

PROJECT

**BLUE
BOOK**

1 FEBRUARY 1966

PROJECT BLUE BOOK

The United States Air Force has the responsibility under the Department of Defense for the investigation of unidentified flying objects (UFOs). The name of this program, which has been in operation since 1948, is Project Blue Book. It has been identified in the past as Project Sign and Project Grudge.

Air Force interest in unidentified flying objects is related directly to the Air Force responsibility for the air defense of the United States. Procedures for conducting this program are established by Air Force Regulation 200-2.

The objectives of Project Blue Book are two-fold: first, to determine whether UFOs pose a threat to the security of the United States; and, second, to determine whether UFOs exhibit any unique scientific information or advanced technology which could contribute to scientific or technical research. In the course of accomplishing these objectives, Project Blue Book strives to identify and explain all UFO sightings reported to the Air Force.

HOW THE PROGRAM IS CONDUCTED

The program is conducted in three phases. The first phase includes receipt of UFO reports and initial investigation of the reports. The Air Force base nearest the location of a reported sighting is charged with the responsibility of investigating the sighting and forwarding the information to the Project Blue Book Office at Wright-Patterson Air Force Base, Ohio.

If the initial investigation does not reveal a positive identification or explanation, a second phase of more intensive analysis is conducted by the Project Blue Book Office. Each case is objectively and scientifically analyzed, and, if necessary, all of the scientific facilities available to the Air Force can be used to assist in arriving at an identification or explanation. All personnel associated with the investigation, analysis, and evaluation efforts of the project view each report with a scientific approach and an open mind.

The third phase of the program is dissemination of information concerning UFO sightings, evaluations, and statistics. This is accomplished by the Secretary of the Air Force, Office of Information.

The Air Force defines an unidentified flying object as any aerial object which the observer is unable to identify.

Reports of unfamiliar objects in the sky are submitted to the Air Force from many sources. These sources include military and civilian pilots, weather observers, amateur astronomers, business and professional men and women, and housewives, etc.

Frequently such objects as missiles, balloons, birds, kites, searchlights, aircraft navigation and anticollision beacons, jet engine exhaust, condensation trails, astronomical bodies and meteorological phenomena are mistakenly reported as unidentified flying objects.

The Air Force groups its evaluations of UFO reports under three general headings: (1) identified, (2) insufficient data, and (3) unidentified.

Identified reports are those for which sufficient specific information has been accumulated and evaluated to permit a positive identification or explanation of the object.

Reports categorized as Insufficient Data are those for which one or more elements of information essential for evaluation are missing. Some examples are the omission of the duration of the sighting, date, time, location, position in the sky, weather conditions, and the manner of appearance or disappearance. If an element is missing and there is an indication that the sighting may be of a security, scientific, technical, or public interest value, the Project Blue Book Office conducts an additional investigation and every attempt is made to obtain the information necessary for identification. However, in some instances, essential information cannot be obtained, and no further action can be taken.

The third and by far the smallest group of evaluations is categorized as Unidentified. A sighting is considered unidentified when a report apparently contains all pertinent data necessary to suggest a valid hypothesis concerning the cause or explanation of the report but the description of the object or its motion cannot be correlated with any known object or phenomena.

TYPES OF UFO IDENTIFICATIONS AND EVALUATIONS

There are various types of UFO sightings. Most common are reports of astronomical sightings, which include bright stars, planets, comets, fireballs, meteors, auroral streamers, and other celestial bodies. When observed through haze, light fog, moving clouds, or other obscurations or unusual conditions, the planets, including Venus, Jupiter, and Mars have been reported as unidentified flying objects. Stellar mirages are also a source of reports.

Satellites are another major source of UFO reports. An increase in satellites reported as UFOs has come about because of two factors. The first is the increase of interest on the part of the public; the second is the increasing number of satellites in the skies. Positive knowledge of the location of all satellites at all times enables rapid identification of satellite sightings. Keeping track of man-made objects in orbit about the earth is the responsibility of the North American Air Defense Command Space Detection and Tracking System. This sophisticated electronic system gathers complex space traffic data instantly from tracking stations all over the world.

