about 26 miles northeast of Marlinton and 53 miles south east of Elkins. Our address is:

National Radio Astronomy Observatory
P.O. Box 2
Green Bank, WV 24944
Tel: (304) 456-2011

Tour Program

- *Exhibits and Educational Demonstrations at Tour Center*
- *Audio Visual Show on Radio Astronomy*
- *Guided Bus Tour to our Research Telescopes*
- *Historic Radio Telescopes, National Historic Landmark*
- *Gift Shop at Tour Center*

Tour Schedule

Weekend tours: Memorial Day weekend to mid-June
September and October

Daily Tours: Mid-June through Labor Day

Off-season group tours can be reserved at any time.

Tours are given each hour from 9:00 AM to 4:00 PM

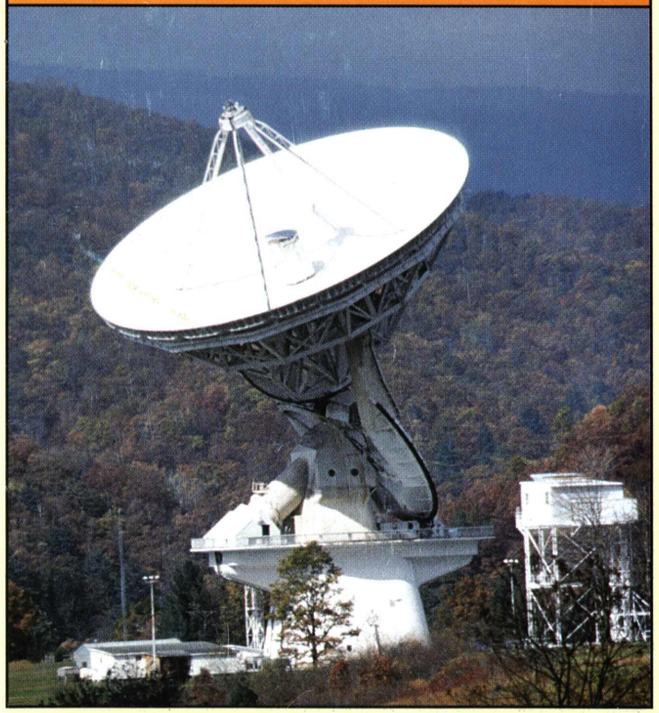
Admission is *FREE* and cameras are *welcome.*

The National Radio Astronomy Observatory

Green Bank, West Virginia

NRAO

NRAO is operated by Associated Universities, Inc., under Cooperative Agreement with the National Science Foundation.



The 140 Foot Telescope has been a mainstay of radio astronomy since its completion in 1965. It is the largest equatorially mounted telescope in the world.

Artist's conception of the Green Bank Telescope. The Green Bank Telescope (center) when completed in 1998, will be the largest fully steerable radio telescope in the world.

The Green Bank Telescope will be the instrument for pioneering research in Radio Astronomy in the 21st century. It will be useful over a much greater band of radio wavelengths than any telescope of comparable size – wavelengths from several meters to several millimeters. It will point under laser control to an accuracy approaching a second of arc, approximately the angle subtended by a dime when seen from a distance of one mile.

Future Science Research with the Green Bank Telescope

- ***Structure of Space*** Surveys of Hydrogen emission from distant galaxies can map the distribution of matter in the universe.

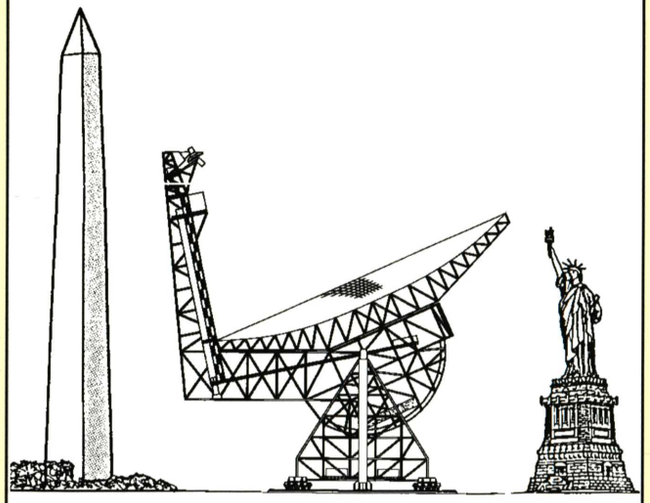
- ***Nature of Time*** Precision timing of rapidly spinning pulsars can test predictions of Einstein's General Theory of Relativity.

- ***Chemistry of Space*** The many molecules that occupy the spaces between the stars in the Milky Way and other galaxies can be studied by the sharp signal each radiates.

- ***Origin of Space Time*** The radio hiss filling space since the beginning of time can be mapped for hints of the seeds of galaxies.

- ***Energy Sources*** Violent activity at the hearts of galaxies and quasars can be monitored and probed in search of evidence for black holes.

- ***Census of the Radio Universe*** The GBT can rapidly scan the sky, detecting hundreds of thousands of radio sources, most several billion light-years from our Galaxy.



Line drawing comparing the size of the GBT relative to two national landmarks