ANNUAL REPORT OF THE DIRECTOR FOR THE FISCAL YEAR 1984-1985

It is a privilege and a pleasure to present my twelfth annual report for the fiscal year 1984-1985.

DATA MANAGEMENT

1. **Current Data Processing:** At the beginning of the year, due to the temporary leave of one of our data transcribers, we had fallen behind in the entry of the current data into our computers. However, I am happy to report that now we have caught up, and we continue to be on schedule and up to date with the computerization and processing of our current, incoming data using the microcomputers at Headquarters and the Digital VAX computer at Harvard-Smithsonian Center For Astrophysics. It used to take two data transcribers two weeks to enter the monthly data. But in the past two years, with the tremendous increase in the monthly data we recieve, it has been taking up to three weeks for the data to be computerized and processed.

2. **Computerization of Archival Data Published From 1911 to 1963:** This priority project is crucial for the security, preservation, accessibility, and scientific investigation of the data. 400,000 of the 2,000,000 observations had been entered on computer cards. This year those observations have been written on magnetic tape and copies made. Additionally, 100,000 observations have been computerized, bringing us up to the 25% completion mark.

Our proposal to the Perkin Fund for a matching grant on this project has been accepted. We will be hiring two full-time data transcribers soon for more rapid progress on this project.

3. **Publication of Data:** The new series of **AAVSO Monograph** publications contains 20-year light curves for each monograph star. Along with the endorsement of the International Astronomical Union (IAU), this monograph series has also received strong endorsement from the National Aeronautic and Space Administration (NASA), with a grant from NASA's HEAO-2 Guest Investigator Program.

With the help of a full time special project assistant we have begun preparation and publication of the monographs. Using specially developed computer programs to check each point for accuracy, we have thus far extracted the data on 100 stars from computerized data files containing 3,500,000 observations.

The first monograph is on the dwarf nova cataclysmic variable SS Cygni. This star was selected to lead the series because of its popularity among observers and professional astronomers, largely due to the extensive multicolor wavelength studies that have been made on it with satellites and ground-based large telescopes.

I am happy to report that **AAVSO Monograph 1** on SS Cygni is now published and available for distribution for a small fee to cover postage and handling. **AAVSO Monograph 2**, now in progress, is devoted to U Geminorum - another very popular and well-studied cataclysmic variable.

Charles Jones, our M.I.T. student hired under the Margaret Mayall Assistantship program, has recently developed a data-checking program to be used on the Digital VAX computer. This program is helping us immensely in speeding up the preparation of the monographs.

Preparation and publication of 20-year data on these stars is an

immense undertaking. Each data point is checked for accuracy - first with the computer program, then by my assistants, and finally by me. Once the checking is completed, computer-plotted light curves for publication are generated using the Headquarters computers and plotter. The astronomical community has strongly supported this monograph series and we want to do our best in providing a publication that we all can be proud of.

Preparing the data and the programs for the monograph series and publishing **AAVSO Monograph 1** have been our major activities this year.

SPECIAL REQUESTS FROM ASTRONOMERS FOR AAVSO DATA

Our data - your contributions - continue to be in demand to astronomers and researchers. A significant number of astronomers who have observed variables with instruments aboard satellites now have large volumes of multicolor data to correlate with the AAVSO optical observations.

This year we have supplied data for 126 requests from astronomers and students from the United States and around the world. A list of names of individuals making the requests, with their affilation and location, is given in Table IV at the end of my report.

The list below, and also Figure 1, show the types of variable stars for which data have been requested:

1. Cataclysmic variables - dwarf novae (31%), novae, recurrent novae, and nova-like (17%)
2. Long period variables - Mira type (15%), semiregular - (11%)
3. Symbiotic - Z And type (9%)
4. R Coronae Borealis - (5%)
5. Eclipsing Binaries - (5%)
6. RV Tauri Stars - (2%)
7. Quasars - (2%)
8. Sun - (2%)
9. Nebular variables - (1%)

The categories listed below and also shown in Figure 2 are areas in which AAVSO data and services have been used:

1. **Data correlation (47%):** AAVSO data have been used to correlate: a) photometric and spectroscopic data obtained with special instruments on large ground-based telescopes; b) x-ray, ultraviolet, and infrared data obtained with instruments aboard spacecraft such as the European X-Ray Observatory Satellite (EXOSAT), International Ultraviolet Explorer (IUE), and Infrared Astronomical Satellite (IRAS); and c) data in the radio wavelengths obtained with radio telescopes.

The majority of requests were for AAVSO data on cataclysmic variables to correlate with EXOSAT and IUE satellite data.

2. **Reference Material (21%):** AAVSO light curves, finder charts, and information on individual variable stars have been crucial reference sources for articles in magazines and books. We have also supplied the information for the variable star section of **The Astronomical Almanac.**

With the appearance of Comet Halley this year, there has been a great demand for our finder charts covering the path of the Comet. Our charts, and also parts of the **AAVSO Variable Star Atlas,** have been

distributed to comet observers worldwide by the International Halley Watch.

3. **Scheduling Observing Runs (17%):** Astronomers applying for telescope or satellite time to observe variable stars often depend upon the information we provide on the behavior of these stars during the scheduled observing time. We have assisted in the scheduling of such observing runs on long-period and semiregular variables, cataclysmic variables, and symbiotic stars. Some of the targets for these runs have been the symbiotic stars R Aquarii and CH Cygni; the long period variables chi Cygni, R Hydrae, and S Carinae; and the cataclysmic variables SS Cygni, HT Cassiopeiae, RS Ophiuchi, Nova Vulpeculae No. 1, and Nova Vulpeculae No. 2.

4. **Simultaneous Observing Runs (6%):** AAVSO provides a unique service to astronomers through simultaneous optical observing of stars being monitored with satellites. Generally it is our observers who alert the astronomers to unusual activity or behavior of observing targets. This information has been crucial to the success of the observing runs. We have helped eight extensive runs this year through this kind of service.

5. **Data Analysis (6%):** AAVSO data have been used in the analysis of the long-term behavior of long period, semiregular, and RV Tauri variables.

6. **Setting Up Special Observing Programs (2%):** We have provided information, finding charts, light curves, and guidance to set up special observing programs for colleges and for observing groups.

7. **Science Projects (1%):** We have provided guidance, information, and data to several science fair participants.

I would like to share with you some of the highlights of the requests for data we have received:

Dr. R. Webbink of the University of Illinois requested copies of observations of epsilon Aurigae made in the 1860's and 1870's by the well-known 19th-century astronomer Schmidt. We were able to fulfill this request as the AAVSO archives contain the variable star observations of well-known astronomers like Argelander - considered the Father of Variable Star Astronomy - as well as data of his students and successors.

We have assisted astronomers observing cataclysmic variables with EXOSAT. Usually we receive calls from England, the Netherlands, and West Germany requesting to be informed as to the present behavior of these stars. In this manner we have assisted astronomers observing Nova Vulpculae 1984 No. 2, the recent outburst of the recurrent nova RS Ophiuchi, the very long outburst of the dwarf nova U Geminorum, and the down state of AM Herculis.

