

# Analysis of 8,260 UFO Sightings

A STUDY OF CASES REPORTED TO THE U.S. AIR FORCE

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All available Air Force summaries of UFO cases have been punched into computer cards for convenient information retrieval. The present article provides some elementary frequency tables giving the number of sightings in each category of interpretation used by the U.S. Air Force as a function of time of year, population density and other parameters for every geographic area. This analysis leads to the observation of several simple laws.

THE STATISTICS presented here are a by-product of a computer-based study of geographic patterns related to the UFO Phenomenon. In the course of this study it was convenient to convert the totality of the U.S. Air Force statistics into machine-readable form. As readers may not be aware of the current state of the problem, a few words of introduction may be helpful before these statistics are discussed.

In spite of frequent rumours to the contrary, neither Project Blue Book nor the Condon Committee at the University of Colorado is in a position to produce historical and background statistics from the existing records of UFO observations. A popular magazine article published in 1966 and inspired by the Air Force made reference to Blue Book and "its big automated filing system" implying that the Air Force could retrieve essential parameters of sightings from its files by automatic means. This is definitely a false statement.

Yet such a system would obviously be a vital part of any serious study of UFOs. All sciences of observation rely on extensive archives of carefully recorded data; as a special case of aerial phenomena, UFO events can be dealt with in the same manner. The methods of meteorology, in particular, would seem to be applicable; they involve the recording of reported events over as broad a time-basis as possible, and reduction of the resulting catalogues to a form suitable for analysis. Certainly, a purely statistical study of a phenomenon as elusive as the UFO has no value in itself, but it is indispensable as a support for any serious (passive or active) physical investigation of the phenomena involved.

The feasibility of such a system, on the other hand, is clear since the following parameters are available for every UFO sighting which is officially recorded by American military authorities:

- (1) Date of sighting.
- (2) Location of sighting.
- (3) Country, state or geographic area.
- (4) Military classification.
- (5) Names of witnesses.
- (6) Result of investigation.
- (7) Special comments for radar, photo or physical specimen.

In the course of our study of the files, it was natural to construct an index containing these seven pieces of

data for all officially-reported sightings. If we take into account the fact that Blue Book historical records are somewhat incomplete, we find that information can be obtained for 8,260 reports sent to the U.S. Air Force by military or civilian observers between 1942 and 1965. All these data were punched into cards in a routine fashion after a standard format had been defined. A digital computer was then programmed to give some preliminary statistical tables. To present these tables is the purpose of the article.

\* \* \*

Out of 8,260 reports examined, 8,084 gave precise date and geographic location. One hundred and ninety-four (roughly one in every forty) included photographs. Of these, eight (including the Drury photographs taken in Port Moresby, New Guinea, on August 23, 1953) were classified. Two hundred and twenty-five were radar cases, of which sixteen were unidentified and forty-eight classified. For the record, it may be useful to list these unidentified radar cases:

1	15 October	1948	Kyushu, Japan	
2	27 March	1950	Motubu, Okinawa, Japan	
3	24 August	1950	Bermuda	
4	21 September	1950	Provincetown, Massachusetts	
5	13 September	1951	Goose AFB, Labrador	
6	28 January	1953	Albany, Georgia	
7	3 February	1953	Iceland	Classified case
8	17 February	1953	Fort Austin, Michigan	Classified case
9	24 June	1953	Iwo Jima	
10	5 August	1953	Bismarck	
11	28 September	1953	Palmdale, California	
12	20 March	1955	Tokyo, Japan	Classified case
13	12 February	1956	Goose Bay, Labrador	
14	18 October	1956	Wheeler AFB, Libya	Classified case
15	3 June	1957	Shreveport, Louisiana	
16	25 July	1957	Niagara Falls, N.Y.	

Table I  
List of radar sightings listed as "Unidentified". Air Force files

In order to analyse the bulk of the files we proceeded as follows:

(1) We took the Air Force's interpretation at face value. In the table above, the time distribution of the sightings is such as to arouse certain suspicions—to say the least—concerning the methods used by the Air Force to arrive at their conclusion. The fact that no unidentified radar case appears after 1957 is the consequence of a selection effect, and it is precisely in recognising such biases that our retrieval system can be useful.

(2) Sightings were organised for clarity into four categories of interpretation:

- (a) Man-made objects (aircraft, balloon, satellite).
- (b) Astronomical (meteors, Venus, total astro.).
- (c) Varia ("Other", "Pending", "Insufficient").
- (d) Unknown.

(3) Statistics were first compiled over weekly intervals for fine detail.

For every year the weekly number of cases of each category was displayed as shown in Table II (year 1964). From these tables certain observations can be made immediately: as could be expected, aircraft mis-identifications are most frequent during summertime, while satellites peak in late July and early August. The conditions of maximum brightness for Venus are not seasonally linked, of course. Meteors, on the other hand, are reported in all periods.

