

was selected in 1958 as site for a national observatory intensive 3-year survey that included more than 150 ranges across the United States.

combination of clear weather, minimum air turbulence, freedom from bright lights, vegetation cover, height and summit area were all factors leading to the final selection of Kitt Peak.

It is located in the Quinlan Mountains of the Sonoran Desert on the Papago Reservation. The reservation, one of the largest in the United States, is the home of more than 10,000 Papagos and spreads some 90 miles across Arizona's Pima and Pinal counties.

The Papagos leased Kitt Peak to the Observatory under the terms of a perpetual agreement that is valid as long as scientific facilities are maintained at the site.

The Observatory is supported by the National Science Foundation, an agency of the Federal Government established in 1950 to advance scientific progress in the United States. In 1957, the Observatory entered into a contract with the Association of Universities for Research in Astronomy (AURA), Inc., for the operation of the Observatory as a national center for optical astronomy. Under the terms of the original contract and subsequent agreements, AURA has been responsible for the construction, development, and continuing operation of Kitt Peak as a national research

center. AURA is a non-profit corporation in Arizona in 1957, AURA grew from its original 7 charter members to the present 13 members, all with strong research and graduate training programs in astronomy.

Member institutions are:

- University of Arizona
- California Institute of Technology
- University of California
- University of Chicago
- University of Colorado at Boulder
- Harvard University
- University of Hawaii
- Yale University
- University of Michigan
- State University of New York
- Yale University
- University of Texas at Austin
- University of Wisconsin
- University of Wisconsin

Mason
16 & 18 Nov

7 Nov Curle
148 Nov Strickland

11 Oct Doyle

national center, Kitt Peak allocates 60 percent of its telescope time to qualified visiting astronomers from all over the world. The selection of users is based entirely upon the merit of the research programs proposed. The remaining 40 percent of available telescope time is used by the Observatory for its own research.

In addition to its contract with the NSF, AURA also operates the Cerro Tololo Inter-American Observatory in Chile.

For more information: Write Public Information Office, National Observatory, P.O. Box 26732, Tucson, AZ, 85726.



kitt peak national observatory

a walking tour



S. U. MAYALL 4-METER TELESCOPE

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a fused quartz mirror 4 meters, or 158 inches, in diameter. The instrument is the nation's second largest optical telescope.

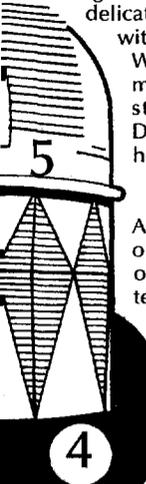
Together the telescope and the mounting weigh 375 tons, yet they are so delicately balanced that accurate tracking of celestial objects is achieved with a small one-half horsepower motor.

With this instrument astronomers can study objects as faint as 23rd magnitude—more than six million times fainter than the dimmest star visible with the unaided eye.

Darkrooms, laboratories, offices, and sleeping quarters are housed in the 19-story-high structure. The movable dome weighs 500 tons; the shutter opening measures 30 feet across. The building itself is 105 feet in diameter.

An elevator provides access to a glass-enclosed observation deck that presents a panoramic view of the observatory; from there steps lead to a telescope viewing gallery for visitors.

The telescope was dedicated in June, 1973, and is named for Dr. Nicholas U. Mayall, former Director of the Kitt Peak National Observatory.



ELEVATION

The summit of the mountain lies just North of the 4-meter telescope, at an elevation of 2098 meters (6882 feet).

- 2.3-METER TELESCOPE
- 50-CM TELESCOPE
- 30-CM SCHMIDT TELESCOPE
- 1.3-METER TELESCOPE

10.75-METER MILLIMETER-WAVE RADIO TELESCOPE

Operated by the National Radio Astronomy Observatory this 10.75-meter (36-foot) dish antenna explores the universe in radio wavelengths that are not visible to the human eye (Not open to the public)

30-CM SCHMIDT TELESCOPE

1.3-METER TELESCOPE

ADMINISTRATION BUILDING

MAINTENANCE SHOPS

EMPLOYEE'S DINING HALL

Welcome to the Kitt Peak National Observatory

A Walking Tour

As national center for ground-based optical astronomy, Kitt Peak has the largest collection of astronomical instruments in the world. Scientists from all over the world use Kitt Peak facilities for research programs in stellar and planetary studies.