Other space surveillance activities include the use of ballistic tracking and large telescopic cameras. ECHO schedules are prepared by the NASA Goddard Space Flight Center at Greenbelt, Maryland, and schedules of the South/North equator crossings are prepared by the Smithsonian Institution at Cambridge, Massachusetts. From the data produced by these agencies, satellites mistakenly reported as UFOs can be quickly identified. Some of these are visible to the naked eye.

Aircraft account for another major source of UFO reports, particularly during adverse weather conditions. When observed at high altitudes and at some distance, aircraft can have appearances ranging from disc to rocket shapes due to the reflection of the sun on their bright surfaces. Vapor or condensation trails from jet aircraft will sometimes appear to glow fiery red or orange when reflecting sunlight. Afterburners from jet aircraft are often reported as UFOs since they can be seen from great distances when the aircraft cannot be seen.

The Project Blue Book Office has direct contact with all elements of the Air Force and the Federal Aviation Agency civil air control centers. All aerial refueling operations and special training flights can be checked immediately. Air traffic of commercial airlines and flights of military aircraft are checked with the nearest control center, enabling an immediate evaluation of aircraft mistakenly reported as UFOs. However, since many local flights are not carried, these flights are probable causes of some reports.

Balloons continue to be reported as UFOs. Several thousand balloons are released each day from military and civilian airports, weather stations, and research activities. There are several types of balloons - weather balloons, rawinsondes, radiosondes, and the large research balloons which have diameters up to 300 feet. At night, balloons carry running lights which cause an unusual appearance when observed. Reflection of the sun on balloons at dawn and sunset sometimes produce strange effects. This usually occurs when the balloon, because of its altitudes, is exposed to the sun. Large balloons can move at speeds of over 100 miles per hour when moving in high altitude jet windstreams. These balloons sometimes appear to be flattened on top. At other times, they appear to be saucer-shaped and to have lights mounted inside the bag itself due to the sun's rays reflecting through the material of the balloon. The Balloon Control Center at Holloman Air Force Base, New Mexico, maintains a plot on all Military Upper Air Research Balloons.

Another category of UFO evaluations labeled Other includes missiles, reflections, mirages, searchlights, birds, kites, spurious radar indications, hoaxes, fireworks, and flares.

Aircraft, satellites, balloons, and the like should NOT be reported since they do not fall within the definition of an unidentified flying object.

CONCLUSIONS

To date, the firm conclusions of Project Blue Book are: (1) no unidentified flying object reported, investigated, and evaluated by the Air Force has ever given any indication of threat to our national security; (2) there has been no evidence submitted to or discovered by the Air Force that sightings categorized as unidentified represent technological developments or principles beyond the range of present day scientific knowledge; and (3) there has been no evidence indicating that sightings categorized as unidentified are extraterrestrial vehicles.

The Air Force will continue to investigate all reports of unusual aerial phenomena over the United States. The services of qualified scientists and technicians will continue to be used to investigate and analyze these reports, and periodic reports on the subject will be made.

The former Chairman of the House Armed Services Committee, Mr. Carl Vinson, recently commented on the conduct of the UFO program by the Air Force and stated that Congressional hearings on this subject are unnecessary.

The Air Force does not deny the possibility that some form of life may exist on other planets in the universe. However, to date, the Air Force has neither received nor discovered any evidence which proves the existence and intra-space mobility of extraterrestrial life. The Air Force continues to extend an open invitation to anyone who feels that he possesses any evidence of extraterrestrial vehicles operating within the earth's near space envelope to submit his evidence for analysis. Initial contact for this purpose is through the following address:

PROJECT BLUE BOOK INFORMATION OFFICE
SAFOI
WASHINGTON, D C 20330

Anyone observing what he considers to be an unidentified flying object should report it to the nearest Air Force Base. Persons submitting a UFO report to the Air Force are free to discuss any aspect of the report with anyone. The Air Force does not seek to limit discussion on such reports and does not withhold or censor any information pertaining to this unclassified program.