YEAR 1964—RAW DATA

Month Week	Man-made			Astronomical			Varia			Unknown	Week Total
	Plane	Balloon	Satellite	Meteor	Venus	Total	Other	Insufficient	Pending		
January	1			2		2		2			4
	2										0
	3		2		1	1		1			4
	4	1	1	3		3	1	2			8
February	1		2	3	1	4					6
	2	3					2	2			7
	3		3	2		2		1			6
	4			2		3	2	1			6
March	1		1		2	2		1			5
	2	2	1		2	1		1			6
	3		1	1	1	2	1	2			6
	4				1	1					2
April	1	1	2	2		2	1			1	7
	2		2					3		1	9
	3	2	3		1	1	3	2			9
	4	2	1	2		4	6	1		1	15
May	1	2	1	5		4	5	2			16
	2	1	1	2		1	2	3		1	11
	3	9	9	2	3	5	3	7		1	34
	4	1	1	3	3	1	4	4	1	1	19
June	1	4		1		3	1	1			9
	2	2		1			5	1		1	10
	3	1					1	5			7
	4	2	1	2	1	1	1	1			7
July	1	5		2		2	1	4	1		13
	2	1	2	4		3	3	2			15
	3	2	3	12	3	1	4	4		2	30
	4	4	3	21	1	3	3	4		2	40
August	1	3	1	13	3	1	6	5			28
	2	2		6	2		4	4		4	20
	3	2	1	5	2		4	2		1	18
	4	4		5	1		6	1		1	16
September	1		1	4	2		6	3			18
	2			1	1		3	2		1	7
	3	2		1		1	1	2			6
	4	1			1		1	2			4
October	1	1		1		1	3	1			6
	2	1		1		1	1	2			3
	3		1	1		1	1	2			6
	4		2	1		1	4	2			9
November	1		1	3	4		5	1			13
	2	1		2	1		1	3		1	7
	3	3		7	2		2	1		1	17
	4		1	3	1		1	4			9
December	1		2	1		2		1		1	6
	2					1		1			2
	3		1				3				4
	4		1			1					2
Total	63	20	134	52	24	106	75	92	4	18	512

Table II

Next, we compute for each year the contribution of every weekly interval. Here we find that seasonal effects do not play an important rôle, although the majority of the sample is made up of North American sightings. The curves (which cannot be shown here for lack of space) do not exhibit any striking feature typical of

sociological phenomena or climatic effects: in other words, if plotted in the same manner, the number of racial riots, of hospitalisations for broken legs, or the sales of paperback books about hunting and fishing, would behave quite differently. On the other hand, the number of reports is often seen to rise suddenly (this is true in 1950, 51, 52, 53, 57, 60, 64, 65) and then to decay more or less exponentially. The interesting fact is that sudden variations of the number of reports are not linked to season or to obvious causes such as the meteoric activity. For that matter, the number of meteors reported to the Air Force as UFOs is not linked to meteoric activity either, in direct contradiction to Air Force doctrine! Especially interesting is the fact that the 1954 wave cannot be detected from these data: this gives perhaps a measure of the lack of representativity of the Air Force data when discussing the phenomenon as a whole.

Finally, it is interesting to break down these figures further according to geographic area. Out of 8,260 cases studied, 6,743 were U.S. cases and the remaining 1,517 were distributed as follows:

STATISTICS BY COUNTRY—RAW DATA

	A/C	Bal.	Sat.	Met.	Ven.	Ast.	Oth.	Ins.	Pen.	Uni.	Total
Pacific Ocean ...	21	6	156	90	1	94	30	67	0	9	383
Japan ...	8	10	8	33	7	48	19	16	0	14	123
Far East and Indonesia ...	14	14	19	24	2	30	12	22	5	7	123
Mediterranean Area ...	5	9	7	14	0	15	3	17	0	4	60
Germany ...	6	8	2	20	1	24	8	15	0	2	65
Communist Countries ...	5	1	1	3	2	5	8	11	0	0	31
British Isles ...	5	3	0	8	1	10	7	10	0	2	37
Scandinavia ...	2	0	1	16	0	17	6	4	0	1	31
Atlantic Ocean ...	8	9	35	58	6	70	34	44	1	10	211
Canada ...	7	7	6	25	2	37	7	13	0	3	80
Greenland, Labrador, Newland ...	13	9	1	27	4	40	17	12	1	7	100
Middle East and India ...	9	3	2	37	2	39	16	19	1	11	100
Other Locations ...	6	3	3	17	1	26	7	22	0	3	70
Latin America ...	3	2	10	18	5	25	19	39	1	4	103
Total	112	84	251	390	34	480	193	311	9	77	1517