In addition to visiting scientists, over 50 people are employed at the Observatory but only the necessary support staff lives there. Resident astronomers are based in Tucson. During observing periods, they, as well as visiting scientists, use dormitory rooms at Kitt Peak.

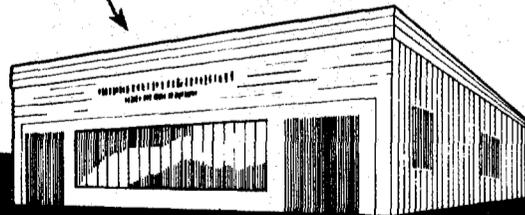
Kitt Peak is open to the public from 10 a.m. to 4 p.m. every day except Christmas. There is no charge or ticket for admission. Regularly scheduled tours of the Observatory are conducted at 10:30 a.m. and 1:30 p.m. on Sunday and holiday. All tours begin at the Visitor Center.

Although no food (other than candy and soft drinks) is sold on the grounds, a picnic area is provided with tables, benches, and fire pits. This Walking Tour Guide has been prepared for visitors who are on a scheduled tour or wish to tour the facilities on their own. Please refer to this guide for a handy reference to the National Observatory.

Your interest in the Observatory's programs and facilities is appreciated. We sincerely hope that your visit to Kitt Peak will be an enlightening and informative occasion.

VISITOR'S CENTER

Exhibits feature many aspects of astronomy, including models of telescopes and the research programs being conducted at Kitt Peak. Visitors can operate an actual solar telescope, and Kitt Peak-produced films are shown on weekends and holidays. Papago handicrafts and various mementos of the Observatory are available at the gift shop.



A 1-meter telescope... coelostat... sunlight... meter (41-inch)... forming... sends the... down thro... tanks hous... meter-high... tower—desi... imize the... to the obs... Its daily n... solar mag... give scient... understand... complex pr... occur with... The Vacuu... is also us... solar veloc... spectra, a... ported NA... program t... constantly... formation... ity for the... nauts.

GRAPH
Nebula in Orion,
seen with the Mayall
telescope.

REST
At the National Observatory, you will note that some points of interest are marked by numbers—both on this map and on the mountain. The following is a brief description of each site.

1. The 4-meter telescope, with the McMath Solar Telescope, is the largest telescope you will be looking south. Behind you stand six of the 13 telescopes at Kitt Peak: the 1.3-meter infrared, and the 30-centimeter Schmidt, the three telescopes of the University of Arizona; the 50-centimeter Nicholas U. Mayall telescope dome is visible.

2. The 10.75-meter millimeter-wave radio telescope is located in the Altar Valley and, visible some 18 miles to the west, is the town of Sells, tribal headquarters of the Papago Indians. The distinctive dome-shaped mountain peak due west is Mt. Graham, traditional home of the Papago Indian God *I'itoiy*. A schematic diagram of the McMath Solar Telescope is available. Visitors can obtain a picture of the telescope with the help of a camera from this point.

3. The 2.3-meter telescope, with the McMath Solar Telescope, is the largest telescope you will be looking south. Behind you stand six of the 13 telescopes at Kitt Peak: the 1.3-meter infrared, and the 30-centimeter Schmidt, the three telescopes of the University of Arizona; the 50-centimeter Nicholas U. Mayall telescope dome is visible. The Visitor's Gallery provides a view in all directions of 100 miles on most days, and special non-glare viewing glasses in this area enhances picture taking. To help with orientation, signs along the gallery show the four points of the compass and the names of surrounding towns. Mountain ranges visible to the west are visible in Mexico.

4. As you walk down this roadway is the Picnic Area with cooking facilities, vending machines, drinking water and restrooms for your convenience. Beautifully landscaped, the Picnic Area itself draws many nature

1.3-METER TELESCOPE

5. At Kitt Peak, with its emphasis on infrared astronomy, this telescope is used for observations of objects such as stars embedded in interstellar dust clouds that would be invisible to the human eye. It is a model for all infrared modifications to existing Kitt Peak telescopes.