We assisted in setting up variable star observing programs and providing the necessary finding charts for a group of astronomers going to the South Pole for an extended period.

Cataclysmic variables continue to be observed in multicolor wavelengths in order to understand the physics of close binary systems and the disk structure around the white dwarf component in these systems. We provided optical data to correlate with the infrared data obtained with the Multi-Mirror Telescope.

We have once again collaborated with Dr. Ronald Polidan in observing dwarf novae (Z Cam in particular) in the ultraviolet with the

IUE, and in the far ultraviolet with the Voyager satellites just at the onset of an outburst. The purpose of this research is to find out if in Z Camelopardalis, as in SS Cygni, the ultraviolet outbursts start later than the optical. This particular piece of information is very important in understanding the mechanism and the origin of the onset of the outbursts.

Through the support of the J. P. Bicknell Foundation, Toronto, Canada, we have a fruitful collaboration among the University of Toronto, Iowa State University, and the AAVSO to study the long-term behavior of 350 long period variables for which we have maxima and minima dates and magnitudes going back to 1900. As a result of this study, we will obtain revised average periods and amplitudes, and most particularly, will look for period changes, amplitude variations, and other correlations among the various parameters of light variation of these stars. The results of this study may also have important theoretical implications in understanding the pulsation mechanism and modes of pulsation in long period variables.

We also had an interesting request to which we did not respond: an artist in New York City was making a collage of letterheads and business cards of interesting-sounding associations such as the Society of Left-Handed People, the Society of Dirty Old Men, the Antivivisection League, and the Society of People with Flat Feet. The name of our association fascinated him and he requested that we send him a letterhead and one of my business cards, preferably ripped and coffee-stained, so that he could include them in his collage, to be exhibited in an art gallery. Needless to say, we chose not to go this particular publicity route.

There has been a significant amount of stellar activity this year which is summarized below.

1. Discovery of Nova Vulpeculae 1984 No. 2, on December 22, by Peter L. Collins.

2. Outburst of RZ Leonis and the confirmation that this star is a dwarf nova and not a nova.

3. Start of another minimum of R Coronae Borealis in mid-September.

4. Discovery of the outburst of the recurrent nova RS Ophiuchi by Warren C. Morrison.

5. A sharp drop in the brightness of CH Cygni starting during the summer of 1984. This fading correlated with radio jets.

6. A mini-outburst of Z Andromedae.

7. The first observed supermaximum of the dwarf nova HT Cassiopeiae in mid-January. Superhumps were observed by several observers visually, as well as photoelectrically by Richard H. Stanton. The preliminary results indicate the period of the superhumps to be 1 hour and 50 minutes. Eclipses of this system were also monitored closely by our observers.

SUMMARY OF OBSERVATIONS

The number of observations we receive each year continues to increase. Last year, we were pleasantly surprised when the total

number of observations reached a record high. This year our observers' enthusiasm, dedication, and devotion to variable star astronomy amazes and impresses us even more.

During the fiscal year 1984 - 1985, we received 233,753 observations from 474 observers worldwide. These totals include 118,798 observations from 249 observers in 43 of the United States and 114,955 observations of 225 observers in 33 countries. New York with 19 observers and 20,896 observations, Indiana with 6 and 9,190, and Colorado with 5 and 8,715 are the leading States of the USA, while France with 36 observers and 28,821 observations, South Africa with 13 and 15,165, and Hungary with 18 and 9,956 lead the countries abroad. These totals include the 62 adjusted observations of Orion variables, where ten observations are counted as one.

The grand total of observations recorded since the founding of the AAVSO in 1911 is 5,432,202.

Figure 3 is a graph of observers and observations since 1978. As this figure indicates, in recent years there has been a remarkable increase in the number of observations contributed to the AAVSO, while the number of observers has remained fairly constant. The significant increase in the number of observations can be attributed to the fact that an increasing number of variable star observer groups around the world are now sending their data directly to the AAVSO for computerization and dissemination together with the data from AAVSO observers.

Figure 4 is a histogram of the number of observations we received each month. The variability of monthly numbers depends on several factors: the observing weather conditions, special observing runs when close monitoring is necessary, unusual stellar activity or the discovery of a nova or a supernova, and the number of late observations sent in by our observers.

Table I lists the number of observers and the total observational contributions from each country for this year. Table II gives the same information for each state in the USA. Table III is an alphabetical list of observers giving each person's observing initials, name, location, annual total of observations, and total of inner sanctum observations (magnitude 13.8 or fainter, and/or "fainter than" 14.0 or fainter).

This year 24 observers reported between 1000 and 2000 observations, 13 between 2000 and 3000, 9 between 3000 and 4000, 5 between 4000 and 5000, and 3 between 5000 and 6000. Heinz Grzelczyk contributed 7210 observations, Wayne Lowder 8198, and Danie Overbeek 12,160.

Michel Verdenet sent in the highest number of inner sanctum observations with 3237, followed by Marvin Bernstrom with 2403, and Gilbert Lacassin with 2369.

Each year we have been receiving more and more photoelectric data from our photoelectric photometrists. This year the following observers sent in photoelectric observations of stars that are in our photoelectric photometry program: Dietmar Böhme, George Fortier, Guillermo Gonzales, Paul Kneipp, Arthur Koster, Kevin Krisciunas, Howard Landis, Howard Louth, Frank Melillo, L. Pazzi, Robert Reisenweber, and Gerry Samolyk.

This year again, Walter Feibelman submitted observations of stars in our program obtained with the IUE satellite.

My very sincere thanks to each and every observer for your untiring, enthusiastic, and dedicated effort, and for the very valuable observations contributed to the AAVSO and variable star astronomy.

INTERNATIONAL COOPERATION

The increase in the participation of observers worldwide in our observing programs is a testimony to the AAVSO's continuing international cooperation with variable star observing groups.

We continue to receive observations as a unit from variable star observers in France, the Netherlands, and Hungary, and of course from individuals all over the world.

We continue to receive valuable data from members of the Variable Star Section of the Royal Astronomical Society of New Zealand, compiled by Gordon Smith and kindly sent by Director Dr. Frank Bateson. These data of southern long period variables help immensely in refining the annual predictions of these stars. Dr. Bateson, Mr. Douglas Saw, Director of the Variable Star Section of the British Astronomical Association, and Mr. Aare Kellomaki, Director of the Scandinavian Variable Star Observers, disseminate to their observers the information of the predicted maxima and minima dates of long period variables found in the **AAVSO Bulletin.**

Members of the following variable star associations sent in observations to the AAVSO either individually or as a group for inclusion in our data files for processing and publication: Association Française des Observateurs d'Étoiles Variables (France); Astronomical Society of Southern Africa, Variable Star Section; Astronomischer Jugendclub (Austria); Berliner Arbeitsgemeinschaft fur Veranderliche Sterne (West Germany); British Astronomical Association, Variable Star Section (England); British Astronomical Association of New South Wales (Australia); Japan Astronomical Study Association; Nederlandse Vereniging Voor Weer-en Sterrenkunde, Werkgroep Veranderlijke Sterren (Netherlands); Norsk Astronmisk Selskap, Variable Stjernegruppen (Norway); Planetario e Observatorio Astronomico do Colegio Estadual do Parana (Brazil); Pleione Változócsillagészlelő Hálózat (Hungary); Red de Observatores de Estrellas Variables - MIRA (Spain); Royal Astronomical Society of Canada; Scandinavian Astronomisk Selskap; Uniao Brasileira de Astronomia, Variable Star Commission (Brazil); and Vereniging Voor Sterrenkunde, Werkgroep Veranderlijke Sterren (Belgium).

