

OSCAR ZERO MISSILE ALERT FACILITY & NOVEMBER-33 MISSILE LAUNCH FACILITY

321st Missile Wing - Grand Forks AFB, North Dakota

Directly on the front lines of the Cold War, the Ronald Reagan Minuteman Missile State Historic Site preserves and interprets the story of the Minuteman missile system as well as the people working in and living around the missile sites. Constructed as part of the Grand Forks Air Force Base's 321st Missile Wing, the Oscar-Zero Missile Alert Facility (MAF) and the November-33 Launch Facility (LF) were completed in 1965, with Minuteman II missiles installed shortly after completion.

The Oscar-Zero MAF consists of an above-ground Launch Control Support Building (LCSB) that housed an eight-person security and maintenance team and provided access to the underground Launch Control Center (LCC). Each LCC housed a two-person crew that was responsible for monitoring, launching, and retargeting its flight of ten nuclear missiles. Each LCC was linked by means of underground cables and a radio network to ten LFs in its flight and other LCCs in its squadron.

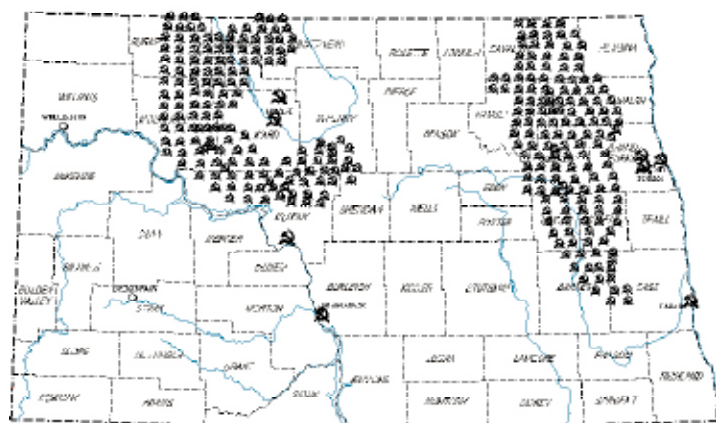
The blast-hardened complex approximately sixty feet below the building consists of both the LCC and a Launch Control Equipment Building (LCEB). The underground steel-reinforced concrete LCC contains equipment for monitoring and launching the ten missiles. It also contains life support equipment and minimal accommodations for two duty officers. The LCEB provides environmental control and power to the LCC. The LCC and LCEB are protected by massive blast doors and were designed to be self-sufficient over prolonged periods, such as during a nuclear attack.

November-33 LF was a self-contained underground concrete-lined steel missile silo with blast doors, an associated launch equipment room, and an adjacent underground launch facility equipment room. The LF was decommissioned, the missile was removed, and the silo was filled in as a result of the Strategic Arms Reduction Treaty (START) of 1991. Today, the site includes the above-ground concrete blast door that originally covered the missile in its silo. In the event of a launch, the door would be blown off the silo by sliding horizontally along rails, which are still in place. The access hatch for crews to service the missile is still there, and the whole site is surrounded by the original eight-foot security fence. The electronic surveillance system is also still in place.



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Soviet Nuclear Weapon Targets in North Dakota



—Richard J. Zeigler, "Missile Sites of North Dakota," September, 1988

The small hammer and sickle symbols on this map indicate the arrangement and abundance of Soviet nuclear strikes, intended to eliminate missile silo sites in North Dakota, at the peak of the Cold War.



The Ronald Reagan Minuteman Missile State Historic Site is part of a system of 56 historic sites maintained by the State Historical Society of North Dakota. From the intersection of ND highways 45 and 200 in Cooperstown, in east-central Griggs County, North Dakota, the Oscar Zero site is located 4 miles north on Highway 45 and the November-33 site is 2.75 miles east on Highway 200.

