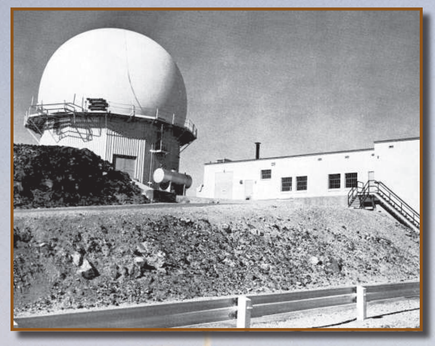
AJO AIR FORCE STATION AND THE LEGACY OF THE COLD WAR AIR DEFENSE RADAR NETWORK

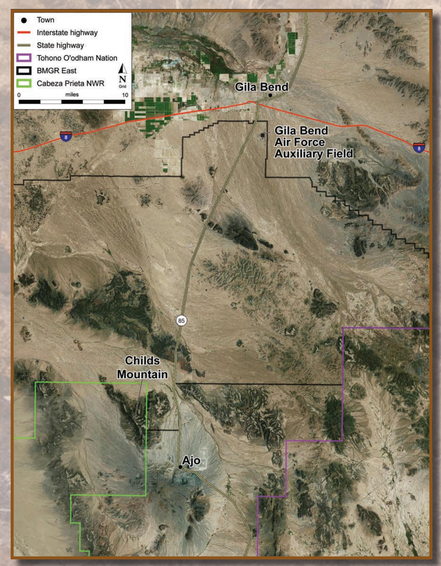
Airman at plotting board, ca. 1960s.

Ajo Air Force Station (AFS) became active in 1958 and was one of 142 radar stations built in the United States and Canada during the Cold War (1945–1991) in direct response to the Soviet Union's development of high-altitude, long-range bombers capable of delivering nuclear payloads to targets on American soil. The remains of Ajo AFS atop Childs Mountain represent a bygone era when the United States developed and maintained a strong retaliatory power to resist Communist aggression and deter what it perceived to be an imminent attack by the Soviet Union.



Radar tower building with radome (left) and operations building (right), ca. 1958.

The Cold War was characterized by a massive buildup of U.S. military facilities, equipment, and manpower, and in 1946, the Air Defense Command was established with the directive to organize and administer an integrated air-defense system for the continental United States. Air defense underwent a radical transformation in the 1950s. To counter the threat of the long-range bombers, the United States established a series of radar stations across Alaska and northern Canada to detect incoming Soviet aircraft. In the event of a Soviet incursion into North American airspace, an extensive system of long- and short-range radar stations, such as the Ajo AFS, would then monitor the bombers' progress. Tracking data from these radar sites were fed to Semi-Automatic Ground Environment (SAGE) direction centers and were used to rapidly deploy interceptor squadrons and to designate guided-missile batteries that would engage the hostile aircraft.



Operated by the 612th Aircraft Control and Warning Squadron (redesignated the 612th Radar Squadron in 1961), Ajo AFS was one of three radar sites within the Phoenix Air Defense Sector that included Arizona and portions of California, Nevada, Utah, Colorado, and New Mexico. The squadron operated search and height-finding radar sets capable of a search altitude of 100,000 feet and a range of 270 miles. The search radar and one of the height-finding radars were outfitted with radomes (structural, weatherproof enclosures that protect the antennae). Radar signals were fed to the SAGE direction center at Luke Air Force Base, Arizona—1 of 22 scattered around the nation—where two massive computers merged the radar feeds from other stations into a single composite regional picture.

Operations area, ca. 1963.

The Ajo AFS radar installation, situated atop 2,800-foot-high Childs Mountain, had a 360-degree view of southern Arizona and northern Mexico. The Air Force likely chose the location for its strategic views and its desolate location in the middle of the Sonoran Desert. The radar site consisted of four spatially discrete areas: an operations area at the crest of Childs Mountain, ground-to-air transmitting and receiving facilities north of the operations area, a cantonment midway up the mountain, and family housing at the base of the mountain. When operational, about 100 military personnel were stationed at Ajo AFS at any given time.

Main gate of cantonment with bachelor officer's quarters at left, ca. 1962.

Dormitories for noncommissioned officers (left) and enlisted men (right), ca. 1960s.

