

CHAPTER SEVEN

NASA PERSONNEL

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Introduction

From 1979 to 1988, NASA's civil service workforce underwent no major changes. The number of civil servants (both permanent and temporary) dropped by a total of 537, a 2.2-percent decrease. The permanent civil service workforce decreased by 2.8 percent. The major change was in the size of the contractor workforce, which grew by 9,449 people between 1979 and 1988, an increase of 47.4 percent. Combined with the reduction in the civil service workforce, NASA experienced a total growth of 20.6 percent from 1979 to 1988, from 43,312 people in 1979 to 52,224 in 1988 (Figure 7-1). Kennedy Space Center, the National Space Technology Laboratories, and NASA Headquarters were the only NASA installations that grew in permanent civil service workforce size.

The composition of the workforce shifted toward a more professional makeup (Figure 7-2). The proportion of scientists and engineers and professional administrative personnel increased, and the proportion of staff in the other occupational codes decreased. The educational level of the workforce also increased. More NASA staff had college degrees, and fewer had only high school education (Figure 7-3).

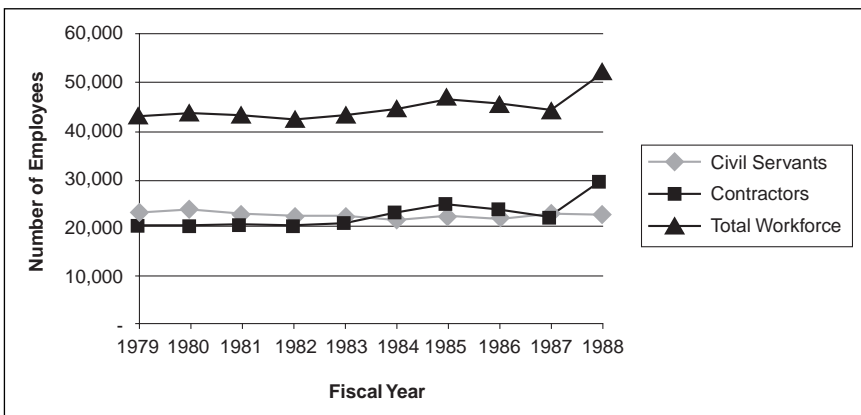


Figure 7-1. Civil Service, Contractor, and Total Workforce Trend (at end of fiscal year)

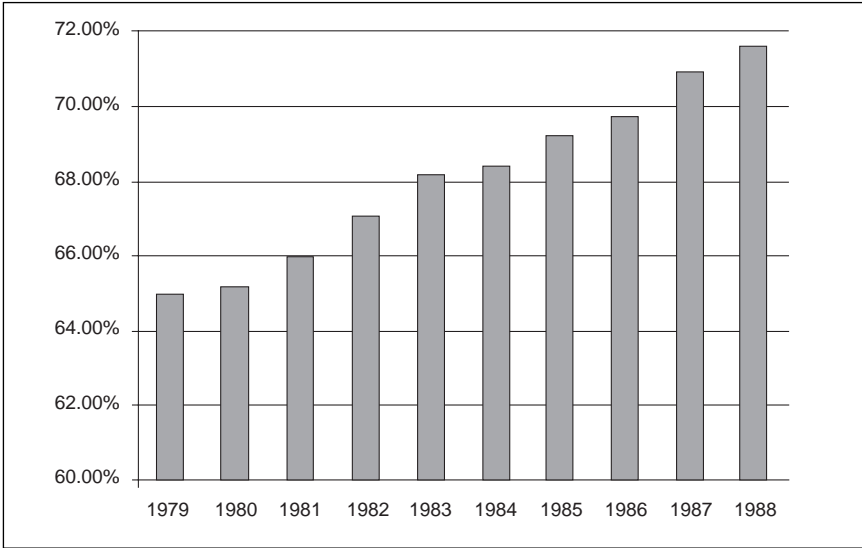


Figure 7-2. Growth in Professional Occupational Groups From 1979 to 1988 (Occupational Groups 600, 700, and 900)

In 1978, the federal government established the Senior Executive Service (SES) as part of the Civil Service Reform Act of 1978. In July 1979, NASA converted 465 of its executives into the newly established SES. Of the 465, 425 were converted from NASA Excepted, Public Law 313, or Executive Pay Act positions and forty from General Schedule (GS) positions (see Tables 7-12 and 7-13).

Salaries increased each year. In general, the annual increase was between 2.5 percent and 5.5 percent. However, salaries in FY 1981 grew by more than 9.7 percent, perhaps reflecting campaign promises made by the newly installed President Reagan. FY 1986 saw smaller than average salary increases, in line with an effort to curb federal spending (see Figure 7-4).

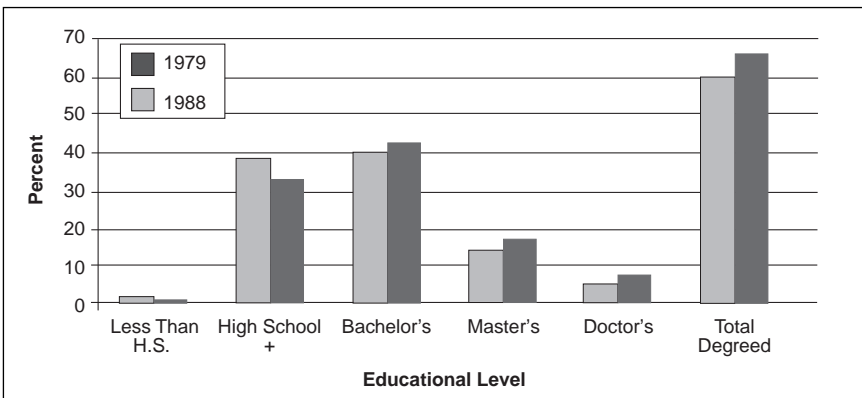


Figure 7-3. Comparison of Percentage of Educational Levels of Permanent Employees (1979 and 1988)