COLD WAR ERA VITAL STATISTICS



COLD WAR TIMELINE

- 1945** Death of President Franklin D. Roosevelt; Harry Truman becomes president ✪ Atomic bombing of Hiroshima and Nagasaki, Japan ✪ End of World War II ✪ United Nations founded
- 1946** Atomic Energy Commission created ✪ Vietnam's War of Independence begins
- 1947** Truman Doctrine announced to contain the spread of communism — the Cold War begins ✪ Military and economic aid sent to Greece and Turkey to fight communist insurgencies
- 1948** Harry Truman elected president ✪ Soviet Union begins the Berlin blockade; the West responds with the Berlin airlift
- 1949** North Atlantic Treaty Organization (NATO) forms ✪ Communist takeover of China under Mao Tse Tung ✪ Soviet Union detonates its first atomic bomb ✪ George Orwell publishes *1984*
- 1950** Korean War breaks out when communist North Korea invades South Korea ✪ A new Red Scare, a hunt for communist sympathizers, gains momentum under Senator Joseph McCarthy
- 1951** Radar base near Finley, ND, activated ✪ Color television introduced
- 1952** Dwight D. Eisenhower elected president ✪ U. S. detonates first hydrogen bomb (H-bomb)
- 1953** Korean War ends in stalemate ✪ Soviet leader Joseph Stalin dies; Nikita Khrushchev takes power ✪ American communists Julius and Ethel Rosenberg executed for espionage
- 1954** Vietnam partitioned into North and South Vietnam ✪ Eisenhower signs bill authorizing the construction of Air Force bases at Minot and Grand Forks, ND ✪ U.S. launches first atomic submarine
- 1955** Eisenhower, Khrushchev, and other world leaders meet in Geneva, Switzerland to reduce international tensions
- 1956** Construction begins on Grand Forks Air Force Base ✪ U.S.S.R. crushes Hungarian revolt ✪ Khrushchev denounces Stalin
- 1957** Soviets launch the world's first artificial satellite, Sputnik; space race begins ✪ Construction of Minot Air Force Base begins ✪ European Union, creating a single European economic market, is founded
- 1958** Passage of the National Defense Education Act (money for science and math education) ✪ Mao Tse Tung's "Great Leap Forward" initiated in China
- 1959** Fidel Castro leads successful communist revolution in Cuba ✪ Minot Air Force Base completed ✪ "Kitchen Debate" between Nixon and Khrushchev

1960 U.S. military begins build-up of IRBMs and ICBMs ✪ The Viet Cong organize an insurgency in South Vietnam ✪ Grand Forks Air Force Base completed ✪ First televised presidential debates ✪ John Kennedy elected president

1961 U.S. and Cuba cut diplomatic ties ✪ Eisenhower warns of “military industrial complex” in his farewell speech as president ✪ U.S. efforts to overthrow Castro at the Bay of Pigs end in disaster ✪ Soviets send first man into space ✪ Berlin Wall built

1962 U.S. and U.S.S.R. on the brink of nuclear war over Cuban Missile Crisis ✪ John Glenn is the first American in space

1963 U.S.S.R. and U.S. sign first nuclear test ban treaty ✪ President Kennedy assassinated; Lyndon Johnson becomes president ✪ Minuteman ICBMs arrive at Minot and Grand Forks Air Force bases

1964 China detonates its first atomic bomb ✪ Leonid Brezhnev replaces Khrushchev as head of U.S.S.R. ✪ Lyndon Johnson elected president

1965 Tens of thousands of U.S. soldiers and Marines sent to Vietnam ✪ Minuteman missiles in North Dakota become operational

1966 Minuteman II missile wing fully operational at Grand Forks Air Force Base ✪ The “Cultural Revolution” in China begins ✪ Anti-draft protests in U.S. begin

1967 Anti-war demonstrations erupt across the U.S. ✪ Marxist revolutionary leader Che Guevara killed in Bolivia

1968 Anti-war demonstrators riot at the Chicago Democratic National Convention ✪ Richard Nixon is elected president ✪ “Prague Spring” in Czechoslovakia crushed by U.S.S.R. ✪ North Korea seizes the U.S. intelligence ship, the *Pueblo*

1969 U.S. and U.S.S.R. announce “détente” or co-existence policy ✪ Apollo 11 lands the first men on the moon ✪ “Vietnamization” of the war begins as U.S. troop levels start to fall