We exchange literature with observatories, universities, and colleges around the world.

MEETINGS ATTENDED AND TALKS GIVEN ON THE AAVSO

In June I attended the **Ninth North American Workshop on Cataclysmic Variables** held outside of Seattle, Washington, following our 74th Spring Meeting. The juxtaposition of our meeting to the Workshop enabled several of our members as well as some astronomers to attend both meetings. Our members heard about the important role the AAVSO plays in variable star research directly from astronomers who in turn had a chance to meet some of our members who have contributed so much to their research.

Topics covered at the Workshop were accretion disk phenomena, including multicolor observations of outbursts, the superhump phenomenon, spectroscopic observations, magnetic systems, and x-ray observations. I presented two papers: a) the AAVSO Cataclysmic

Variable Program, and b) a poster paper co-authored with our member Richard Stanton on the Superoutburst of HT Cassiopeiae.

Another AAVSO member, Lewis Cook, presented a poster paper on O-C Curves of the Outbursts of AH Herculis and SS Aurigae.

The second meeting I attended was on **The Study of Variable Stars with Small Telescopes.** It was held at the University of Toronto in collaboration with the University of Toronto, the AAVSO, and the IAPPP, commemorating the 50th Anniversary of the David Dunlap Observatory of the University of Toronto. The meeting emphasized the visual, photographic, and photoelectric methods of observing variable stars. The meeting provided an opportunity for observers to meet each other, share their experiences, and learn from each other.

My senior technical assistant, Elizabeth O. Waagen, gave an excellent paper entitled "Archiving AAVSO Data", and I gave a paper on "Visual Observing Programs."

The third astronomical meeting I attended was on **Masers, Molecules, and Mass Outflows in Star Formation Regions** and was held by Haystack (Radio) Observatory of the Massachusetts Institute of Technology. At this meeting on radio observations, I presented a poster paper on the optical behavior of stars that have been found to be maser sources.

Giving talks on the AAVSO and variable stars and informing astronomy enthusiasts about our different activities always gives me enormous enjoyment. This year I gave seven talks to the following groups:

the Fairfield Astronomical Society, Stamford, Connecticut;
the Amateur Telescope Makers of Boston;
two public nights talks at Harvard CollegeObservatory;
colloquium at Case Western Reserve University, Cleveland, Ohio;
the Cleveland Astronomical Society;
Seattle Astronomical Society, Seattle, Washington.

NEW MEMBERSHIP AND INFORMATION ON THE AAVSO

We have elected 157 new members this year. 2 of the new members joined as sustaining, and 155 as annual. Of the annual members 125 joined as adult and 30 as junior (16 to 21 years of age).

We have received 350 requests for information about the AAVSO. These requests came from individuals, schools, colleges, and universities throughout the world.

AAVSO PUBLICATIONS

We regret the delay in the publication of the **Journal of the AAVSO**, Volume 13, Number 2, and Volume 14, Number 1. Both issues are ready at this time to go to the printer for publication.

The following were published during the fiscal year:

AAVSO Bulletin 48 - Predicted maxima and minima dates of long period variables for 1985, prepared by Janet A. Mattei. This year, using the computer program prepared by Charles Jones, AAVSO's Margaret Mayall Assistant, we combined the information previously published in the **Bulletin** and its **Supplement**, thus making it only one publication. We have received many favorable comments from our observers on how the

new format of the **AAVSO Bulletin** has helped them in better planning and more effective observing.

AAVSO Circular, Numbers 168 to 179, edited and published by John E. Bortle and Charles E Scovil.

AAVSO Alert Notices, Numbers 69 to 78, prepared by Janet A. Mattei.

We are delighted to know that more and more of our members and observers are interested in receiving the **AAVSO Alert Notices** and thus being informed of the discovery of novae and supernovae, the special requests of astronomers, and the unusual activity of variable stars throughout the year. We continue to charge $5 per year to cover printing and postage costs. These **Notices** have recently been placed in the **Compuserve Bulletin,** as an experiment, through Sky Publishing Corporation.

Ephemerides of Eclipsing Binary and RR Lyrae Stars for 1985, prepared by Paul L. Sventek and Marvin E. Baldwin.

AAVSO Photoelectric Photometry Newsletter, Volume 5, Numbers 2, 3, and 4, and Volume 6, Number 1, edited by John R. Percy.

AAVSO Solar Bulletin, Volume 39, Numbers to 10 (to fill the gap created in 1983), Volume 40, Numbers 9 to 12, Volume 41, Numbers 1 to 3, and 7 (a gap of four months exists), edited by Peter O. Taylor with assistance from Bruce I. Wingate.

The predicted maxima dates of bright long period variables for 1985, an ephemeris of the eclipses of beta Persei (Algol), and information on a few easy-to-observe stars were published by Janet A. Mattei in the **1985 Observer's Handbook** of the Royal Astronomical Society of Canada.

Monthly predictions of maxima and minima dates of bright long period variables were published by Janet A. Mattei in **Sky & Telescope** magazine.

The contributions of the following members toward AAVSO publications are acknowledged with thanks:

Marvin E. Baldwin, John E. Bortle, Janet C. MacLennan, John R. Percy, Michael Saladyga, Charles E. Scovil, Paul Sventek, Peter O. Taylor, Elizabeth O. Waagen, Charles A. Whitney, and Bruce I. Wingate.

Along with the publications mentioned above, I have published five articles with other astronomers on stars in our program. These five articles are:

"Analysis of Light Curves of 21 Dwarf Novae," with Paula Szkody, published in the **Publication of the Astronomical Society of the Pacific,** Volume 96, Number 588, 988; 1985.

"The 1983 Outburst of GK Persei," with Paula Szkody and Mario Mateo, published in the **Publication of the Astronomical Society of the Pacific,** Volume 97, No. 589, 264; 1985.

"The Spectrum of R Cygni During its Exceptionally Low Maximum of 1983," with George Wallerstein, Kenneth Hinkle, James Domeny, Verne Oke, and J. Oke, published in the **Monthly Notices of the Royal Astronomical Society,** Volume 215, 67; 1985.

"Radio Outburst and Jet From the Symbiotic Star CH Cygni," with Russ Tayor and Ernest Seaquist, published in **Nature;** 1985.

"Light, Velocity, And H alpha Variations In The Pulsating Red Giant V CVn," with J. G. Loeser, S. L. Baliunas, E. F. Guinan, and S. Wacker, published in the **Proceedings of the Cambridge Cool Star Conference.**

FUNDRAISING CAMPAIGN

We desperately need to raise more money in order to continue our services, to carry on Association activities, and to complete the two projects to which the Council has given top priority. Therefore we have undertaken an active fundraising campaign in which we have planned to seek for funds through our members, as well as funding sources such as private foundations, corporations, and government agencies.