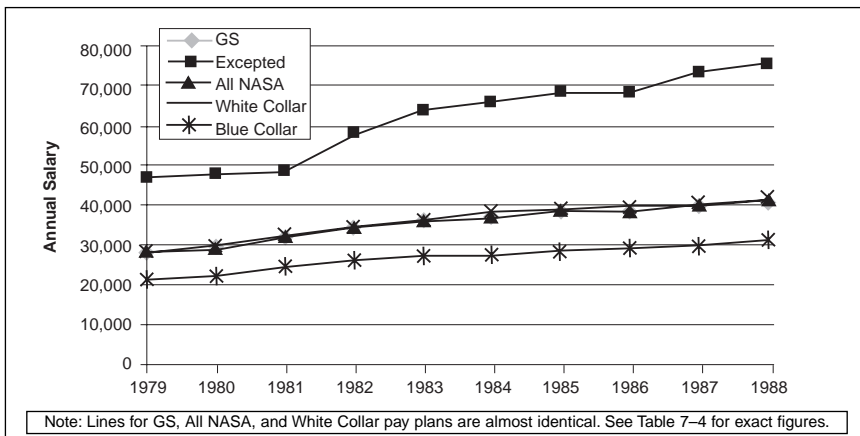


Figure 7-4. Average Salary Trends of Permanent Employees by Pay Plan

NASA’s workforce became more diverse during the decade. The number of minority employees grew by more than 1,000 people, from 9.7 percent of the total permanent workforce in 1979 to 14.3 percent at the end of FY 1988 (Figure 7-5). This held for all racial categories, in all occupational codes, at all NASA installations, and in all grades. However, the average grade for minorities in all occupational categories still remained below the average grade for nonminority employees, although the size of the gap between the two groups decreased.

The number of women also grew by more than 1,500 during this period. The proportion of women in the permanent NASA workforce increased from 19.6 percent in FY 1979 to 27.4 percent in FY 1988 (Figure 7-6). This increase was for all occupational code groups, at all NASA installations, and in all grades. Women were, however, concentrated in the lower grades. They comprised approximately 90 percent of GS-1-6 employees but only 30 percent of GS-7-12 employees, 4 percent of GS-13-15 employees, and 3 percent of supergrade and excepted employees. Within each occupational code group, the average grade held by women remained lower than the average grade held by males, but the gap between the two groups decreased in size during the decade.

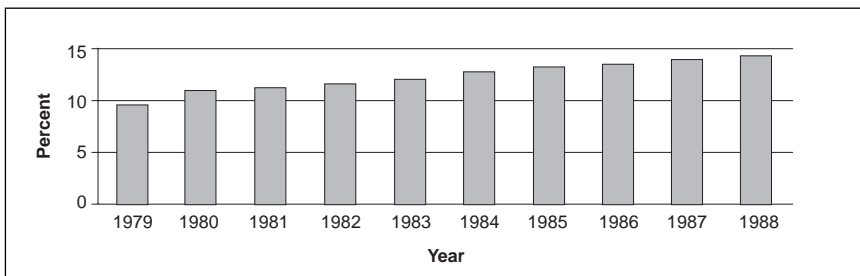


Figure 7-5. Growth in Minority Employment as a Percentage of NASA Total Employees (1979-1988)

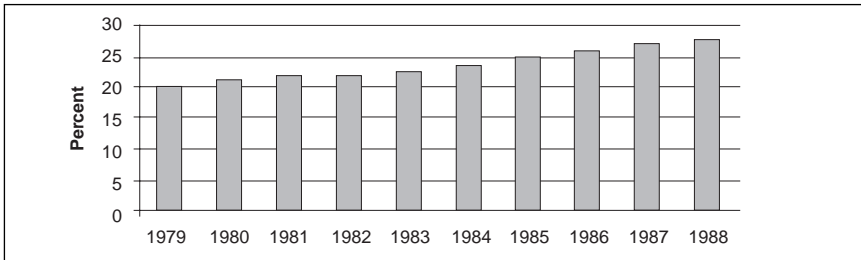


Figure 7-6. Growth in Percentage of Female Permanent Employees (1979-1988)

The average age of the workforce remained approximately the same during the ten-year period.

The information in the tables of this chapter (Tables 7-1 through 7-29) comes from *Civil Service Work Force: A Report to Management*, which is published each year by NASA's Personnel and General Management Office. The reader should note that beginning with FY 1982, figures for Dryden Flight Research Center are included with the Ames Research Center figures, and the Wallops Flight Center figures are included with the Goddard Space Flight Center figures, reflecting the two center consolidations.

Definition of Terms

The following terms are used when discussing NASA personnel.

Occupational Code Groups

NASA organized its jobs into the following principal job groups:

- 100—Wage System (Trade and Labor Positions): includes trade, craft, and general laboring positions (nonsupervisory, leader, and supervisory), compensated on the basis of prevailing locality wage rates.
- 200—Support Engineering and Related Positions: includes professional physical science, engineering, and mathematician positions in work situations not identified with aerospace technology.
- 300—Technical Support Positions: includes scientific and engineering aid, technician, drafting, photography, illustrating, salaried shop superintendents, quality assurance specialist production planning, and inspecting positions.
- 500—Clerical and Non-Professional Administrative Positions: includes secretarial, specialized and general clerical, and administrative specialist positions, the qualification requirements for which are clerical training and experience or specialized nonprofessional experience in supply, fiscal, procurement, and similar or related activities.

- 600—Professional Administrative Positions: includes professional management positions in research and development administration in such activities as financial management, contracting, personnel security, administration, law, public affairs, and the like for which a college degree, or the equivalent, and specialized training and experience are required.
- 700—Aero-Space Technology (AST) Scientific and Engineering Positions: includes professional scientific and engineering positions requiring AST qualifications, as well as professional positions engaged in aerospace research, development, operations, and related work, including the development and operation of specialized facilities and support equipment.
- 900—Life Science Support Positions: includes life science professional positions not requiring AST qualifications, as well as medical officers and other positions performing professional work in psychology, the biological sciences, and professions that support the science of medicine, such as nursing and medical technology.
- Professional Staff: includes all Group 200, 600, 700, and 900 positions.
- Support Staff: includes all Group 100, 300, and 500 positions.

Pay Grade

Civil service positions were classified in a variety of pay plans and grades based on the complexity, difficulty, and level of responsibility. The most common pay plan was the GS, which consisted of fifteen pay grades from GS-1 at the low end to GS-15. GS-16–18 were classified as supergrades. NASA also used the Senior Executive Schedule and various Federal Wage System pay plans.

Table 7-1. Total NASA Workforce (at end of fiscal year)

Personnel	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Civil Service	23,360	22,470	22,736	22,310	22,534	21,870	22,316	21,960	22,646	22,823
Permanent	22,633	21,613	21,844	21,186	21,505	21,050	21,423	21,228	21,831	21,991
Other	727	857	892	1,124	1,029	820	893	732	815	832
Contractor	19,952	20,294	21,700	20,089	20,662	22,865	24,468	23,687	21,733	29,401
Total	43,312	43,764	44,436	42,399	43,196	44,735	46,784	45,647	44,379	52,224
Net Change,										
Permanent Only	-536	-20	-769	-658	319	-455	373	-195	603	160
Percentage Change,										
Permanent Only	-2.2	<i>a</i>	-3.4	-3.1	1.5	-2.1	1.8	-0.9	2.8	0.7

a Less than 0.05 percent.

