**National Reconnaissance Office**

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| **National Reconnaissance Office** |
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| **Agency overview** |
| **Formed** | 1961 |
| **Headquarters** | Chantilly, Virginia |
| **Employees** | Approximately 3,000 |
| **Annual budget** | Classified |
| **Agency executives** | General Bruce A. Carlson, USAF (Ret.), Director (DNRO)Betty J. Sapp, Principal Deputy Director (PDDNRO)Major General Susan K. Mashiko (USAF), Deputy Director (DDNRO) |
| **Parent agency** | Department of Defense |
| **Website** |
| www.nro.gov |

The **National Reconnaissance Office** (**NRO**), located in Chantilly, Virginia, is one of the 16 U.S. intelligence agencies. It designs, builds, and operates the spy satellites of the United States government, and coordinates the analysis of aerial surveillance and satellite imagery from several intelligence and military agencies.

**Mission**

The National Reconnaissance Office (NRO) develops and operates space reconnaissance systems and conducts intelligence-related activities for U.S. national security.

It also coordinates collection and analysis of information from airplane and satellite reconnaissance by the military services and the Central Intelligence Agency. It is funded through the National Reconnaissance Program, which is part of the National Foreign Intelligence Program. The agency is part of the Department of Defense.

The NRO works closely with its intelligence and space partners, which include the National Security Agency (NSA), the National Geospatial-Intelligence Agency (NGA), the Central Intelligence Agency (CIA), the Defense Intelligence Agency (DIA), the United States Strategic Command, Naval Research Laboratory and other agencies and organizations.

It has been proposed that the NRO share imagery of the United States itself with the National Applications Office for domestic law enforcement. The NRO operates ground stations around the world that collect and distribute intelligence gathered from reconnaissance satellites.

According to *Asia Times Online*, one important mission of NRO satellites is the tracking of non-US submarines on patrol or on training missions in the world's oceans and seas.

**History**



Serum and Vaccine Institute in Al-A'amiriya, Iraq, as imaged by a US reconnaissance satellite in November 2002.

See also: Chronology of the National Reconnaissance Office

The NRO was established on August 25, 1960, after management problems and insufficient progress with the USAF satellite reconnaissance program (see SAMOS and MIDAS). The formation was based on a 25 August 1960 recommendation to President Dwight D. Eisenhower during a special National Security Council meeting, and the agency was to coordinate the USAF and CIA's (and later the Navy and NSA's) reconnaissance activities.

The NRO's first photo reconnaissance satellite program was the Corona program, the existence of which was declassified February 24, 1995, existed from August 1960 to May 1972, although the first test flight occurred on February 28, 1959. The Corona system used (sometimes multiple) film capsules dropped by satellites, which were recovered mid-air by military craft. The first successful recovery from space (Discoverer XIII) occurred on August 12, 1960, and the first image from space was seen six days later. The first imaging resolution was 8 meters, which was improved to 2 meters. Individual images covered, on average, an area of about 10 by 120 miles (16 by 190 km). The last Corona mission (the 145th), was launched May 25, 1972, and this mission's last images were taken May 31, 1972. From May 1962 to August 1964, the NRO conducted 12 mapping missions as part of the "Argon" system. Only seven were successful. In 1963, the NRO conducted a mapping mission using higher resolution imagery, as part of the "Lanyard" program. The Lanyard program flew one successful mission. NRO missions since 1972 are classified, and portions of many earlier programs remain unavailable to the public.

The first press reports on NRO started in 1971. The first official acknowledgement of NRO was a Senate committee report in October 1973, which inadvertently exposed the existence of the NRO. In 1985, a *New York Times* article revealed details on the operations of the NRO. The existence of the NRO was declassified on September 18, 1992, by the Deputy Secretary of Defense, as recommended by the Director of Central Intelligence.

A *Washington Post* article in September 1995 reported that the NRO had quietly hoarded between $1 billion and $1.7 billion in unspent funds without informing the Central Intelligence Agency, the Pentagon, or Congress. The CIA was in the midst of an inquiry into the NRO's funding because of complaints that the agency had spent $300 million of hoarded funds from its classified budget to build a new headquarters building in Chantilly, Virginia, a year earlier.

In total, NRO had accumulated US$ 3.8 billion (inflation adjusted US$ 5.5 billion in 2012) in forward funding. As a consequence, NRO's three distinct accounting systems were merged.

The presence of the classified new headquarters was revealed by the Federation of American Scientists who obtained unclassified copies of the blueprints filed with the building permit application. After 9/11 those blueprints were apparently classified. The reports of an NRO slush fund were true. According to former CIA general counsel Jeffrey Smith, who led the investigation: "Our inquiry revealed that the NRO had for years accumulated very substantial amounts as a 'rainy day fund.'"