NON AVAILABILITY OF MATERIALS

The following items are for internal use only and are not available for distribution to the public. These concern internal management and procedures for forwarding UFO reports to the appropriate agency:

1. Air Force Regulation 200-2
2. JANAP 146

The Air Force has no films, photographs, maps, charts, or graphs of unidentified flying objects. Photographs that have been submitted for evaluation in conjunction with UFO reports have been determined to be a misinterpretation of natural or conventional objects. These objects have a positive identification.

The Air Force no longer possesses, and thus does not have for distribution, outdated reports on Project Sign, Project Grudge, Blue Book Special Report No. 14, and outdated Project Blue Book press releases. Non-military UFO publications should be requested from the publisher, not the Air Force.

SUGGESTED READING MATERIAL

Books listed below deal with facts and theories about our solar universe, the sun, planets, comets, meteorites, the universe, stars, constellations and galaxies; telescopes, the computation of time as it relates to astronomy, star maps and charts, and the history of astronomy.

SKY & TELESCOPE, by Sky Publishing Corporation, Harvard College Observatory, Cambridge, Mass. 02138. Monthly Magazine, 60 cents per copy.

WEATHER ELEMENTS, by BLAIR, published Prentice Hall. Has an excellent chapter on often mis-identified weather phenomena.

PLANETS, STARS, AND SPACE, by CHAMBERLAIN, JOSEPH M. & NICHOLSON, THOMAS D. An illustrated, non-technical explanation of the earth, planets, stars, and the universe. Prepared in co-operation with the American Museum of Natural History.

JUNIOR SCIENCE BOOK OF STARS, by CROSBY, PHOEBE. An easy-to-read, exciting story of what scientists know about the stars, planets, the moon, and the MILKY WAY.

CHALLENGE OF THE UNIVERSE, by HYNEK, J. ALLEN & ANDERSON, NORMAN. Discusses the nature of the universe; astronomy and cosmology, published by Scholastic Press.

THE STORY OF THE STARS, by MALONEY, TERRY. An introduction to the universe; our solar system, our galaxy, and other galaxies. Many interesting illustrated analogies help build concepts of size and distance. Includes references to the Van Allen radiation belts and zodiacal light observation of 1960.

THE WORLD OF FLYING SAUCERS, by MENZEL & BOYD. A scientific examination of the classic UFO reports.

THE MOON, METEORITES, AND COMETS, Dtd 1963, by MIDDLEHURST & KUIPER. Continuous analysis of Soviet moon photos. Chapter on Siberian meteorite and photos or comets computation of various comet orbital photos.

THE NATURE OF LIGHT AND COLOR IN THE OPEN AIR, by MINNAERT, Dover Publications. This is an excellent paperback written in understandable lay language.

METEORS, by OLIVIER. Standard text by foremost authority on meteors.

PHOTOGRAPHIC HISTORY OF MARS, 1905-1961, by SLIPHER, E. C., published by Lowell Observatory.

ANATOMY OF A PHENOMENON, by VALLE, JACQUES.

FIRST MAN TO THE MOON, by VON BRAUN, WERNHER.

TOTAL UFO (OBJECT) SIGHTINGS

(Compiled 17 Jan 66)

<u>YEAR</u>	<u>TOTAL SIGHTINGS</u>	<u>UNIDENTIFIED</u>	<u>SOURCE</u>
1947	122	12	Case Files
1948	156	7	Case Files
1949	186	22	Blue Book, page 108
1950	210	27	Case Files
1951	169	22	Case Files
1952	1,501	303	Blue Book, page 108
1953	509	42	Case Files
1954	487	46	Case Files
1955	545	24	Case Files
1956	670	14	Case Files
1957	1,006	14	Case Files
1958	627	10	Case Files
1959	390	12	Case Files
1960	557	14	Case Files
1961	591	13	Case Files
1962	474	15	Case Files
1963	399	14	Case Files
1964	562	19	Case Files
1965	886	16	Case Files
	<u>10,147</u>	<u>646</u>	