Table 7-2. Accessions and Separations of Permanent Employees

Activity of Employee	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Accessions	1,366	2,325	1,150	959	1,519	1,119	1,984	1,415	2,036	1,761
Separations	1,908	2,363	1,925	1,616	1,251	1,574	1,602	1,600	1,428	1,590
Net Accessions	-542	-38	-775	-657	286	-455	382	-185	608	171
Percentage Change	-2.3	<i>a</i>	-3.4	-3.0	1.3	-2.1	1.8	-0.9	2.9	0.8

a Less than 0.05 percent.

Table 7-3. Permanent Employees by NASA Occupational Code Group: Number on Board
(at end of fiscal year; percentage of NASA total in parentheses)

Occupational Code Group	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
200, 700, 900 (Scientists/Engineers)	11,284 (49.7)	11,210 (49.6)	10,923 (50.0)	10,746 (50.7)	11,094 (51.6)	10,879 (51.7)	11,144 (52.0)	11,147 (52.5)	11,679 (53.5)	11,866 (54.0)
300 (Technical Support)	3,306 (14.6)	3,134 (13.9)	2,968 (13.6)	2,764 (13.0)	2,631 (12.2)	2,550 (12.1)	2,475 (11.6)	2,400 (11.3)	2,342 (10.7)	2,372 (10.8)
600 (Professional Admin.)	3,421 (15.1)	3,539 (15.7)	3,495 (16.0)	3,462 (16.3)	3,562 (16.6)	3,518 (16.7)	3,675 (17.2)	3,656 (17.2)	2,803 (17.4)	3,881 (17.6)
500 (Clerical)	3,228 (14.3)	3,292 (14.6)	3,098 (14.2)	2,905 (13.7)	2,889 (13.4)	2,850 (13.5)	2,880 (13.4)	2,810 (13.2)	2,854 (13.1)	2,801 (12.7)
100 (Trades/Labor)	1,394 (6.2)	1,438 (6.4)	1,360 (6.2)	1,309 (6.2)	1,329 (6.2)	1,253 (6.0)	1,249 (5.8)	1,215 (5.7)	1,153 (5.3)	1,071 (4.9)
Total Professional	14,705 (65.0)	14,749 (65.2)	14,418 (66.0)	14,208 (67.1)	14,656 (68.2)	14,397 (68.4)	14,819 (69.2)	14,803 (69.7)	15,482 (70.9)	15,747 (71.6)
Total	22,597	22,613	21,844	23,186	21,505	21,050	21,423	21,228	20,849	21,991

*Table 7-4. Average Annual Salaries of Permanent Employees by Pay Plan
(at end of fiscal year; percentage increase from previous year in parentheses)*

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
GS	27,910 (5.2)	29,382 (5.3)	32,108 (9.3)	34,283 (6.8)	35,754 (4.3)	37,287 (4.3)	38,443 (3.1)	38,624 (0.5)	39,805 (3.1)	40,942 (2.9)
Excepted	47,167 (1.0)	47,715 (1.2)	48,602 (1.9)	58,106 (19.6)	63,790 (9.8)	66,040 (3.5)	68,198 (3.3)	68,127 (-0.1)	73,438 (7.8)	75,583 (2.9)
Total White Collar	28,328 (5.3)	29,776 (5.1)	32,460 (9.0)	34,819 (7.3)	36,392 (4.5)	38,000 (4.4)	39,137 (3.0)	33,337 (2.1)	40,576 (3.1)	41,728 (2.8)
Total Blue Collar	21,236 (4.4)	22,173 (4.4)	24,419 (10.1)	25,501 (4.4)	26,901 (5.5)	27,533 (2.3)	28,454 (3.3)	29,170 (2.5)	29,789 (2.1)	30,887 (3.7)
All NASA	27,891 (5.3)	29,293 (5.0)	31,959 (9.1)	34,243 (7.1)	35,795 (4.5)	37,377 (4.4)	38,544 (3.1)	38,755 (0.5)	40,006 (3.2)	41,200 (3.0)

Table 7-5. Educational Profile of Permanent Employees: Number on Board (at end of fiscal year)

Educational Level	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Less High School	523	450	395	340	310	274	243	204	177	160
High School Plus	8,667	8,619	8,236	7,838	7,713	7,505	7,531	7,336	7,331	7,260
Bachelor's	9,014	8,987	8,717	8,538	8,735	8,563	8,824	8,779	9,152	9,278
Master's	3,243	3,314	3,265	3,238	3,401	3,354	3,420	3,460	3,651	3,739
Doctoral	1,186	1,243	1,231	1,232	1,346	1,354	1,405	1,446	1,520	1,554
Total Degreed Employees	13,443	13,544	13,213	13,008	13,482	13,271	13,649	13,685	14,323	14,571

Table 7-6. Educational Profile of Permanent Employees: Percentage (at end of fiscal year)

Educational Level	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Less High School	1.7	2.0	1.8	1.6	1.4	1.3	1.1	1.0	0.8	0.7
High School Plus	38.3	38.1	37.7	37.0	35.9	35.7	35.2	34.6	33.6	33.0
Bachelor's	39.8	39.7	39.9	40.3	40.6	40.7	41.2	41.4	41.9	42.2
Master's	14.3	14.7	14.9	15.3	15.8	15.9	16.0	16.3	16.7	17.0
Doctoral	5.2	5.5	5.6	5.8	6.3	6.4	6.6	6.8	7.0	7.1
Total Degreed Employees	59.4	59.9	60.5	61.4	62.7	63.0	63.7	64.5	65.6	66.3

Table 7-7. Paid Employees by NASA Installation: Number on Board (Permanent and Other)
(at end of fiscal year)

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	1,713	1,713	1,652	2,164	2,138	2,145	2,159	2,153	2,161	2,169
Dryden Flight Research Center <i>a</i>	498	499	491	—	—	—	—	—	—	—
Goddard Space Flight Center	3,562	3,535	3,431	3,746	3,794	3,647	3,738	3,785	3,746	3,727
Johnson Space Center	3,563	3,616	3,498	3,445	3,411	3,352	3,449	3,362	3,463	3,498
Kennedy Space Center	2,264	2,291	2,224	2,199	2,180	2,131	2,165	2,120	2,278	2,330
Langley Research Center	3,125	3,094	3,028	2,916	3,032	2,952	2,949	2,932	2,979	2,966
Lewis Research Center	2,907	2,901	2,782	2,667	2,751	2,702	2,782	2,642	2,716	2,716
Marshall Space Flight Center	3,677	3,646	3,479	3,440	3,464	3,286	3,386	3,361	3,478	3,429
National Space Technology Laboratories <i>b</i>	108	111	113	119	128	129	135	137	147	159
Wallops Flight Center (Facility) <i>c</i>	409	406	400	—	—	—	—	—	—	—
NASA Headquarters	1,534	1,658	1,638	1,614	1,636	1,526	1,553	1,468	1,648	1,829
Total	23,360	23,470	22,736	22,310	22,534	21,870	22,316	21,960	22,646	22,823

a Included with totals of Ames Research Center beginning in FY 1982.

b Renamed Stennis Space Center in 1988.

c Included with totals of Goddard Space Flight Center beginning in FY 1982.