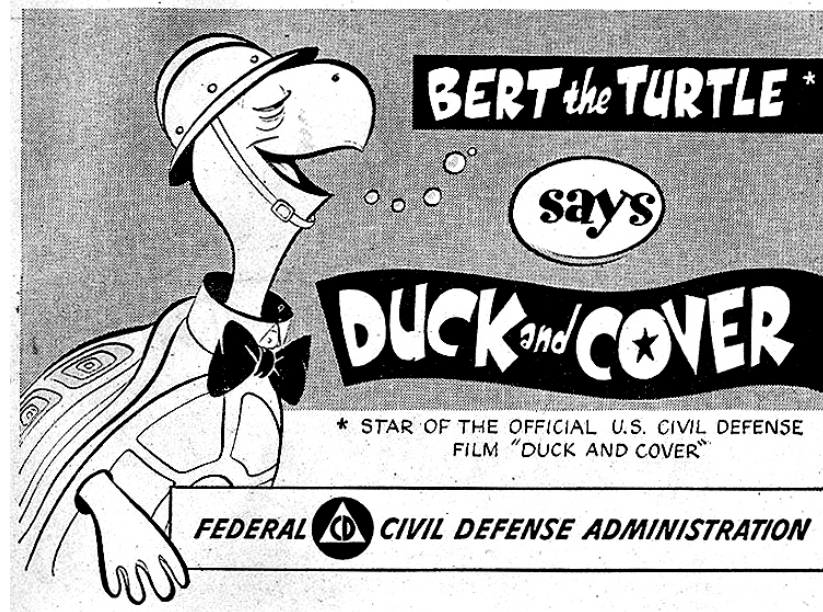
1970 U.S. invades Cambodia, widening the war in Southeast Asia ✪ The anti-ballistic missile (ABM) system begins construction near Nekoma, ND ✪ A total of six students were killed by National Guard troops and police at Kent State University, Ohio and Jackson State University, Mississippi ✪ China joins United Nations

1972 President Nixon re-elected ✪ Nixon opens relations with China and visits both China and the U.S.S.R. ✪ Nixon signs agreements that increase U.S. wheat sales to U.S.S.R.; North Dakota grain prices soar ✪ The last U.S. ground forces withdraw from Vietnam

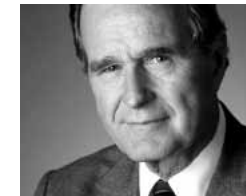
1973 Paris Peace Accords end Vietnam war; all U.S. forces withdraw from South Vietnam ✪ Socialist President Salvadore Allende of Chile overthrown with CIA help

1974 Richard Nixon resigns; Gerald Ford becomes president ✪ Construction of ABM system near Nekoma, ND, is complete

1975 ABM base at Nekoma closed as part of Strategic Arms Limitation Treaty (SALT I) ✪ North Vietnamese launch attacks against South Vietnam; Saigon falls



✪ **Ronald Reagan** — United States president (1980-1988). Reagan rejected the strategy of détente as a means of ending the Cold War and instead escalated the arms race. Despite his portrayal of the Soviet Union as an “Evil Empire,” Reagan and Mikhail Gorbachev negotiated to reduce their countries’ nuclear stockpiles.



✪ **George H. W. Bush** — United States president (1988-1992). During the first Bush administration tensions between East and West were significantly lessened. The Soviet Union and United States signed the START I treaty, which resulted, by 2001, in the removal of between 40-50% of existing nuclear weapons.

COLD WAR BIBLIOGRAPHY

For further information about the Cold War, the following materials are available at the State Archives and Historical Research Library (SAHRL). The SAHRL reading room is open for research 8:00 a.m. to 4:30 p.m., Monday through Friday, except legal holidays. It is also open for research the second Saturday of each month from 10:00 a.m. to 4:30 p.m., except legal holidays.

1962 North Dakota Civil Defense State Basic Plan. Bismarck, ND: North Dakota Civil Defense, 1962.

Directory for Survival. Grand Forks, ND: University of North Dakota, General Extension Division, 1967.

Facts about Minuteman Land Acquisition: North Dakota. Omaha: U.S. Army Engineer District, 1961.

Leistriz, F. Larry. “Will bust follow boom? The case of ABM development in North Dakota.” (draft of speech, 1975).

Lonnquest, John C. *To Defend and Deter: The Legacy of the United States Cold War Missile Program.* Washington: Center for Air Force History, 1996.

McKenzie, James. *Nuclear weapons of Grand Forks: An Interpretive Catalog.* Grand Forks, ND: University of North Dakota Center for Peace Studies, 1988.

Nukewatch. *Missile Silos of North Dakota.* Madison, Wis.: Nukewatch, 1986.