In 1999 the NRO embarked on a project with Boeing entitled Future Imagery Architecture to create a new generation of imaging satellites. In 2002 the project was far behind schedule and would most likely cost $2 billion to $3 billion more than planned, according to NRO records. The government pressed forward with efforts to complete the project, but after two more years, several more review panels and billions more in expenditures, the project was killed in what the Times report calls "perhaps the most spectacular and expensive failure in the 50-year history of American spy satellite projects."



Close-up of Atlas 501 payload fairing with NROL-41 satellite (poster commemorating 50 yr of NRO)

In what may have been a bizarre coincidence, NRO was planning an exercise on September 11, 2001, involving an accidental aircraft crash into one of its buildings. This has been cited by 9/11 conspiracy theorists as proof of their beliefs. In charge of the exercise was CIA man John Fulton, head of the NRO's "Strategic War Gaming Division". [See below.]

In January 2008, the government announced that a reconnaissance satellite operated by the NRO would make an unplanned and uncontrolled re-entry into the Earth's atmosphere in the next several months. Satellite watching hobbyists said that it was likely the USA-193, built by Lockheed Martin Corporation, which failed shortly after achieving orbit in December 2006. On February 14, 2008, the Pentagon announced that rather than allowing the satellite to make an uncontrolled re-entry, it would instead be shot down by a missile fired from a Navy cruiser. The intercept took place on February 21, 2008.

In July 2008, the NRO declassified the existence of its Synthetic Aperture Radar satellites, citing difficulty in discussing the creation of the Space-Based Radar with the United States Air Force and other entities.

In August 2009, The Black Vault FOIA archive obtained a copy of the NRO video, "Satellite Reconnaissance: Secret Eyes in Space." The 7 minute video chronicles the early days of the NRO and many of its early programs.

At the National Space Symposium in April 2010 NRO director General Bruce Carlson, USAF (Ret.) announced that till the end of 2011 NRO is embarking on "the most aggressive launch schedule that this organization has undertaken in the last twenty-five years. There are a number of very large and very critical reconnaissance satellites that will go into orbit in the next year to a year and a half."

**[edit] Organization**



NRO Organizational Chart (Sep. 2010)

The NRO is part of the Department of Defense. The Director of the NRO is appointed by the Secretary of Defense with the consent of the Director of National Intelligence, without confirmation from Congress. Traditionally, the position was given to either the Under Secretary of the Air Force or the Assistant Secretary of the Air Force for Space, but with the appointment of Donald Kerr as Director of the NRO in July 2005 the position is now independent. The Agency has the following directorates:- SIGINT Systems; Communications Systems; IMINT systems; and Advanced Systems and Technology. (SIGINT=signals intelligence; IMINT=imagery intelligence.)

**Program A to D**

With the inception of the NRO, several legacy organizations were incorporated:

* Program A: Secretary of the Air Force Space Systems (SAF/SS)
* Program B: CIA Office for Engineering & Development (OD&E)
* Program C: Naval Research Lab and elements of the Naval Security Group
* Program D: National Reconnaissance Program (NRP) Aircraft Reconnaissance

A major restructuring occurred in 1993 with the dissolution of Programs A to C.

**Personnel**

See also: Leadership of the National Reconnaissance Office

In 2007, the NRO described itself as "(..) a hybrid organization consisting of some 3000 personnel and jointly staffed by members of the armed services, the Central Intelligence Agency and DOD civilian personnel." Between the 2010 and 2012, the workforce is expected to increase by 100. The majority of the workers for the NRO are private corporate contractors, with $7 billion out of the agency's $8 billion budget going to private corporations.

**Budget**

NRO derives its funding both from the US intelligence budget and the military budget. In 1971, the annual budget was estimated to be around $1 billion (inflation adjusted US$ 5.4 billion in 2012). By 1994, the annual budget had risen to $6 billion (inflation adjusted US$ 8.9 billion in 2012), and for 2010 it is estimated to amount to $15 billion (inflation adjusted US$ 15 billion in 2012). This would correspond to 19% of the overall US intelligence budget of $80 billion for FY2010. For Fiscal Year 2012 the budget request for science and technology includes an increase to almost 6% of the NRO budget after it had dropped to just about 3% of the overall budget in recent years.