Our members' enthusiastic support towards this campaign has been remarkable, far exceeding the results of previous fundraising efforts. We have received $104,150 from 181 members and friends, putting us past the half-way mark of our goal. It is heartwarming that along with the very generous gifts and pledges we also received very encouraging notes from members. A member wrote:

"I have always believed in the value of the AAVSO's work, since it's the only organization of which I am aware that lends serious and vital support to the professional community of science. As a believer in the value of both pure and applied science research I have attempted to lend continuing support to the AAVSO by becoming a sustaining member, even though my observing days are probably over. It gives me a great pleasure to support a cause and an organization dedicated to the advancement of knowledge."

Another member from outside the United States wrote:

"It is very much against my policy to give sizeable donations to institutions when I can receive no income tax credit. However, several considerations impel me to break my rule this time. One, because AAVSO has been very dear to me. Two, because three of my good friends have given me a real pep talk for the donation. Three, because the appeal letter I have received is such a masterpiece and indicates such magnificent support from the Council for the projects."

Our very sincere thanks and appreciation to all of our members who have contributed so generously to this campaign.

We have spent a significant amount of time preparing the documents needed for submitting proposals to funding agencies. To date we have submitted 17 proposals to private foundations. The proposals to the Perkin Fund and the Kenilworth Foundation received funding. We are grateful to these foundations for supporting our projects and our activities. Most funding agencies receive numerous proposals and thus competition is fierce, but we will persist!

PERSONNEL AT HEADQUARTERS

Our Headquarters staff consists of five full-time and four part-time employees. The morale of the staff is high and we work as a team. With this small staff everyone knows that each person plays an important role in the running of the Association. My sincere thanks go to my senior technical assistant Elizabeth O. Waagen, our administrative assistant and correspondance secretary Janet C. MacLennan, our technical special projects (Monographs) assistant Michael Saladyga, our general secretary Dorothy Haviland, our data entry operators Barbara Silva, Margarita Vargas, Michael S. Bickford, our computer programmer (hired through the Margaret Mayall

Assistantship) Charles M. Jones, and our volunteer assistant who has given most generously of her time and herself in the past five years, Katherine Hazen.

ACKNOWLEDGEMENTS

We most gratefully acknowledge and thank Dr. Clinton B. Ford for his most generous contribution in providing a permenant Headquaters for the AAVSO and making our dream of so many years come true. A member called to say how thrilled he is with the news and to know that "miracles still happen". I believe he speaks for all of us.

Clint's generosity extends also to support our priority projects of computerizing the archival data and publishing the new Monograph series of long-term light curves. Our sincerest thanks to Clint for his contributions.

Our special thanks go to Keith Danskin for his contributing so generously of his time and his abilities to help us in the office, and for finding our new Headquarters. We extend our thanks to Sylvia Danskin for her help with our fundraising activities and for her understanding and support of Keith's involvement with the AAVSO activities.

We thank James Ellerbe for giving of his time, after our annual meeting, to bring our observers' records up to date.

We thank Gerald Dyck for giving of his time to assist us with the standard chart files at Headquarters.

Our special thanks go to Mrs. Katherine Hazen for volunteering so generously of her time and wisdom to help with our operations.

We also extend our thanks to the Director of the Harvard-Smithsonian Center for Astrophysics, Professor Irwin I. Shapiro, for his support of AAVSO's use of the CFA computers, and to Dr. James Conklin, Director of CFA Computation Facility, and his staff, for their assistance with our computer needs.

Our thanks go to Stamford Museum, for allowing Charles Scovil and John Griese to use the 22" telescope for variable star observations, and for Charles Scovil to use of the facilities of the museum in preparing charts and also the AAVSO Circular.

The AAVSO has been very fortunate to receive significant financial support from individual members and institutions. I would like to extend our sincere thanks to the following individuals and institutions for their financial support:

The Harvard-Smithsonian Center for Astrophysics, for the computer time grant through Prof. Owen Gingerich and Ms. Barbara Welther to process our large volume of monthly data and also to prepare the data for publication;

The National Oceanic and Atmospheric Administration (NOAA), for the grant to operate our Solar Division;

The National Aeronautics and Space Administration (NASA), for the HEAO-2 Guest Investigator Program grant to prepare 15 monographs on cataclysmic variables that have been heavily observed with the HEAO-2 satellite;

The University of Toronto, Astronomy Department, for their support

in the preparation, publication, and mailing of our Photoelectric Photometry Newsletter;

The J. P. Bicknell Foundation of Toronto, Canada, for their support in the research with long period variables;

Emily and Cy Fernald, for their continuing support through a trust fund bequeathed to the Association;

A Friend of the AAVSO who wishes to remain anonymous, for a generous contribution to both the Endowment Fund and towards the preparation of the monographs;

AAVSO members who have taken Sustaining membership, thus increasing their financial support of the Association, and AAVSO members who have made financial contributions to the Margaret W. Mayall Assistanship, the General Fund, and/or the Endowment Fund.

My personal thanks go to my husband for his support and his many good ideas.

My special thanks go to our Committee Chairmen, Officers, and Council Members, for their contribution of time and wisdom in the operation of the Association.

My sincere gratitude goes to each of our members and observers who, through their participation in the AAVSO, demonstrate their active interest in the future of variable star astronomy.

Janet Akyüz Mattei
Director

TABLE I

Observer Totals by Country

Country	Number of Observers	Total of Observations	Country	Number of Observers	Total of Observations
Argentina	12	3505	Japan	7	2677
Australia	6	2539	Malta	1	401
Austria	3	252	Netherlands	16	6960
Belgium	12	1812	New Zealand	1	273
Brazil	2	38	Norway	14	6180
Canada	20	9841	Panama	1	9
Czechoslovakia	2	346	Poland	1	480
Denmark	10	864	Portugal	1	196
England	8	5085	Romania	2	1389
Fd. Rp. Germany	8	3570	South Africa	13	15165
Finland	1	33	Spain	5	1768
France	36	28821	Sweden	1	3
German Dem. Rp.	2	7664	Switzerland	1	750
Greece	3	1272	Turkey	1	145
Hungary	18	9956	U. S. A.	249	118798
India	1	75	Yugoslavia	1	20
Italy	13	2780	Zimbabwe	2	86
			TOTAL	474	233753