North Dakota Civil Defense. *Home Fallout Protection Survey: Public Information Kit.* Bismarck, ND: North Dakota Civil Defense, 1967.

Reston, James. *An appraisal of the Cold War: A Lecture Delivered at Northrup Memorial Auditorium, Minneapolis on February 22, 1955.* Minneapolis: University of Minnesota, 1955.

Sarnoff, David. *Program for a Political Offensive Against World Communism: A Memorandum.* New York, 1955

Shaw, Frederick J. *The Cold War and beyond: Chronology of the United States Air Force, 1947-1997.* Washington: United States Govt. Printing Office, 1997.

Shiman, Philip. *Forging the Sword: Defense Production During the Cold War.* Langley, Va.: U.S. Air Force Combat Command, 1997.

Stanton, Shelby L. *U.S. Army Uniforms of the Cold War, 1948-1973.* Mechanicsburg, PA: Stackpole Books, 1994.

United States. Defense Civil Preparedness Agency. *High Risk Areas for Civil Preparedness Nuclear Defense Planning Purposes.* Washington: Defense Civil Preparedness Agency, 1975.

United States. Office of Civil Defense. *Highlights of the US Civil Defense Program.* Washington: Office of Civil Defense, 1963.



🚩 **Leonid Brezhnev** — General secretary, U.S.S.R., (1964-1982). Under Brezhnev, increasingly conservative policies were instituted, and in the 1970s the Soviet Union reached the peak of its political and strategic power in relation to the U.S.



🚩 **Mikhail Gorbachev** — General secretary, U.S.S.R. (1985-1991). Gorbachev gained world-wide fame for his efforts to make changes in his country and its relations with other nations. The phrases *glasnost* (openness) and *perestroika* (programs of reform) came to define his leadership. In 1990 Gorbachev received the Nobel Peace Prize for his contributions to world peace.

FREE WORLD:



★ **Winston Churchill** — Prime minister, United Kingdom (1940-1945, 1951-1955). Inspirational during World War II and vehemently anti-communist, Churchill coined the famous phrase “Iron Curtain” to describe the eastern European communist alliance.



★ **Harry Truman** — United States president (1945-1953). Truman helped determine the course of the Cold War. Among his actions: use of atomic weapons, founding of United Nations, the Truman Doctrine to contain communism, creation of NATO, and loyalty checks to root out communist sympathizers in government offices.



★ **Dwight D. Eisenhower** — United States president (1953-1961). Eisenhower oversaw the cease-fire during the Korean War, made nuclear weapons a defense priority, and launched the Space Race.



★ **John F. Kennedy** — United States president (1960-1963). His administration witnessed the failed Bay of Pigs invasion, the Cuban Missile Crisis, building of the Berlin Wall, and escalation of the Space Race. Kennedy was assassinated on November 22, 1963.



★ **Lyndon B. Johnson** — United States president (1963-1968). LBJ, as he was known, escalated American involvement in the Vietnam War. LBJ also used the threat of nuclear war to win his presidential campaign in 1964.



★ **Richard Nixon** — United States president (1968-1974). Under Nixon the United States followed a policy of détente with the Soviet Union and diplomatic relations were opened with China. Nixon is the only president to resign the office.

1976 Jimmy Carter elected president 🌐 North and South Vietnam unite to form the Socialist Republic of Vietnam

1977 Panama and the U.S. sign a treaty to return Panama Canal to Panama in 1999 🌐 First democratic elections in Spain since 1936

1978 Marxist Sandinista revolution occurs in Nicaragua 🌐 John Paul II becomes pope

1979 Soviet Union invades Afghanistan 🌐 Solidarity Union movement in Poland grows 🌐 Nuclear accident at Three Mile Island in Pennsylvania 🌐 Vietnamese invasion of Cambodia topples Khmer Rouge communist regime that has murdered millions of Cambodians

1980 President Carter imposes grain sale embargo on Soviet Union in response to their invasion of Afghanistan. Wheat prices fall further; North Dakota economy suffers 🌐 Ronald Reagan elected president 🌐 Iran-Iraq war begins – high oil prices and rising interest rates contribute to world-wide economic recession

1981 Large-scale US military build-up begins 🌐 U.S. national debt begins to mushroom 🌐 Soviet/Polish crackdown on Solidarity movement 🌐 Pope John Paul II survives assassination attempt 🌐 President Reagan survives assassination attempt