Table 7-8. Paid Employees by NASA Installation: Percentage of NASA Total
(at end of fiscal year)

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	7.3	7.3	7.3	9.7	9.5	9.8	9.7	9.8	9.5	9.5
Dryden Flight Research Center	2.1	2.1	2.2	—	—	—	—	—	—	—
Goddard Space Flight Center	15.3	14.6	15.1	16.8	16.6	16.7	16.8	17.2	16.5	16.3
Johnson Space Center	15.3	15.4	15.4	15.4	15.2	15.3	15.5	15.3	15.3	15.3
Kennedy Space Center	9.7	9.8	9.8	9.9	9.7	9.7	9.7	9.7	10.1	10.2
Langley Research Center	13.5	13.2	13.3	13.6	13.5	13.5	13.2	13.4	13.2	13.0
Lewis Research Center	12.4	12.4	12.2	12.0	12.2	12.4	12.5	12.0	12.0	11.9
Marshall Space Flight Center	15.7	15.5	15.3	15.4	15.4	15.0	15.2	15.3	15.4	15.0
National Space Technology Laboratories	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7
Wallops Flight Center (Facility)	1.8	1.7	1.8	—	—	—	—	—	—	—
NASA Headquarters	6.6	7.1	7.2	7.2	7.3	7.0	7.0	6.7	7.3	8.0
Total ^a	100.2	99.6	100.1	100.5	100.0	100.0	100.2	100.0	100.0	99.9

^a Totals may not equal 100 percent due to rounding.

Table 7-9. Paid Employees by NASA Installation: Changes in Number on Board

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	22	0	-61	512	-26	7	14	-6	8	8
Dryden Flight Research Center	-16	1	-8	—	—	—	—	—	—	—
Goddard Space Flight Center	-79	-27	-104	315	48	-147	91	47	-39	-19
Johnson Space Center	-54	53	-118	-53	-34	11	97	-87	104	35
Kennedy Space Center	30	27	-1,177	1,085	-19	-49	39	-45	158	52
Langley Research Center	-42	-31	-66	-112	116	-80	-3	-17	47	0
Lewis Research Center	-57	-6	-119	-115	84	-49	80	-140	74	-13
Marshall Space Flight Center	-131	-31	-167	-39	24	-178	100	-25	117	-49
National Space Technology Laboratories	0	3	2	6	9	1	6	2	10	12
Wallops Flight Center (Facility)	-20	-3	-6	—	—	—	—	—	—	—
NASA Headquarters	-72	124	-20	-24	22	-110	27	-85	180	181
Total	-419	110	-734	-426	224	-664	446	-356	686	177

Table 7-10. Permanent Employees by NASA Installation: Number on Board
(at end of fiscal year)

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	1,664	1,651	1,606	2,041	2,033	2,043	2,052	2,072	2,079	2,101
Dryden Flight Research Center	468	465	446	—	—	—	—	—	—	—
Goddard Space Flight Center	3,482	3,436	3,319	3,621	3,668	3,541	3,629	3,679	3,648	3,626
Johnson Space Center	3,481	3,508	3,380	3,268	3,235	3,227	3,330	3,269	3,349	3,399
Kennedy Space Center	2,192	2,201	2,138	2,104	2,084	2,067	2,081	2,051	2,188	2,236
Langley Research Center	3,005	2,966	2,895	2,801	2,904	2,821	2,827	2,814	2,851	2,840
Lewis Research Center	2,840	2,822	2,138	2,485	2,632	2,624	2,715	2,598	2,663	2,649
Marshall Space Flight Center	3,598	3,563	3,385	3,332	3,351	3,223	3,284	3,260	3,384	3,340
National Space Technology Laboratories	98	103	105	103	106	108	122	123	137	147
Wallops Flight Center (Facility)	391	382	376	—	—	—	—	—	—	—
NASA Headquarters	1,414	1,516	1,504	1,431	1,492	1,396	1,383	1,362	1,532	1,653
Total	22,633	22,613	21,292	21,186	21,505	21,050	21,423	21,228	21,831	21,991

*Table 7-11. Temporary Employees by NASA Installation: Number on Board
(at end of fiscal year)*

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	49	62	46	123	105	102	107	81	82	68
Dryden Flight Research Center	30	34	45	—	—	—	—	—	—	—
Goddard Space Flight Center	80	99	112	125	126	106	109	106	98	101
Johnson Space Center	82	108	118	177	176	125	119	93	114	99
Kennedy Space Center	72	90	86	95	96	64	84	69	90	94
Langley Research Center	120	83	133	115	128	131	122	118	128	126
Lewis Research Center	67	79	92	182	119	78	67	44	53	67
Marshall Space Flight Center	79	83	94	108	113	63	102	101	94	89
National Space Technology Laboratories	10	8	8	16	22	21	13	14	10	12
Wallops Flight Center (Facility)	18	18	24	—	—	—	—	—	—	—
NASA Headquarters	120	142	134	183	144	130	170	106	116	176
Total	727	806	892	1,124	1,029	820	893	732	785	832

Table 7-12. NASA Excepted and Supergrade Employees by NASA Installation: Number on Board
(at end of fiscal year) ^a

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	29	22	24	36	35	34	33	35	38	37
Dryden Flight Research Center	9	11	12	—	—	—	—	—	—	—
Goddard Space Flight Center	45	47	45	49	51	49	46	41	45	50
Johnson Space Center	59	57	54	52	56	55	50	48	50	50
Kennedy Space Center	29	29	25	26	26	64	66	71	32	31
Langley Research Center	32	20	23	28	28	29	29	32	35	34
Lewis Research Center	29	25	22	26	28	28	24	26	30	40
Marshall Space Flight Center	57	52	43	47	51	51	54	48	49	50
National Space Technology Laboratories	3	2	3	3	3	3	2	3	3	3
Wallops Flight Center (Facility)	5	5	4	—	—	—	—	—	—	—
NASA Headquarters	173	194	187	180	194	188	173	189	198	225
Total	470	464	442	447	472	501	477	493	480	520

^a Includes Senior Executive Service (SES), NASA Excepted Public Law 3104(a) Executive Pay Act, and GS-16 and above employees.