TABLE II

U. S. A. Observer Totals by State

State		Number of Observers	Total of Observations	State		Number of Observers	Total of Observations
Alabama	(AL)	1	5	Nebraska	(NE)	1	15
Arizona	(AZ)	9	1933	Nevada	(NV)	1	14
Arkansas	(AR)	1	2944	New Hampshire	(NH)	3	90
California	(CA)	31	5866	New Jersey	(NJ)	6	3366
Colorado	(CO)	5	8715	New Mexico	(NM)	2	91
Connecticut	(CT)	15	6187	New York	(NY)	19	20896
Florida	(FL)	8	3180	North Carolina	(NC)	1	788
Georgia	(GA)	1	91	Ohio	(OH)	12	3722
Hawaii	(HI)	2	4334	Oklahoma	(OK)	2	44
Illinois	(IL)	18	6183	Oregon	(OR)	1	2849
Indiana	(IN)	6	9190	Pennsylvania	(PA)	14	3015
Iowa	(IA)	2	46	Rhode Island	(RI)	1	12
Kansas	(KS)	2	61	South Carolina	(SC)	1	657
Louisania	(LA)	4	1834	Tennessee	(TN)	1	4
Maine	(ME)	4	2075	Texas	(TX)	15	3786
Maryland	(MD)	7	2105	Vermont	(VT)	3	280
Massachusetts	(MA)	10	6163	Virginia	(VA)	4	3557
Michigan	(MI)	7	1153	Washington	(WA)	4	1507
Minnesota	(MN)	6	5652	West Virginia	(WV)	1	926
Mississippi	(MS)	1	3	Wisconsin	(WI)	10	4642
Missouri	(MO)	5	813	Wyoming	(WY)	1	1
				TOTAL		249	118798

TABLE III

AAVSO OBSERVERS 1984 - 1985

AAP	A. P. ABBOTT, CANADA	758-	11	CGF	G. F. CHAPLE JR., MA	872-	202
AD	R. M. ADAMS, MA	717-	161	CAO	A. CHRISTIAN, ITALY	17	
AB	W. B. ALBRECHT, HI	4308-	204	TCE*	E.CIFUENTES-TORRES,FRAN	255	
ALS	S. ALLMAND, ENGLAND	277		CLK	W. E. CLARK, MO	33	
AJ	J. A. ANDERER, AK	5		CPE	P. CLOSAS, SPAIN	17	
AOD	O. ANDERSEN, NORWAY	135-	1	COI*	J. COLIN, FRANCE	5	
AJR	J. R. ANDRESS, OH	83		CMJ	M. J. COLLINS, ENGLAND	97	
ARI	R. B. ARIAIL, SC	657-	136	CMG&	G. COMELLO, NETHERLANDS	995-	175
AKE	K. ARMESON, MA	44		COO	L. M. COOK, CA	1661-	2
ARN*	L. ARNOLD, FRANCE	210-	42	CK	S. P. COOK, AR	2944-	43
AKT	T. W. ATKIN, TX	574		COM	T. COOPER, S. AFRICA	764	
ATW	P. ATWOOD, CT	1367		COE	E. COSTA LINS, BRAZIL	7	
AUB*	J. AUBAUD, FRANCE	205		CCH	C. COTEFF, FL	12	
ADE	D. E. AUCOIN JR., ME	22		CLX	L. B. COX, CANADA	88-	1
BAC	W. B. BACHELOR, MD	28		CR	T. A. CRAGG, AUSTRALIA	2233-	574
BJZ~	J. BALAZS, HUNGARY	16		CWE	W. E. CRAWFORD, CA	52-	12
BVE&	E.BALLEGOY,NETHERLANDS	401		CDJ	D. L. CRONJE, S. AFRICA	14	
BSF	S. F. BARNHART, OH	14		CRR	R. E. CRUMRINE, NY	3	
BSR	S. BARONI, ITALY	474-	2	DSL	L.A. DA SILVA L.,BRAZIL	31	
BB	R. S. BATES, MA	198		DAN~	J. DANKO, HUNGARY	4	
BBA	B. B. BEAMAN, IL	359-	22	DAK	K. H. DANSKIN, NH	37-	8
BKY	K. E. BEAMAN, IL	6		DHZ	H. DARKO, YUGOSLAVIA	20	
BJS	J. R. BEDIENT, MN	58		DTA	T. A. DARVANN, NORWAY	114-	20
BTY	T. BENNER, PA	772-	260	DV	G. A. DAVIDSON, KS	39	
BM	M. L. BERNSTROM, IN	5923		DRB	R. DAVIDSON, NV	14	
BML	M. L. BERNSTROM, MN	5059-	2403	DRE	A. DE LA ROSA JR., TX	62	
BIO*	M. BERRIOT, FRANCE	231		DPR	P. L. DEAN, CA	5	
BIL	G. A. BILODEAU, CA	25-	15	DBF	F. DEBOOSERE, BELGIUM	166-	1
BKN	A. J. BIRKNER, IL	351		DEA	R. DEMARTINO, CT	22	
BGB	B. BLAGG, TX	38		DIN	R. DI NARDO, NY	16	
BLD	D. BLANE, S. AFRICA	505		DRD	R. D. DIETZ, CO	4	
BOH	D. BOHME, E. GERMANY	544		DNS	M. DINSMORE, CA	6	
BFK&	F. BOINCK, NETHERLANDS	331		DPL	P. L. DOMBROWSKI, CT	536-	15
BRJ	J. E. BORTLE, NY	2596-	806	GDB~	G. DOMENY, HUNGARY	167	
BJT	J. E. BORTLE, NY	80		DAG	A. DREDGE, S. AFRICA	20	
BMU&	BOUMA, NETHERLANDS	356-	4	DMJ	M. J. DREILING, OK	16	
BRG	B. J. BOURGEOIS, TX	4		DRY	R. B. DUCOTY, CA	1278-	283
BYS	S. W. BRADLEY, OH	16		DMO*	M. DUMONT, FRANCE	381	
BMS	P. BREMSETH, NORWAY	2		DN	J. R. DUNCAN, DENMARK	5	
BTB	T. C. BRETL, MN	74-	32	DNJ	J. R. DUNCAN, IA	41	
BSM	S. M. BRINCAT, MALTA	401		DEU	E. DUVILLIERS, BELGIUM	37	
BOA*	A. BRUNO, FRANCE	46-	3	DGP	G. P. DYCK, MA	3336-	1286
BYD	R. K. BRYDEN, CANADA	819-	318	ECJ	J. H. ECKENDORF, AZ	119-	13
BJY	J. D. BRYDGES, IL	88		EL	J. E. ELLERBE, SPAIN	156	
BS	S. A. BUCARO, IL	7		EMG	S. EMIG, WA	4	
BGO	R. D. BUNGE, NY	18		EJT	J. T. EMMERT, IN	462	
BUI*	H. BURILLER, FRANCE	14		EJL	J. L. EVERAERT, BELGIUM	186	
BCH	C. A. BURNS, PA	8		FSV	S. A. FALVO, NY	88-	11
BEP&	E. P. BUS, NETHERLANDS	41		FCA	C. A. FAUSEL, MI	240-	1
BJU	J. C. BUSS, CA	324		FWA	W. A. FEIBELMAN, MD	3	
BUL	T. M. BUTLER, MO	3-	1	FJH&	H. FEIJTH, NETHERLANDS	2446-	665
CPA	A.J.CAMPONOVO,ARGENTINA	2439		FRD	R. G. FIADONE,ARGENTINA	137	
CJA	J.A.S. CAMPOS,S. AFRICA	10		FKE	M. FINCKE, PA	2	
CIA	L. CAMURRI, ITALY	92		FDV	D. A. FISHER, CANADA	19	
CW	W. H. CARINI, NY	10		FD	D. A. FISHER, CT	45-	29
CPK	P. CARPREAU, BELGIUM	22-	1	FTM	T. FLEENAN, CA	3	
CJR	J. R. CARUSO, CT	10-	2	FLK*	M. FOLKERINGA, FRANCE	30	
CRV	R.JOSECASTINEIRAS,ARGEN	37		FTO	T. FORS, DENMARK	14	
CIT	M. CAVAGNA, ITALY	29		FT	T. FORS, CANADA	44	