STATISTICAL DATA FOR YEARS 1953-1964

TOTAL CASES BY CATEGORY

(Compiled 1 Nov 65)

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	TOTAL
Astronomical	175	137	135	222	341	231	144	235	203	136	85	123	2167
Aircraft	73	80	124	148	218	106	63	66	77	68	73	71	1167
Balloon	78	63	102	93	114	58	31	22	37	19	28	20	665
Insufficient Data	79	103	95	132	191	111	65	105	115	94	59	99	1248
Other	62	58	65	61	120	93	75	94	77	65	58	88	916
Satellite	0	0	0	0	8	18	0	21	69	77	82	142	417
Unidentified	42	46	24	14	14	10	12	14	13	15	14	19	237
TOTAL	506	487	543	670	1006	627	360	557	591	474	399	562	6617

ASTRONOMICAL SIGHTINGS

Meteors	70	92	79	88	179	168	100	167	119	95	57	61	1295
Stars and Planets	101	44	52	131	144	56	40	45	78	36	23	55	805
Other	4	1	4	3	18	7	4	3	6	5	5	7	67
TOTAL	175	137	135	222	341	231	144	235	203	136	85	123	2167

OTHER CASES

Hoaxes, Hallucinations, Unreliable Reports and Psychological Causes	15	6	18	16	37	29	14	13	17	11	16	34	226
Missiles and Rockets	2	1	1	3	2	6	14	12	13	9	13	7	83
Reflections	4	6	4	3	2	7	11	9	3	3	0	2	54
Flares and Fireworks	1	4	8	6	8	3	5	7	4	3	3	7	59
Mirages and Inversions	3	2	4	1	5	2	4	5	6	3	0	2	37
Search and Groundlights	9	6	14	9	12	8	5	6	1	3	2	6	81
Clouds and Contrails	6	3	2	1	9	5	3	4	5	4	5	0	47
Chaff	0	2	0	1	2	6	1	4	3	5	2	1	27
Birds	4	7	2	6	1	1	0	3	2	2	2	4	34
Radar Analysis	15	7	1	8	27	3	8	6	9	0	1	2	87
Photo Analysis	1	1	2	4	1	7	4	6	3	2	3	6	40
Physical Specimens	1	6	5	3	5	10	3	7	4	15	3	8	70
Satellite Decay	0	0	0	0	0	1	0	9	3	3	4	3	23
Other	1	7	4	0	9	5	3	3	4	2	4	6	48
TOTAL	62	58	65	61	120	93	75	64	77	65	58	88	916

STATISTICS FOR 1965

(Compiled 18 Jan 1966)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ASTRONOMICAL	10	8	11	4	2	10	27	82	30	27	22	12	245
AIRCRAFT	11	8	14	11	14	7	32	61	20	13	14	5	210
BALLOON	3	2	1	3	0	3	7	6	2	7	0	2	38
INSUFFICIENT DATA	5	4	2	4	4	2	16	24	15	5	3	1	85
OTHER	11	8	7	8	5	6	9	42	7	9	11	3	128
SATELLITE	4	5	5	5	15	5	42	41	24	3	0	3	152
UNIDENTIFIED	1	0	2	1	1	0	2	4	4	0	1	0	16
PENDING	0	0	1	0	0	0	0	2	2	6	4	2	17
TOTAL	45	35	43	38	41	33	135	262	104	70	55	28	887

ASTRONOMICAL CASES

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Meteors	6	6	8	2	2	4	14	26	13	6	9	5	101
Stars and Planets	3	1	3	2	0	5	10	55	16	20	13	7	135
Other	1a	1b	0	0	0	1c	3d	1e	1a	1f	0	0	9
TOTAL	10	8	11	4	2	10	27	82	30	27	22	12	245

(a) Solar Image (b) Moon (c) Sun (d) Reflected Moonlight, Parhelia, Moon (e) Reflected Moonlight (f) Comet Ikeya-Seki