Table 7-13. NASA Excepted and Supergrade Employees by NASA Installation: Percentage of NASA Total
(at end of fiscal year) ^a

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	6.2	4.7	5.4	8.1	7.4	6.8	7.0	7.1	7.9	7.3
Dryden Flight Research Center ^b	1.9	2.4	2.7	—	—	—	—	—	—	—
Goddard Space Flight Center	9.6	10.1	10.2	11.0	10.8	9.8	9.6	8.3	9.4	9.8
Johnson Space Center	12.6	12.3	12.2	11.6	11.9	11.0	10.5	9.7	10.4	9.8
Kennedy Space Center	6.2	6.3	5.7	5.8	5.5	12.8	13.8	14.4	6.7	6.1
Langley Research Center	6.8	4.3	5.2	6.3	5.9	5.8	6.1	6.5	7.3	6.7
Lewis Research Center	6.2	5.4	5.0	5.8	5.9	5.6	5.0	5.3	6.3	7.8
Marshall Space Flight Center	12.1	11.2	9.7	10.5	10.8	10.2	11.3	9.7	10.2	9.8
National Space Technology Laboratories ^c	0.6	0.4	0.7	0.7	0.6	0.6	0.4	0.6	0.6	0.6
Wallops Flight Center (Facility) ^d	1.1	1.1	0.9	—	—	—	—	—	—	—
NASA Headquarters	36.8	41.8	42.3	40.3	41.1	37.5	36.3	38.3	41.3	44.1
Total ^e	100.1	100.0	100.0	100.1	99.9	100.1	100.0	99.9	100.1	102.0

^a Includes SES, NASA Excepted Public Law 3104(a) Executive Pay Act, and GS-16 and above employees.

^b Included with Ames Research Center beginning in FY 1982.

^c Renamed Stennis Space Center in 1988.

^d Included with Goddard Space Flight Center beginning in FY 1982.

^e Totals may not equal 100 percent due to rounding.

Table 7-14. Scientific and Technical Permanent Employees (Occupational Code Group 200, 700, and 900) by NASA Installation: Number on Board (at end of fiscal year)

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	847	856	823	1,011	1,037	1,052	1,047	1,061	1,085	1,102
Dryden Flight Research Center <i>a</i>	183	186	181	—	—	—	—	—	—	—
Goddard Space Flight Center	1,726	1,707	1,675	1,725	1,774	1,738	1,830	1,895	1,893	1,901
Johnson Space Center	2,185	2,212	2,157	2,087	2,078	2,013	1,086	2,069	2,135	2,204
Kennedy Space Center	1,205	1,191	1,165	1,159	1,169	1,169	1,182	1,166	1,289	1,314
Langley Research Center	1,338	1,306	1,305	1,281	1,343	1,328	1,296	1,293	1,304	1,310
Lewis Research Center	1,302	1,238	1,183	1,144	1,296	1,277	1,337	1,279	1,373	1,392
Marshall Space Flight Center	1,977	1,982	1,900	1,924	1,980	1,910	1,996	2,016	2,146	2,106
National Space Technology Laboratories <i>b</i>	46	47	51	50	54	52	56	59	67	75
Wallops Flight Center (Facility) <i>c</i>	107	103	101	—	—	—	—	—	—	—
NASA Headquarters	368	382	382	365	363	340	314	309	387	462
Total	11,284	11,210	10,923	10,746	10,094	10,879	10,144	11,147	11,679	11,866

a Included with Ames Research Center beginning in FY 1982.

b Renamed Stennis Space Center in 1988.

c Included with Goddard Space Flight Center beginning in FY 1982.

Table 7-15. Technical Support Permanent Employees (Occupational Code Group 300) by NASA Installation:
Number on Board (at end of fiscal year)

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	149	105	106	216	175	177	166	153	146	142
Dryden Flight Research Center	185	192	183	—	—	—	—	—	—	—
Goddard Space Flight Center	497	463	443	563	557	536	513	500	478	468
Johnson Space Center	297	287	273	259	245	239	228	220	205	202
Kennedy Space Center	224	228	217	202	193	188	176	185	194	223
Langley Research Center	1,056	1,010	963	927	957	920	926	904	899	909
Lewis Research Center	217	225	210	200	213	220	217	214	220	228
Marshall Space Flight Center	525	474	419	393	286	264	244	219	195	194
National Space Technology Laboratories	—	—	—	—	1	1	1	1	2	2
Wallops Flight Center (Facility)	151	150	150	—	—	—	—	—	—	—
NASA Headquarters	5	4	4	4	4	5	4	4	3	4
Total	3,306	3,138	2,968	2,764	2,631	2,550	2,475	2,400	2,342	2,372

Table 7-16. Trades and Labor Permanent Employees (Occupational Code Group 100) by NASA Installation:
Number on Board (at end of fiscal year)

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	267	290	286	352	363	345	353	356	342	342
Dryden Flight Research Center	3	—	4	—	—	—	—	—	—	—
Goddard Space Flight Center	147	140	138	142	133	125	128	132	127	123
Johnson Space Center	23	24	24	22	19	17	15	7	7	7
Kennedy Space Center	3	4	4	3	4	5	5	5	4	5
Langley Research Center	57	94	89	85	57	42	58	61	73	59
Lewis Research Center	834	837	782	683	659	643	632	609	573	530
Marshall Space Flight Center	27	22	11	14	86	68	50	38	22	—
National Space Technology Laboratories	—	—	—	—	—	—	—	—	—	—
Wallops Flight Center (Facility)	25	20	14	—	—	—	—	—	—	—
NASA Headquarters	8	7	8	8	8	8	8	7	5	5
Total	1,394	1,438	1,360	1,309	1,329	1,253	1,249	1,215	1,153	1,071

Table 7-17. Clerical and Professional Administrative Permanent Employees (Occupational Code Group 600 and 500)
by NASA Installation: Number on Board (at end of fiscal year)