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FBN	B. FRASER, S. AFRICA	207-	17	HIK	K. HIROSAWA, JAPAN	52	
FRH*A.	FRICH, FRANCE	65		HDT	D. H. HOROWITZ, TX	469	
FAA	A. FROSINA, ITALY	44		HSR	S. HOSTE, BELGIUM	296-	5
FFA	F. FUCCI, ARGENTINA	34		HJA	J. A. HUDSON, CA	269	
FMG	G. C. FUGMAN, WI	88		HR	C. J. HURLESS, OH	343-	20
FZT~Z.	FUZESI, HUNGARY	90		HUR	G. M. HURST, ENGLAND	193-	2
GEC	E. C. GALE, IA	5		HNC	C. W. HUTCHINSON, TX	1	
GAZ*J.	GARSZTKA, FRANCE	14-	6	IML	M. IDEM, NY	3621-1015	
GMK	M. GASKILL, TX	25		IFJ	F. J. IVES, NEW ZEALAND	273	
GKR	R.D.GECKELER,W. GERMANY	135		IAZ	A. IZUMO, JAPAN	10	
GEJ&J.	GEENEN, NETHERLANDS	12		JCT	T. B. JACOBS, WI	95	
GCP	C. GERBER, W. GERMANY	53		JJA	J. JAHN, W. GERMANY	8	
GSR	R. GESCHWIND, OH	206-	3	JM	R. A. JAMES, WI	353	
GHO	L. H. GHIO, ARGENTINA	36		JJT	J. T. JEFFREY, OR	2845-1350	
GCH	R. S. GILCHRIST, CT	4		JKK	K. K. JENSEN, DENMARK	1	
GDI	D. P. GILL, OH	34		JCH&C.	JOHANNINK,NETHERLANDS	260	
GJD	J. D. GIRAUDI,ARGENTINA	7		JOG	G. E. JOHNSON, MD	443-	10
GLF	F. R. GLENN, NY	109		KJA	J. A. KALATA, IL	21	
GLW	W. H. GLENN, NY	109		KRG	R. KALTEBERG, NORWAY	1	
GLG	G. W. GLIBA, OH	5		KPS	P. S. KANE, CA	10-	1
GAV	A. GLOMSVOLL, NORWAY	73		KEI	E. KATO, AUSTRALIA	154	
GFB	W. GOFF, CA	566-	189	KLD	L. KERLEY JR., IL	140	
GOT	T. GOMEZ, SPAIN	43		KSZ~S.	KESZTHELY, HUNGARY	270	
GDA	A. C. GONDOLA, NM	7		KRB	R. P. KING, MN	267-	81
GNZ	G. GONZALEZ, AZ	20-	2	KHT	H. KLINTING, DENMARK	2	
GOP	P. N. GOODWIN, LA	1630-	278	KON	O. KLINTING, DENMARK	13	
GLM	L. M. GORSKI, IL	15		KPL	P. W. KNEIPP, LA	29	
GFG	F. G. GRAHAM, PA	4		KGT	G. KNIGHT, ME	1579	
GKA	K. A. GRAHAM, IL	114		KJW	J. W. KNIGHT, ME	5	
GAF	A. F. GRANADOS, CA	18		KSP	S. P. KNIGHT, ME	469-	52
GDP*P.	GRANAUD, FRANCE	241		KS	S. P. KNIGHT, NH	30	
GRL	B. H. GRANSLO, NORWAY	4681-	183	KKF	K. F. KOEHLER, AZ	879	
GRI	J. W. GRIESE III, CT	826-	449	KLG	G. A. KOHL, AZ	76	
GML	M. GRUNANGER, AUSTRIA	80		KHL	M. KOHL, SWITZERLAND	750	
GCT	C. GRUNNET, DENMARK	247		KAS	A. KOKKINEDIS, GREECE	287	
GRZ	H.P.GRZELCZYK,E.GERMANY	7120-	603	KHJ	H. J. KOLLER, CANADA	51	
GCO	C. GUALDONI, ITALY	69		KRS	R. S. KOLMAN, IL	1281-	190
GUN*J.	GUNTHER, FRANCE	2808-	92	KMA	M. A. KOMOROUS, CANADA	76	
GMF	M. A. GUTRIDGE, OK	28		KOS	A. KOSA-KISS, ROMANIA	1297	
HTY	T. HAGER, CT	89-	1	KOA	M. KOSHIRO, JAPAN	620-	76
HK	E. A. HALBACH, CO	4066-	196	KAU	A. L. KOSTER, WI	71	
HMR	R. HAM, CO	2031-	9	KVI~I.	KOVACS, HUNGARY	1622	
HLD	L. I. HAMPTON, CANADA	3		KIS	G. KRISCH, W. GERMANY	995	
HNN*C.	HANON, FRANCE	26-	5	KRK	K. KRISCIUNAS, HI	23	
HVG	V. HANSTEEN, NORWAY	8		KRU	J. KRUTA,CZECHOSLOVAKIA	206	
HAV	R. P. HARVAN, MD	570		KUC*S.	KUCHTO, FRANCE	466	
HSB	W. HASUBICK, W. GERMANY	551-	1	KSA*A.	KUCINSKAS, FRANCE	45	
HAB	R. H. HAYS JR., IL	504		KPG&G.	KUIPERS, NETHERLANDS	1646-	160
HZL	L. HAZEL, NY	190-	49	KSL	S. L. KUNKEL, WY	1	
HEF	M. A. HEIFNER, CO	2285-	596	KCF	C. F. KURTZ, ARGENTINA	339	
HE	M. A. HEIFNER, VA	3389		KUW	T. KUWABARA, JAPAN	4	
HCE	C. E. HEIL, MD	8		LGT*G.	LACASSIN, FRANCE	3594-2369	
HEL	K. HELBAK, NORWAY	74		LND	H. J. LANDIS, GA	91	
HJN	J. HERS, S. AFRICA	644-	228	LTW	T. W. LANGHANS, CA	503-	182
HEV~Z.	HEVESI, HUNGARY	20		LTN	T. LARSEN, NORWAY	16	
HDV	D. HICKY, AUSTRALIA	36		LDR	D. LAURENT, BELGIUM	67	
HIM	M. HILL, MA	22		LZT	T. LAZUKA, IL	1027	
HRI	R. E. HILL, AZ	540-	1	LKD	D. C. LEAKE, IL	292	
HIR	Y. HIRASAWA, JAPAN	851-	125	LEB*R.	LEBERT, FRANCE	373	