1982 U.S. aid to Nicaraguan Contras (opposed to Sandinistas) is revealed

1983 U.S.S.R. shoots down Korean airliner that strayed into Soviet airspace 🌐 U.S. invades Grenada, overthrows Marxist regime there 🌐 Strategic Defense Initiative announced (“Star Wars” anti-missile system)

1984 President Reagan is re-elected

1985 Mikhail Gorbachev calls for *glasnost* (openness) and *perestroika* (reform)

1986 Challenger space shuttle explodes shortly after takeoff, killing seven astronauts 🌐 Chernobyl nuclear accident in Soviet Union 🌐 Soviets launch *Mir* space station

1988 George H. W. Bush elected president 🌐 Iran-Iraq war ends

1989 Berlin Wall falls 🌐 Student democracy protesters are massacred in China’s Tiananmen Square 🌐 Iron Curtain is dismantled 🌐 Romanian Communist leader Ceausescu is overthrown and executed 🌐 Playwright and democratic activist, Vaclav Havel, becomes president of Czech Republic

1990 Former head of Solidarity, Lech Walesa, becomes Poland’s first President 🌐 East and West Germany are reunited

1991 Soviet Union collapses 🌐 Strategic Air Command ceases its state of alert, which has been constant since 1957

1992 Official end of the Cold War 🌐 Bill Clinton elected president

GLOSSARY OF COLD WAR TERMS

Anti-Ballistic Missile (ABM): A defensive missile designed to intercept and destroy a ballistic missile in flight.

Ballistic Missile: A missile that lifts off under its own power and guidance; it then free-falls towards its target.

B-52: The mainstay of the U.S. bomber fleet since the 1950s; one of the three methods of delivering nuclear weapons.

Blast Wave: Also referred to as the shock wave, the wall of pressure generated by a nuclear explosion speeds outward from the explosion point at 2,000 miles per hour. It slows as the distance increases.

Failsafe: In the movies *Fail Safe* and *Dr. Strangelove*, this was the point of no return for manned bombers on their way to the U.S.S.R or China.

Gamma Rays: Generated by a nuclear explosion, gamma rays are similar to x-rays and form the radiation that is most dangerous to life. Gamma rays are the main reason for fallout shelters.

Ground Zero: This is the point on the ground that is closest to the center of a nuclear explosion.

Intercontinental Ballistic Missile (ICBM): An ICBM is capable of traveling from one continent to another (at least 3,500 miles).

Intermediate Range Ballistic Missile (IRBM): An IRBM is capable of traveling 800 to 1,500 miles.

Kiloton: A unit used in measuring the energy of a nuclear weapon, it is equivalent to the energy released by the explosion of 1,000 tons of TNT. The Hiroshima bomb was a 20-kiloton bomb.

Mutually Assured Destruction (MAD): The nuclear weapon policy of the United States and the Soviet Union developed during the early 1960s. Under this policy, each side had so many nuclear weapons that even if one side launched a surprise attack, the other side would still have enough surviving weapons that the attacker in turn would be destroyed.

Megaton: A unit used in measuring the energy of a nuclear weapon, it is equivalent to the energy released by the explosion of 1,000,000 tons of TNT. A modern American Minuteman II missile carries a 1.2 megaton warhead, 60 times the explosive force of the bomb dropped on Hiroshima.

Minuteman: The most sophisticated U.S. land-based ICBM. The Minuteman III is a MIRV.

Multiple Independent Re-entry Vehicle (MIRV): A missile system having multiple warheads, aimed at individual targets, launched by a single rocket.

North Atlantic Treaty Organization (NATO): An organization originally formed in 1949 and made up of the United States, Canada, and the Western European nations. It was created for collective defense against aggression, particularly by the Soviet Union and its allies.

Nuclear Triad: The U.S. could deliver nuclear weapons from land-based missiles, submarine-based missiles, and nuclear bombers such as the B-52, B-1, or B-2.

North American Aerospace Defense Command (NORAD): A joint U.S. and Canadian command responsible for detecting aircraft and space vehicles deemed a threat.