STATISTICS BY COUNTRY—PERCENTAGES

	A/C	Bal.	Sat.	Met.	Ven.	Ast.	Oth.	Ins.	Pen.	Uni.	Total
Pacific Ocean ...	5	2	41	23	0	25	8	17	0	2	100
Japan ...	7	8	7	27	6	39	15	13	0	11	100
Far East and Indonesia ...	11	11	15	20	2	24	10	18	4	6	100
Mediterranean Area ...	8	15	12	23	0	25	5	28	0	7	100
Germany ...	9	12	3	31	2	37	12	23	0	3	100
Communist Countries ...	16	3	3	10	6	16	26	35	0	0	100
British Isles ...	14	8	0	22	3	27	19	27	0	5	100
Scandinavia ...	6	0	3	52	0	55	19	13	0	3	100
Atlantic Ocean ...	4	4	17	27	3	33	16	21	0	5	100
Canada ...	9	9	8	31	3	46	9	16	0	4	100
Greenland, Labrador, Newland ...	13	9	1	27	4	40	17	12	1	7	100
Middle East and India ...	9	3	2	37	2	39	16	19	1	11	100
Other Locations ...	9	4	4	24	1	37	10	31	0	4	100
Latin America ...	3	2	10	17	5	24	18	38	1	4	100
Total	7	6	17	26	2	32	13	21	1	5	100

Table III

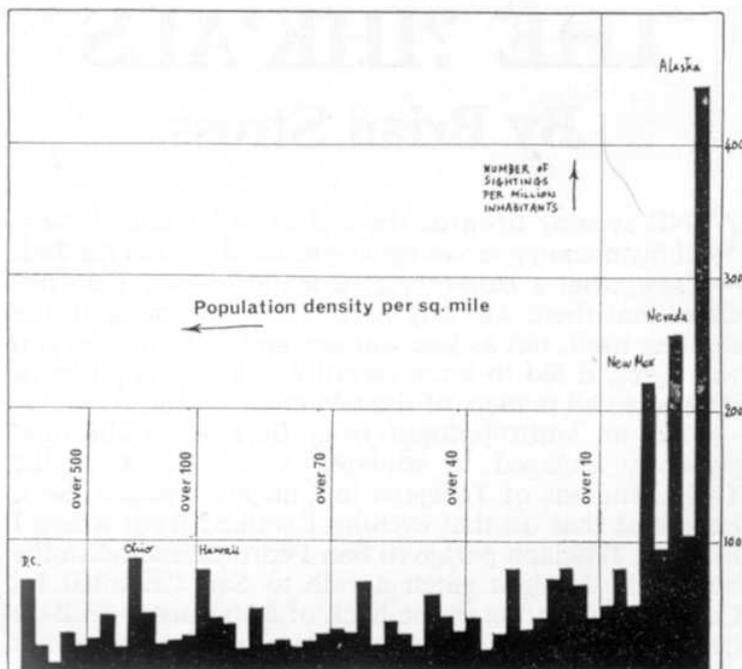
It will be noted that roughly half of the non-U.S. sightings were made over the oceans and that the eastern

regions (Middle East, India, Japan) have the highest proportion of unidentified cases.

When using these figures, the reader should keep in mind that the category "astronomical" includes the categories "Meteors" and "Venus" as well as miscellaneous interpretations which are not detailed. The figures listed in the "Total" column are indeed the total numbers of sightings, not the sums of all the other columns. The same applies, of course, in the computation of percentages, since the astronomical categories overlap.

Taking all U.S. cases and breaking the statistics in a state-by-state analysis, we can compute the contribution of each state for each category of interpretation, then study this as a function of area, population and population density. We also derived tables giving the number of sightings per million inhabitants and per 10,000 square miles for each state. These figures were broken according to categories of interpretation. The resulting tables are too extensive to be published here, but they may be the occasion of a separate publication when their analysis is completed. Generally speaking, these figures support the hypothesis that the UFO Phenomenon (as defined by the Air Force) is not correlated with population alone but varies very strikingly with population density. More precisely, the number of reported UFO sightings per million people in American states rises very rapidly when population density decreases.

Thus it would appear that the proportion of UFO witnesses is higher in low-population areas: States like New York, Massachusetts, Illinois or California are the biggest contributors in actual number of reports, but their populations include only about thirty reporters



per million. (Exact figures for these states are 24, 31, 22 and 40 respectively.) In states like New Mexico (population density = 8 inhab/sq. mile), Nevada or Wyoming (both of density 3) the Air Force has recorded, respectively, 221, 256 and 103 witnesses per million people.

This is a new confirmation of the "rural" character of the UFO Phenomenon, an outstanding fact we have noted several times when dealing with the 1954 wave in Europe. Here we find this effect confirmed on a sample whose dimension precludes the possibility of superficial chance variations.

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