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LEG*L.	LEGER, FRANCE	39		MJ	A. C. MONTAGUE, MI	738	
LTF	T. LEIFSEN, NORWAY	1		MAO	A. J. MORBIDELLI, ITALY	360	
LNZ	G. F. LENZ, CT	27		MJA	J. A. MORGAN, WI	28	
LJL	J. L. LEONARD, IL	46		MOJ	J. E. MORGAN, AZ	34-	12
LEV	A. J. LEVEQUE, CA	31		MNI	J. C. MORIONI,ARGENTINA	17	
LVY	D. LEVY, AZ	5		MOW	W. C. MORRISON, CANADA	4230-	14
LMW	M. W. LIFGREN JR., NY	213		MUN	C. R. MUNFORD, ENGLAND	102	
LHN	H. LIN, CA	6		MNS*S.	MUNIER, FRANCE	21	
LNB	G. C. LINDBLOOM, PA	179		MHN&H.	MUNSTERMAN,NETHERLANDS	108-	4
LJK	J. LINGAS, NORWAY	460		MJC	M. J. MURPHY, FL	176	
LWT	T. W. LOHVINENKO,CANADA	291		MSU	S. K. MURPHY, TX	286	
LGV	G. V. LOPATYNSKI, CA	67-	12	MYE	K. J. MYERS, IN	14	
LEJ	E. J. LOS, NH	23		NAM	M. NASLUND, SWEDEN	3	
LOT	H. LOUTH, WA	1436		NRH	R. H. NELSON, CANADA	45	
LX	W. M. LOWDER, NY	8198		NGU*J.	NGUYEN, FRANCE	48	
LTB	T. F. LUBBERS, MN	168		NVG	V. G. NIELSEN, DENMARK	83	
LKS	R. LUKAS, W. GERMANY	193-	6	NWL&W.	NOBEL, NETHERLANDS	99	
LRE	R. LUNSFORD, CA	16-	3	NTS	T. S. NORTON, MA	18	
LJO&J.	O. LUURS,NETHERLANDS	115		NOG	G. T. NOWAK, VT	85	
MDW	W.J.MACDONALD II,CANADA	7		OBG	G. J. O'BRIEN MD, CT	52	
MMK	M. K. MALMROS, PA	45		OJO	J. O. OLESEN, DENMARK	89	
MBA	B. A. MARCEY, VA	28		OLR	D. L. OLIVER, TX	2	
MJU	J. C. MARIONI,ARGENTINA	204		OV	E. G. ORAVEC, NY	3652	
MRX	H. MARX, W. GERMANY	1566-	29	OJR	J. R. OSORIO, SPAIN	1528-	37
MTH	H. MATSUYAMA, JAPAN	216		OB	M.D.OVERBEEK,S.AFRICA	12160-	697
MCU	C. MATYAS, ROMANIA	92		PPS~S.	PAPP, HUNGARY	2990-	4
MPX	P. MAXSON, AZ	55		PRL	R. PARMENTIER, WI	6	
MYR	E. H. MAYER, OH	2898-	1319	PRN	R. M. PATRICK, PA	493-	158
MJW	J. W. MAYER, PA	508		PLZ	L. PAZZI, S. AFRICA	345-	9
MCM	M. M. MCCANTS, TX	54-	2	PN	A. E. PEARLMUTTER, MA	458	
MDP	P. MCDONALD, CANADA	5		PEI	E. PEDERSEN, DENMARK	48	
MCY	R. H. MCELROY JR., VT	8		PEG*C.	PEGUET, FRANCE	848-	1
MGT	R. MCGWIER, AL	3-	2	PMR	M. R. PERALA, FINLAND	33	0
MKJ	J. F. MCKENNA, NJ	1152-	46	PAE	A.J.S. PEREIRA,PORTUGAL	196	
MBC	B. P. MCMILLAN, NC	788		PZA*A.	PEREZ-REVILLA,FRANCE	4220-	3
MRH	R.H. MCNAUGHT,AUSTRALIA	23-	13	PFK	F. PESCI, ITALY	701-	1
MHT	T. MCNINCH, IL	5		PSO	S. PESCI, ITALY	760-	6
MIB	I. B. MEDIAS, NORWAY	358		PSH	S. H. PETERS, MI	5	
MED	K. J. MEDWAY, ENGLAND	3350		PED	D. B. PETTENGILL, FL	1925-	34
MDG	D. L. MEGGINSON, MO	47		PIJ~J.	PIRITI, HUNGARY	183	
MFR	F. MELILLO, NY	23		PWR	R. E. POWASKI, OH	46	
MHI	H. I. MENALI, TURKEY	145		PRG	G. PROSSER, S. AFRICA	143	
MNZ	E. MENEGUZZO, ITALY	44		DUP*M.	PU PASQUIER, FRANCE	88	
MEN	P. T. MENOHER, CT	25		RHT	H. RAUSCHKA, AUSTRIA	127	
MPY	P. MEYERS, S. AFRICA	234		REP	P. REINHARD, AUSTRIA	45	
MEZ~C.	MEZOSI, HUNGARY	213-	16	RNT	C. C. REINHART, OH	10	
MOK	O. MIDTSKOGEN, DENMARK	362-	21	RRC	R. C. REISENWEBER, PA	88	
MTL	R. E. MILTON, CA	168-	4	REN*J.	RENAULT, FRANCE	233	
MJI	J. R. MINER, IN	328		RJI	J. I. RIGGS, NY	1439-	102
MPJ	P. J. MINNECI JR., IL	2		RSB	S. RITTERBUSH, MA	2	
MIS*J.	MINOIS, FRANCE	202		RBY	B. J. ROBERTS, MS	3	
MUK	U. MITRA, INDIA	75		ROP*A.	RODRIQUEZ, FRANCE	66	
MZS~A.	MIZSER, HUNGARY	2878-	32	RJM	J. C. ROEMMELT, MI	5	
MMI	M. MOELLER, W. GERMANY	69		RB	D. W. ROSEBRUGH, FL	456	
MOD	D. G. MOHRBACHER, OH	57		ROG	G. M. ROSS, MI	94-	7
MAR	R. MONELLA, ITALY	40-	23	RMV	M. V. ROWE, TX	25	
MDE	D. R. MONGER, FL	184		RR	R. E. ROYER, CA	52-	4
MPT	P. MONIOT, CO	1		RPH	H. RUMBALL-PETRE, CA	18	
MOR	R. L. MONSKE, PA	524-	5	RAN	A. RUTTER, NY	7	