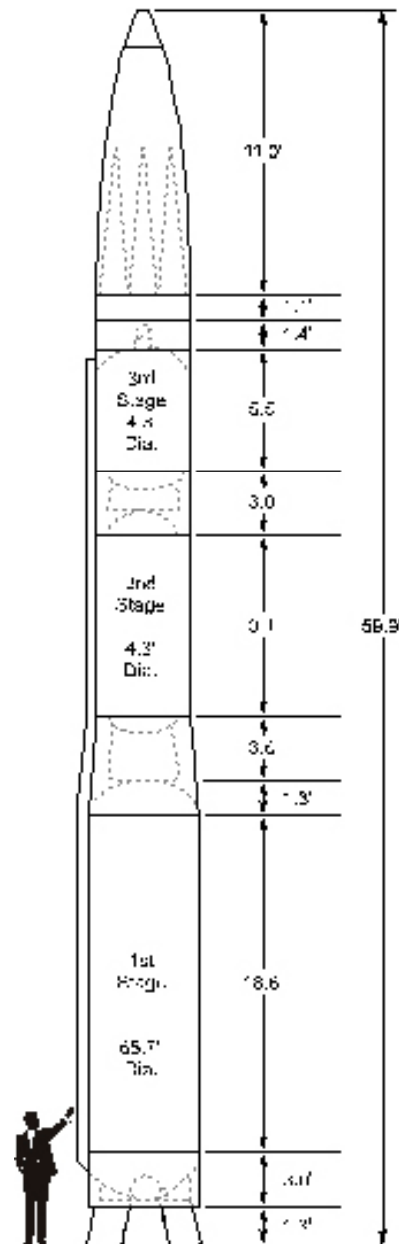
Overpressure: The number of pounds per square inch (psi) above normal atmospheric pressure exerted by the blast wave of a nuclear explosion. An overpressure exceeding 20 p.s.i. can be fatal to a human being.

Polaris, Poseidon, Trident: Ballistic missiles that were designed to be used on U.S. Navy submarines.

Roentgen: A unit used to measure gamma rays or x-rays. It is named after Wilhelm Konrad Röntgen, a German physicist who discovered x-rays in 1895.

Strategic Arms Limitations Talks (SALT): The agreements reached between the U.S. and Soviet Union for the mutual control of nuclear arms. SALT I concluded in 1972. SALT II was concluded in 1979, although it was not ratified.

Submarine Launched Ballistic Missile (SLBM): The Polaris, Poseidon, and Trident missile systems developed for use on submarines.



Minuteman III Missile

SS-18: A Soviet ICBM made from the 1960s to the 1980s.

Strategic Air Command (SAC): The U.S. Air Force command responsible for attacking an enemy's military or industrial installation, especially through nuclear attacks.

U-2: An early spy plane in the U.S. arsenal. The U-2 took the photographs of Soviet missiles in Cuba that sparked the Cuban Missile Crisis.

Warsaw Pact: The military alliance of the U.S.S.R. and the communist states of eastern Europe that was organized in opposition to NATO.

PRINCIPLE LEADERS DURING THE COLD WAR

COMMUNIST:



✠ **Joseph Stalin** — Absolute ruler, Union of Soviet Socialist Republics (1929-1953). Under his rule many Soviets had cause to hate Stalin, and much of the world feared him, but he changed the Soviet Union from an undeveloped country into one of the world's great industrial and military power. By the time he died, Communism had spread to 11 other countries.



✠ **Ho Chi Minh** — Prime minister and president, Democratic Republic of Vietnam (1946-1969). Led movement that established communist governed country. Led North Vietnamese during Vietnam war until his death.



✠ **Kim Il-Sung** — Prime minister and president, North Korea (1948-1994). Allied with the Soviet Union, North Korea attempted to unify with South Korea resulting in the Korean war (1950-1953).



✠ **Mao Tse Tung** — Chairman, People's Republic of China (1949-1976). Victor of the Chinese civil war, Mao transformed the country into a major global power through the implementation of communist policies.



✠ **Nikita Krushchev** — First secretary and premier, U.S.S.R., (1958-1964). During Krushchev's rule the first artificial satellite, *Sputnik*, was launched into orbit in 1959. Krushchev was the first Soviet leader to visit the United States.



✠ **Fidel Castro** — President, Cuba (1959-present). Led revolution that overthrew existing government and transformed Cuba into a one-party socialist republic. Antagonistic relations with United States since failed Bay of Pigs invasion in 1961.