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	301	300	391	462	458	469	486	502	506	369
Dryden Flight Research Center	97	87	78	—	—	—	—	—	—	—
Goddard Space Flight Center	1,112	1,126	1,063	1,191	1,204	1,123	1,158	1,152	1,150	1,134
Johnson Space Center	976	989	926	900	893	958	1,001	573	1,002	986
Kennedy Space Center	760	778	752	740	718	705	718	695	701	694
Langley Research Center	554	556	538	508	547	531	547	556	575	562
Lewis Research Center	487	522	515	458	464	484	539	496	497	499
Marshall Space Flight Center	1,069	1,085	1,055	1,001	999	981	994	987	1,021	1,040
National Space Technology Laboratories	52	56	54	53	51	55	65	63	68	70
Wallops Flight Center (Facility)	160	109	111	—	—	—	—	—	—	—
NASA Headquarters	1,033	1,123	1,110	1,054	1,117	1,043	1,057	1,042	1,137	1,182
Total	6,601	6,731	6,593	6,367	6,451	6,368	6,565	6,066	6,657	6,536

*Table 7-18. Minority Permanent Employees: Number on Board
(at end of fiscal year; percentage of NASA total in parentheses)*

Minority	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Black	1,400 (6.2)	1,585 (7.0)	1,553 (7.1)	1,512 (7.1)	1,614 (7.5)	1,640 (7.8)	1,694 (7.9)	1,704 (8.0)	1,780 (8.2)	1,824 (8.3)
Hispanic	427 (1.9)	509 (2.3)	501 (2.3)	499 (2.4)	537 (2.5)	528 (2.5)	581 (2.7)	587 (2.8)	614 (2.8)	632 (2.9)
Asian	303 (1.3)	334 (1.5)	352 (1.6)	355 (1.7)	388 (1.8)	402 (1.9)	449 (2.1)	481 (2.3)	554 (2.5)	598 (2.7)
American Indian	57 (0.3)	66 (0.3)	66 (0.3)	67 (0.3)	75 (0.3)	79 (0.4)	82 (0.4)	84 (0.4)	94 (0.4)	98 (0.4)
Total	2,187 (9.7)	2,494 (11.0)	2,472 (11.3)	2,433 (11.5)	2,614 (12.2)	2,649 (12.6)	2,806 (13.1)	2,856 (13.5)	3,042 (13.9)	3,152 (14.3)

*Table 7-19. Minority Permanent Employees by NASA Occupational Code Group: Number on Board
(at end of fiscal year; percentage of NASA total in parentheses)*

Occupational Code Group	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
500 (Clerical)	696 (21.6)	776 (23.6)	738 (23.8)	696 (24.0)	728 (25.2)	730 (25.6)	747 (25.9)	716 (25.5)	745 (26.1)	738 (26.3)
100 (Trades/labor)	224 (16.1)	265 (18.4)	253 (18.6)	259 (19.8)	240 (13.3)	244 (19.5)	249 (19.9)	243 (20.0)	233 (20.2)	221 (20.6)
600 (Professional Admin.)	355 (10.4)	395 (11.2)	406 (11.6)	423 (12.2)	473 (13.3)	480 (13.6)	524 (14.3)	550 (15.0)	275 (11.7)	294 (12.4)
200, 700, 900 (Scientists/Engineers)	697 (6.2)	795 (7.1)	812 (7.4)	814 (7.6)	919 (8.3)	939 (8.6)	1,025 (9.2)	1,079 (9.7)	565 (14.9)	589 (15.2)
300 (Technical Support)	215 (6.5)	263 (8.4)	263 (8.9)	241 (8.7)	254 (9.7)	256 (10.0)	261 (10.5)	268 (11.2)	1,224 (10.5)	1,310 (11.0)
Total	2,187 (9.7)	2,494 (11.0)	2,472 (11.3)	2,433 (11.5)	2,614 (12.2)	2,649 (12.6)	2,806 (13.1)	2,856 (13.5)	3,042 (13.9)	3,152 (14.3)

Table 7-20. *Minority Permanent Employees by Grade Range: Number on Board
(at end of fiscal year; percentage of NASA total in parentheses)*

Grade of Employee	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
GS-1-6	688 (23.2)	786 (25.4)	720 (25.8)	646 (25.7)	655 (26.8)	630 (26.8)	659 (26.9)	617 (26.1)	630 (27.1)	594 (27.0)
GS-7-12	855 (10.9)	987 (12.6)	1,000 (13.1)	1,009 (13.7)	1,137 (14.8)	1,156 (15.5)	1,215 (16.0)	1,273 (16.7)	1,389 (17.3)	1,453 (18.0)
GS-13-15	406 (4.1)	441 (4.5)	485 (5.0)	504 (5.3)	561 (5.8)	599 (6.3)	664 (6.9)	701 (7.3)	771 (7.8)	864 (8.5)
GS-16-Excepted	14 (3.0)	15 (3.2)	15 (3.4)	15 (3.3)	21 (4.4)	20 (4.0)	19 (3.9)	22 (4.5)	19 (4.0)	20 (4.0)
Wage System	224 <i>a</i>	265 <i>a</i>	253 <i>a</i>	259 <i>a</i>	240 <i>a</i>	244 <i>a</i>	249 <i>a</i>	243 <i>a</i>	233 (20.2)	221 (20.6)
Total	2,187 (9.7)	2,494 (11.0)	2,473 (11.3)	2,433 (11.5)	2,614 (12.2)	2,649 (12.6)	2,806 (13.1)	2,856 (13.5)	3,042 (13.9)	3,152 (14.3)

a The percentage is included in the NASA total.

Table 7-21. Average GS Grade Level of Minority and Nonminority Permanent Employees by NASA Occupational Code Group (1979-1988) (at end of fiscal year)

Occupational Code Group	1979		1980		1981		1982		1983	
	Minority	Non-minority	Minority	Non-minority	Minority	Non-minority	Minority	Non-minority	Minority	Non-minority
Scientists/Engineers	11.9	13.2	11.6	13.1	11.9	13.1	12.1	13.2	11.8	13.0
Professional Admin.	10.5	11.7	10.7	11.7	10.9	11.8	11.1	11.9	11.2	11.9
Technical Support	7.8	10.1	7.5	10.0	7.9	10.1	8.3	10.3	8.5	10.3
Clerical	4.6	5.4	4.6	5.4	4.9	5.5	5.1	5.6	5.2	5.7
All NASA	8.6	11.4	8.5	11.3	8.5	11.3	9.2	11.3	9.3	11.5