SAGE direction center at Luke Air Force Base, May 1960.

Within the operations area, utilitarian concrete-block buildings and structures housed operations, supply, and power functions and the radar towers and foundations. Around 1961, the Air Force constructed a ground-to-air transmission and receiving building north of the operations area and south of the original transmitting/receiving building. The ground-to-air transmission and receiving site, an integral part of the SAGE system, would communicate command guidance to interceptor aircraft in the event of an airspace incursion.

Family housing area, ca. 1960s.

The cantonment, located downhill from the operations area, included three two-story, concrete-block dormitories for enlisted personnel, noncommissioned officers, and bachelor officers. Additional buildings included an administration building, officer's club, mess hall, recreation hall, base exchange, vehicle maintenance shop, and central power plant. A swimming pool, bowling alley, and tennis court were added in the 1960s. In 1959, lodging for married families, consisting of 27 prefabricated 3-bedroom houses, were built on the desert flats east of Childs Mountain.

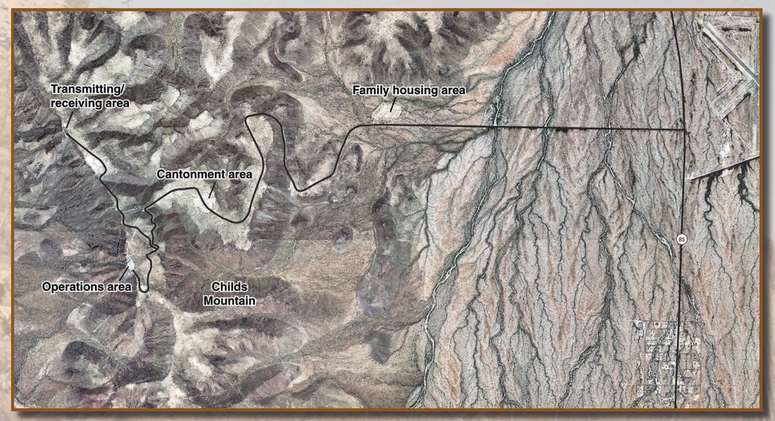
In the late 1960s, the Soviet Union shifted its strategic focus from manned bombers to intercontinental ballistic missiles. In response, the Air Defense Command began standing down many of its radar stations and deactivated Ajo AFS on December 31, 1969. High-value equipment was salvaged, and most buildings and structures were abandoned in place. In 1974–1975, all family housing units were lifted from their foundations and moved to Gila Bend Air Force Auxiliary Field. Portions of Ajo AFS, including the entire cantonment area and the family housing infrastructure, were demolished in 1995.

Demolition of administration building, 1995.

Switchgear inside power plant, operations area, ca. 1960s.

The four discrete spatial areas of the former radar installation are situated on lands under the jurisdiction of the Cabeza Prieta National Wildlife Refuge (administered by the U.S. Fish and Wildlife Service) and the Barry M. Goldwater Range East (administered by the U.S. Air Force). Since the 1980s, the Federal Aviation Administration and Air Force have maintained a minimal presence atop Childs Mountain as part of the Joint Surveillance System to provide peacetime air surveillance and control. Together they operate instrumentation and radio-signal-relay equipment located in the former operations and transmitting/receiving areas.

Though only a few scattered Ajo AFS buildings and structures remain in their original locations, they endure as reminders of the installation's role in our nation's Cold War–era air defense radar network. The military personnel who operated Ajo AFS and other radar stations contributed to deterring Soviet bomber strikes on American targets. As such, they and the sites themselves are part of our nation's Cold War legacy.



Vicinity map showing locations of the operations, transmitting/receiving, cantonment, and family housing areas.

Photographs courtesy of Mary Estes, the Online Air Defense Radar Museum, and the 56th Fighter Wing

References:

Schaffel, Kenneth, 1991 *The Emerging Shield: The Air Force and the Evolution of Continental Air Defense, 1945–1960*. Office of Air Force History, United States Air Force, Washington, D.C.

Winkler, David F., 1997 *Searching the Skies: The Legacy of the United States Cold War Defense Radar Program*. U.S. Army Construction Engineering Research Laboratories, Champaign, Illinois.