**NRO Directives and Instructions**

Under the Freedom of Information Act the NRO declassified a list of their secret directives for internal use. The following is a list of the released directives, which are available for download:

* NROD 10-2 - "National Reconnaissance Office External Management Policy"
* NROD 10-4 - "National Reconnaissance Office Sensitive Activities Management Group"
* NROD 10-5 - "Office of Corporate System Engineer Charter"
* NROD 22-1 - "Office of Inspector General"
* NROD 22-2 - "Employee Reports of Urgent Concerns to Congress"
* NROD 22-3 - "Obligations to report evidence of Possible Violations of Federal Criminal Law and Illegal Intelligence Activities"
* NROD 50-1 - "Executive Order 12333 - Intelligence Activities Affecting United States Persons"
* NROD 61-1 - "NRO Internet Policy, Information Technology"
* NROD 82-1a - "NRO Space Launch Management"
* NROD 110-2 - "National Reconnaissance Office Records and Information Management Program"
* NROD 120-1 - *UNKNOWN, AWAITING FOIA RESPONSE*
* NROD 120-2 - "The NRO Awards and Recognition Programs"
* NROD 120-3 - "Executive Secretarial Panel"
* NROD 120-4 - "National Reconnaissance Pioneer Recognition Program"
* NROD 120-5 - "National Reconnaissance Office Utilization of the Intergovernmental Personnel Act Mobility Program"
* NROD 121-1 - "Training of NRO Personnel"
* NROI 150-4 - "Prohibited Items in NRO Headquarters Buildings/Property"

**"Strategic War Gaming Division"**

According to a pamphlet advertising a security conference in 2002, the NRO has a "Strategic Wargaming Division", then headed by John Fulton, who was "on staff for the CIA".

**Spacecraft**



KH-9 Hexagon during integration at Lockheed



Titan IV rocket taking USA-186 (NROL-20) to LEO on October 19, 2005

See also: List of NRO satellites

The NRO spacecraft include:

* *Keyhole* series — photo imaging:
	+ KH-1, KH-2, KH-3, KH-4, KH-4A, KH-4B *Corona* (1959–1972)
	+ KH-5 — *Argon* (1961–1962)
	+ KH-6— *Lanyard* (1963)
	+ KH-7 — *Gambit* (1963–1967)
	+ KH-8 — *Gambit* (1966–1984)
	+ KH-9 — *Hexagon* and *Big Bird* (1971–1986)
	+ KH-10 — *Dorian* (cancelled)
	+ KH-11 — *Kennan*, *Crystal*, *Improved Crystal*, and *Ikon* (1976–2011)
* *Samos* — photo imaging (1960–1962)
* Samos-F — SIGINT (1962-1971)
* *Poppy* – ELINT program (1962–1971) continuing Naval Research Laboratory's GRAB (1960–1961)
* *Jumpseat* (1971–1983) and *Trumpet* (1994–2008) SIGINT
* *Lacrosse*/*Onyx* — radar imaging (1988–)
* *Canyon* (1968–1977), *Vortex/Chalet* (1978–1989) and *Mercury* (1994–1998)—SIGINT including COMINT
* *Rhyolite/Aquacade* (1970–1978), *Magnum/Orion* (1985–1990), and *Mentor* (1995–2010)—SIGINT
* *Quasar*, communications relay
* *Misty*/Zirconic – stealth IMINT
	+ Enhanced Imaging System
* Next Generation Electo-Optical (NGEO), modular system, designed for incremental improvements (in development).
* NROL-1 through NROL-66 – various secret satellites. NROL stands for *National Reconnaissance Office Launch*.

**Locations**



NRO ground station at Buckley Air Force Base, Aurora, CO

In October 2008, NRO declassified five mission ground stations: three in the United States, near Washington, D.C.; Aurora, Colorado; and Las Cruces, New Mexico, and a presence at RAF Menwith Hill, UK, and at the Joint Defense Facility Pine Gap, Australia.

* NRO Headquarters 38°52′55″N 77°27′07″W﻿ / ﻿38.882°N 77.452°W﻿ / 38.882; -77.452 - Chantilly, Virginia
* National Reconnaissance Operations Center (NROC) - Chantilly, Virginia
* Aerospace Data Facility, Colorado (ADF-C) 39°43′05″N 104°46′37″W﻿ / ﻿39.718°N 104.777°W﻿ / 39.718; -104.777, Buckley Air Force Base, Aurora, Colorado
* Aerospace Data Facility, East (ADF-E) 38°44′10″N 77°09′29″W﻿ / ﻿38.736°N 77.158°W﻿ / 38.736; -77.158, Fort Belvoir, Virginia
* Aerospace Data Facility, Southwest (ADF-SW) 32°30′07″N 106°36′40″W﻿ / ﻿32.502°N 106.611°W﻿ / 32.502; -106.611, White Sands, New Mexico

**Image gallery**

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NRO Organization, circa 1971

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NRO Organization, circa 2009

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National Reconnaissance Operations Center

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ADF-East Logo

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ADF-Southwest Logo

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ADF-Colorado Logo