OTHER CATEGORY

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Hoaxes, Hallucinations, Unreliable Reports and Psychological Causes	5	3	4	1	2	1	2	12	1	3	0	0	34
Missiles and Rockets					1			3	1	1	3	1	10
Reflections						1	1	2	1	1	1		7
Flares and Fireworks					1		1	1			1		4
Mirages and Inversions							2	3					5
Search and Ground Lights	2	1	0	1	0	0	1	2	0	0	2	0	9
Clouds and Contrails	1							1	1				3
Chaff												1	1
Birds	1	2		2				3	1	1	1		11
Physical Specimens		1c						1r	1w				3
Radar Analysis				1e		1g		3gmn		1m			6
Photo Analysis			2dl		1d	1j	2kj	5x	1j				12
Satellite Decay	0	1	1	1	0	1	0	2	0	1	0	1	8
Miscellaneous	2ab			2bf		1h		4sbbb		1h	3tuv		13
TOTAL	11	8	7	8	5	6	9	42	7	9	11	3	128

(a) Tracer Bullets (b) Misinterpretation of Conventional Objects (c) Metal Ball (d) Developer Smear (e) Anomalous Propagation (f) Kites (g) Electronic Counter Measures (h) Debris in Wind (j) No Image on Film (k) Poor Photo Process (l) Free Falling Object (m) False Targets (n) Weather Returns (p) Emulsion Flaws (r) Plastic Bags (s) Man on Ground (t) Lightning (u) Chemical Trails from Research Rocket (v) Missile Launch Activity (w) Gourd

FIREBALL REPORT

Persons observing a fireball or meteor should report the information to the American Meteor Society. The information desired is contained below.

A very brilliant meteor or fireball is reported to have passed in your vicinity on at the hour of Will you please answer as fully as possible the following questions, which are asked on behalf of the American Meteor Society in order that permanent records of such phenomena may be obtained. When these reports are published each contributor whose report is fairly complete will be mentioned, if

possible, and due credit given. It is only by the help of those who can give personal information that data can be secured for the computation of the orbits of meteors. These data are of great scientific value and all reasonable efforts should be made to obtain them. You will be unable probably to answer all questions below, but answer those you can, as they may be of the greatest importance.

- (1) Give your name and address.
 - (2) Where were you when you saw the meteor? (If the town is small please give county as well.)
 - (3) Give the date, hour and minute when the meteor appeared; also kind of time used.
 - (4) In what direction did it appear (or in what direction was it first seen)? This is not asking in what direction it was going!
 - (5) In what direction did it disappear (or in what direction was it last seen)? For questions 4 and 5, simply N, E, S, or W is not accurate enough, unless these were the exact directions. If compass is used, state it; also if magnetic correction has been applied to compass reading.
 - (6) At what height did it appear? (Use degrees in answering.)
 - (7) At what height did it disappear? (Use degrees in answering.)
 - (8) Did it pass directly overhead (i.e., through the zenith)?
 - (9) If not, to which side of the zenith did it go, and how far from it? (Use degrees in answering.)
 - (10) Did it appear to reach the horizon? What sort of a horizon have you?
 - (11) What angle did the path of the meteor make with the horizon and in which direction was it then going?
 - (12) If you are familiar with constellations describe the path of the meteor through the sky with reference to stars.
 - (13) Did the meteor appear to explode?
 - (14) What was the duration of its flight in seconds?
 - (15) Describe the train if one was left. If it lasted long enough to show drift, most carefully tell in what direction train drifted. Give sketch, if possible, showing this with regard to horizon.
 - (16) What was the duration of the train in seconds?
 - (17) Did you hear any sound? How long after seeing the meteor was it before you heard this sound?
- Did you hear an actual explosion? How long after seeing the explosion was it before you heard it?
- (18) Of what color was the meteor?
 - (19) What was the size of the meteor? (Compare it with the Moon or with a planet or star.)
 - (20) Was more than one body seen before the explosion (if any)?
 - (21) What was condition of sky at time?
 - (22) Give names and addresses of others who saw the meteor.
 - (23) Please mail this reply to

Charles P. Oliver
AMERICAN METEOR SOCIETY
521 N. Wynnewood Ave
Narberth, Pennsylvania 19072