Occupational Code Group	1984		1985		1986		1987		1988	
	Minority	Non-minority	Minority	Non-minority	Minority	Non-minority	Minority	Non-minority	Minority	Non-minority
Scientists/Engineers	12.0	13.0	12.0	13.0	12.1	13.0	12.0	12.9	12.2	13.0
Professional Admin.	11.3	12.0	11.3	12.0	11.3	12.0	11.4	12.0	11.4	12.1
Technical Support	8.6	10.5	8.7	10.4	8.7	10.4	8.8	10.4	8.9	10.4
Clerical	5.2	5.7	5.2	5.6	5.4	5.7	5.5	5.7	5.6	5.8
All NASA	9.4	11.6	9.5	11.6	9.7	11.6	9.8	11.6	10.1	11.7

Table 7-22. *Minority Permanent Employees by NASA Installation:
Number on Board (1979-1988) (at end of fiscal year)*

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	263	285	284	372	377	391	409	419	425	425
Dryden Flight Research Center	65	70	75	—	—	—	—	—	—	—
Goddard Space Flight Center	385	431	410	455	476	453	469	506	527	541
Johnson Space Center	395	463	431	320	425	458	475	476	510	533
Kennedy Space Center	186	169	171	177	192	195	211	222	257	268
Langley Research Center	275	319	311	305	331	321	338	329	341	355
Lewis Research Center	155	228	227	213	236	250	265	260	271	284
Marshall Space Flight Center	126	173	198	183	215	233	276	279	318	333
National Space Technology Laboratories	6	7	8	7	8	10	14	14	15	18
Wallops Flight Center (Facility)	32	37	40	—	—	—	—	—	—	—
NASA Headquarters	299	312	317	301	354	338	349	351	378	395
Total	2,187	2,494	2,472	2,333	2,614	2,649	2,806	2,856	3,042	3,152

*Table 7-23. Minorities as a Percentage of Permanent Employees
by NASA Installation (1979-1988) (at end of fiscal year)*

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	15.8	17.3	17.7	18.2	18.5	19.1	19.9	20.2	20.4	20.2
Dryden Flight Research Center	13.9	15.1	16.8	—	—	—	—	—	—	—
Goddard Space Flight Center	11.3	12.5	12.4	12.6	13.0	12.8	12.9	13.8	14.4	14.9
Johnson Space Center	11.1	13.2	12.8	12.9	13.1	14.2	14.3	14.6	15.2	15.7
Kennedy Space Center	7.1	7.7	8.0	8.4	9.2	9.4	10.1	10.8	11.7	12.0
Langley Research Center	9.2	10.8	10.7	10.9	11.4	11.4	12.0	11.7	12.0	12.5
Lewis Research Center	6.5	8.1	8.4	8.6	9.0	9.5	9.8	10.0	10.2	10.7
Marshall Space Flight Center	3.5	4.9	5.8	5.5	6.4	7.2	8.4	8.6	9.4	10.0
National Space Technology Laboratories	6.1	6.8	7.6	6.8	7.5	9.3	11.5	11.4	10.9	12.2
Wallops Flight Center (Facility)	8.2	9.7	10.6	—	—	—	—	—	—	—
NASA Headquarters	21.1	20.6	20.6	21.1	23.7	24.2	25.2	25.8	24.7	23.9
Total	9.7	11.0	11.3	11.5	12.2	12.6	13.1	13.5	13.9	14.3

Table 7-24. Female Permanent Employees by NASA Occupational Code Group: Number on Board
(at end of fiscal year; percentage of NASA total in parentheses)

Occupational Code Group	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
500 (Clerical)	2,992 (92.7)	3,079 (93.5)	2,906 (93.8)	2,760 (95.0)	2,756 (95.4)	2,723 (95.5)	2,768 (96.1)	2,716 (96.7)	2,765 (96.9)	2,719 (97.1)
100 (Trades/labor)	23 (1.6)	24 (1.7)	21 (1.5)	25 (1.9)	27 (2.0)	38 (3.0)	43 (3.4)	42 (3.5)	37 (3.2)	33 (3.1)
600 (Professional Admin.)	869 (25.4)	1,018 (28.8)	1,077 (30.8)	1,114 (32.2)	1,229 (34.5)	1,308 (37.2)	1,445 (39.3)	1,503 (41.1)	1,631 (42.9)	1,749 (46.8)
200, 700, 900 (Scientists/Engineers)	463 (4.1)	578 (5.2)	596 (5.5)	620 (5.8)	756 (6.8)	808 (7.4)	969 (8.7)	1,086 (9.7)	1,265 (10.8)	1,352 (11.4)
300 (Technical Support)	91 (2.8)	113 (3.6)	111 (3.7)	101 (3.7)	106 (4.0)	108 (4.2)	124 (5.0)	132 (5.5)	151 (6.4)	162 (6.8)
Total	4,438 (19.6)	4,812 (21.3)	4,711 (21.6)	4,620 (21.8)	4,874 (22.7)	4,985 (23.7)	5,349 (25.0)	5,479 (25.8)	5,849 (26.8)	6,015 (27.4)

Table 7-25. Female Permanent Employees by Grade Range:
Number on Board (at end of fiscal year; percentage of NASA total in parentheses)

Grade of Employee	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
GS-1-6	2,592 (87.5)	2,689 (86.9)	2,461 (88.3)	2,269 (90.4)	2,228 (91.2)	2,184 (93.0)	2,252 (92.0)	2,179 (92.3)	2,136 (91.0)	2,006 (91.1)
GS-7-12	1,605 (20.4)	1,840 (23.5)	1,929 (25.3)	1,987 (27.0)	2,222 (29.4)	2,314 (31.1)	2,498 (32.8)	2,627 (32.8)	2,932 (36.6)	3,074 (38.0)
GS-13-15	210 (2.1)	248 (2.5)	287 (3.0)	315 (3.3)	382 (3.9)	433 (4.6)	538 (5.6)	609 (6.4)	727 (7.4)	882 (8.7)
GS-16-Excepted	8 (1.7)	11 (2.4)	13 (2.9)	14 (3.1)	15 (3.2)	16 (3.2)	18 (3.7)	22 (4.5)	17 (3.6)	20 (3.9)
Wage System	23 <i>a</i>	24 <i>a</i>	21 <i>a</i>	25 <i>a</i>	27 <i>a</i>	38 <i>a</i>	43 <i>a</i>	42 <i>a</i>	37 <i>a</i>	33 (6.8)
Total	4,438 (19.6)	4,812 (21.3)	4,711 (21.6)	4,610 (21.8)	4,874 (22.7)	4,985 (23.7)	5,349 (25.0)	5,479 (25.8)	5,849 (26.8)	6,015 (27.4)

a The percentage is included in the NASA total.

Table 7-26. Average GS Grade Level of Male and Female Permanent Employees by NASA Occupational Code Group (1979-1988) (at end of fiscal year)

Occupational Code Group	1979		1980		1981		1982		1983	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Scientists/Engineers	13.1	11.2	13.1	10.8	13.1	11.1	13.1	11.4	13.0	11.0
Professional Admin.	12.3	9.8	12.3	10.0	12.4	10.2	12.5	10.5	12.5	10.6
Technical Support	10.1	6.7	9.9	6.4	10.0	6.7	10.2	7.2	10.3	7.5
Clerical	6.2	5.2	6.1	5.1	5.9	5.4	6.1	5.4	6.2	5.5
All NASA	12.3	6.7	12.3	6.9	13.1	11.1	13.1	11.4	12.4	7.7

Occupational Code Group	1984		1985		1986		1987		1988	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Scientists/Engineers	13.1	11.2	13.0	11.2	13.1	11.3	13.0	11.3	13.1	11.7
Professional Admin.	12.6	10.7	12.6	10.8	12.6	11.0	12.6	11.1	12.7	11.2
Technical Support	10.4	7.6	10.4	7.6	10.4	7.8	10.4	8.0	10.4	8.2
Clerical	6.1	5.5	6.2	5.5	6.2	5.6	6.0	5.6	6.4	5.8
All NASA	12.5	7.9	12.5	8.0	12.5	8.2	12.5	8.4	12.6	8.8

*Table 7-27. Female Permanent Employees by NASA Installation:
Number on Board (1979-1988) (at end of fiscal year)*

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	329	244	404	402	412	435	450	478	487	494
Dryden Flight Research Center	66	67	67	—	—	—	—	—	—	—
Goddard Space Flight Center	750	803	821	834	875	865	914	962	973	990
Johnson Space Center	687	755	717	705	724	824	910	930	996	1,034
Kennedy Space Center	442	474	474	486	495	511	555	563	604	618
Langley Research Center	508	541	531	515	570	553	579	601	633	642
Lewis Research Center	373	429	417	384	433	452	501	459	484	488
Marshall Space Flight Center	628	692	710	695	722	735	813	858	955	983
National Space Technology Laboratories	25	27	28	31	31	34	42	41	43	48
Wallops Flight Center (Facility)	71	72	74	—	—	—	—	—	—	—
NASA Headquarters	559	608	609	568	612	576	585	587	674	718
Total	4,438	4,712	4,852	4,620	4,874	4,985	5,349	5,479	5,849	6,015

Table 7-28. Females as a Percentage of Permanent Employees
by NASA Installation (1979-1988) (at end of fiscal year)

Installation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ames Research Center	19.8	20.8	21.0	19.7	20.3	21.3	21.9	23.1	23.4	23.5
Dryden Flight Research Center	14.1	14.4	15.0	—	—	—	—	—	—	—
Goddard Space Flight Center	21.5	32.4	22.5	23.0	23.9	24.4	25.2	26.1	31.4	32.7
Johnson Space Center	19.7	21.5	21.2	21.6	22.4	25.5	27.3	28.4	29.7	30.4
Kennedy Space Center	20.2	21.5	22.2	23.1	23.8	24.7	26.7	27.5	27.6	27.6
Langley Research Center	16.9	18.2	18.3	18.4	19.6	19.6	20.5	21.4	22.2	22.6
Lewis Research Center	13.1	15.2	15.5	15.5	16.5	17.2	18.5	17.7	18.2	18.4
Marshall Space Flight Center	17.5	19.4	21.0	20.9	21.5	22.8	24.8	26.3	28.2	29.4
National Space Technology Laboratories	25.5	26.2	26.7	30.1	29.2	24.7	34.4	33.3	31.4	32.7
Wallops Flight Center (Facility)	18.2	18.8	19.7	—	—	—	—	—	—	—
NASA Headquarters	39.5	40.1	40.5	39.7	41.0	41.3	42.3	43.1	44.0	43.4
Total	19.6	21.3	21.6	21.8	22.7	23.7	25.0	25.8	26.8	27.4

*Table 7-29. Age Profile of Permanent Employees by Grade Range:
Number on Board (at end of fiscal year; percentage of NASA total in parentheses)*

Age	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Under 25	783 (3.4)	1,031 (4.6)	844 (3.9)	825 (3.9)	1,116 (3.8)	1,072 (5.1)	1,181 (3.7)	1,051 (5.0)	1,139 (3.4)	999 (4.5)
25-29	1,428 (6.3)	1,707 (7.6)	1,736 (7.9)	1,650 (7.8)	1,708 (6.1)	1,722 (8.2)	1,977 (5.5)	2,191 (10.3)	2,436 (6.3)	2,558 (10.6)
30-34	1,800 (7.9)	1,965 (8.7)	1,932 (8.8)	1,739 (8.2)	1,856 (10.5)	1,809 (8.6)	1,998 (9.0)	2,086 (9.8)	2,212 (7.9)	2,341 (10.9)
35-39	2,895 (12.8)	2,744 (12.1)	2,546 (11.7)	2,410 (11.4)	2,209 (15.2)	2,138 (10.2)	2,184 (13.8)	2,236 (10.5)	2,259 (12.8)	2,397 (10.9)
40-44	3,862 (17.1)	3,798 (16.8)	3,596 (16.5)	3,406 (16.1)	3,294 (18.9)	3,057 (14.5)	2,859 (17.6)	2,699 (12.7)	2,745 (17.1)	2,659 (12.1)
45-49	4,501 (19.9)	4,474 (19.8)	4,289 (19.6)	4,074 (19.2)	3,954 (17.0)	3,828 (18.2)	3,712 (19.1)	3,540 (16.7)	3,483 (19.9)	3,441 (15.6)
50-54	3,548 (15.7)	3,601 (15.9)	3,610 (16.5)	3,788 (17.9)	3,940 (17.0)	3,885 (18.5)	3,900 (16.3)	3,808 (17.9)	3,759 (15.7)	3,731 (17.0)
55-59	2,717 (12.0)	2,259 (10.0)	2,185 (10.0)	2,096 (9.9)	2,160 (8.5)	2,222 (10.6)	2,268 (11.3)	2,307 (10.9)	2,467 (12.0)	2,515 (11.4)
60 Plus	1,099 (4.9)	1,034 (4.6)	1,106 (5.1)	1,198 (5.7)	1,263 (3.0)	1,317 (6.3)	1,344 (3.8)	1,310 (6.2)	1,331 (4.9)	1,350 (6.1)
Average Age	44.3	43.5	43.8	44.1	43.9	44.0	43.7	43.6	43.3	43.3