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SJD	J. D. SABIA, PA	16		TRJ	R. J. THOMSON,S. AFRICA	53	
SJC	J. C. SADOW, LA	78		THU*	B. THOUET, FRANCE	564	
SGT~	T. SAGODI, HUNGARY	117		TBC	B. TIC, CANADA	460	
SSU	S. SAKUMA, JAPAN	924-	251	TFN	F. N. TRAYNOR,AUSTRALIA	19	
SAH	G. SAMOLYK, WI	1684		TGW&	G.TREMONTI,NETHERLANDS	18	
SSR	R. SAMPSON, CANADA	391		TDM	D. M. TROIANI, IL	1126-	7
SVT	T. G. SAVILLE, ENGLAND	530		TJC	J. C. TRUAX, MI	43	
SSC	S. M. SCHIMPF, CA	8		TUB~	V. TUBOLY, HUNGARY	24	
SMF	F. SCHMIDT, NY	302		TUC	C. TURK, S. AFRICA	66	
SRD	R. H. SCHMIDT, MN	26		TNL	N. J. TURNER, AUSTRALIA	40	
SCY	A. SCHROYENS, BELGIUM	133		TYS	R. L. TYSON, NY	222	
SDH	D. SCHROYENS, BELGIUM	29		UND	G. E. UNDERHAY, CA	137-	1
SCZ*	M. E. SCHWEITZER,FRANCE	3599-	88	VFR	F.VACLIK,CZECHOSLOVAKIA	140	
SCE	C. E. SCOVIL, CT	3130-	1392	VAI*	J. VAIDIS, FRANCE	118	
SEZ*	J. SEGONZAT, FRANCE	165		VCP	P. VAN CAUTEREN,BELGIUM	32-	2
SEE	E. H. SEIFERT JR., NE	15		VNL	VAN LOO, BELGIUM	125-	9
SEN&	P. SERNE, NETHERLANDS	95		VWS	J.VANWASSENHOVE,BELGIUM	97	
SEJ	J. L. SEVERINO, PANAMA	9		VPL	P. VARELA, ARGENTINA	18	
SHS	S. B. SHARPE, CANADA	2122-	59	VED*	P. VEDRENNE, FRANCE	3707	
SSA	A. P. SHARPLESS, WA	47		VEL	P. Y. E. VELASCO, SPAIN	24	
SSV	S. SHERVAIS JR., CA	2		VRG	R. VENNE, CANADA	97-	1
SNW	J. W. SHIPMAN, NM	83-	1	VET*	M. VERDENET, FRANCE	5253-	3237
SLH	L. J. SHOTTER, PA	79-	1	VIA*	J. VIALLE, FRANCE	585	
SKL	K. SIMMONS, FL	2		VIN	J. V. VINCENT, ZIMBABWE	65	
SNE	N. A. SIMMONS, WI	303-	109	VGJ	G. J. VINCI, CT	35	
SKW	W. SIMMONS, FL	2		WGJ	G. A. WAFFEN, OH	9	
SBS	S. SINGER-BREWSTER, CA	10-	5	WKP	P. R. WALKER, VT	187	
SKK	A. L. SKERKER, VA	134		WND*	D. WALLIAN, FRANCE	39	
SOF	O. SKJAERAASEN, NORWAY	56		WMJ&	J.WARMERDAM,NETHERLANDS	26	
SMI	A. L. SMITH, ENGLAND	483-	5	WER	R. J. WEBER, KS	22	
SHA	H. A. SMITH, MI	28		WCB	C. B. WEBSTER, PA	197-	7
SJE	J. C. SMITH, CA	32		WEH	K. R. WEHNER, MO	6	
SMQ	M. B. SMITH, AZ	205		WEI	D. D. WEIER, WI	1169-	348
SRQ	R. K. SMITH, ENGLAND	53		WC	R. E. WEND, IL	799-	1
SJZ	J. SPEIL, POLAND	480		WEF	F. R. WEST, MD	1037	
SPO	J. SPONGSVEEN, NORWAY	199		WTJ	J. E. WEST, TX	258	
SC	C. E. SPRATT, CANADA	121		WYT	T. A. WEYENBERG, WI	845	
SPG	N. G. SPRYN, MD	16		WHI	S. L. WHITNEY, RI	12	
STR	R. H. STANTON, CA	222-	184	WAM	A. R. WICHMAN, CT	4	
SKS	T. STECKNER, CANADA	92-	7	WFK	F. P. WILKIN, CT	15	
STI	P. STEFFEY, CA	16		WI	D. B. WILLIAMS, IN	2301	
SGP	P. E. STEGMANN, NJ	72		WDJ	D. J. WILLIAMS, TN	4	
SET	C. STEPHAN, FL	423-	25	WLP	P. WILS, BELGIUM	622-	43
STF	G.STEPHANOPOULOS,GREECE	858-	1	WJA	J. A. WILSON, MO	724	
SDR	R. D. STEPHENS, CA	45-	24	WSN	T. W. WILSON, WV	926-	326
SWT	R. J. STEWART, NJ	218		WNB	B. I. WINGATE, NJ	1894-	16
STQ	N. STOIKIDIS, GREECE	127		WCL	C. L. WOMACK, TX	1110	
SBB	E. A. STUBBLEFIELD, VA	6		WCF	C. F. WURTZ, ARGENTINA	15	
SGM	M. D. SUGARMAN, CA	3		YRK	D. O. YORK, CA	307-	9
HUO	D. J. SVENTEK, TX	8		YLD	L. D. YOUNG JR., NJ	4	
SVN	P. L. SVENTEK, TX	838-	5	YOR	R. O. YOUNG, LA	5	
SZU~	B. SZABO, HUNGARY	98		YON	R. R. YOUNG, PA	100	
SOZ~	L. SZANTHO, HUNGARY	135		ZAG~	G. ZAJACZ, HUNGARY	501	
SKB~	B. SZOKE, HUNGARY	29		ZLT~	T. ZALEZSAK, HUNGARY	189-	3
TZR	R. G. TANZER, NJ	26		ZAM	M. ZANOTTA, ITALY	140-	11
TDR	D. R. TAYLOR, CA	6		ZWT&	W.T.ZANSTRA,NETHERLANDS	11	
THE*	S. THEBAULT, FRANCE	11		ZPA	P. A. ZELLER, IN	162	
TM	H. D. THOMAS, WA	20		ZRE	R. E. ZISSELL, MA	460-	95

* also member of Association Française des Observateurs d'Étoiles Variable (AFOEV).
~ also member of Pleione Változócsillag-észlelő Hálózat (Hungary).
& also member of Nederlandse Vereniging Voor Weeren Sterrenkunde, Werkgroep Veranderlijke Sterren (NVVWS, WVS).

TABLE IV

List of Individuals Requesting AAVSO Data
During Fiscal Year 1984-1985*

Ammidown, S.	Massachusetts
Baliunas, S.	Center for Astrophysics, MA
Bath, G.	Oxford University, England
Bath, G.	Oxford University, England
Benson, P.	Wellesley College, MA
Benz, A.	Institut fur Astronomie, Eidgenossische Technische Hochschule, Switzerland
Beuermann, K.	Max-Planck Institut fur Physik und Astrophysik, West Germany
Bishop, R.	Acadia University, Canada
Bohle, S.	West Germany
Burnham, R.	**Astronomy** magazine
Burnham, R.	**Astronomy** magazine
Bode, M.	University of Manchester, England
Byrd, D.	McDonald Observatory, TX
Cadmus, R.	Grinnell College, IA
Cadmus, R.	Grinnell College, IA
Cannizzo, J.	Center for Astrophysics, MA
Chapman, J.	University of Manchester, England
Chaikin, A.	**Sky & Telescope** magazine
Clark, J.	NASA Goddard Space Flight Center, MD
Claussen, M.	Five College Radio Astronomy Observatory, MA
Cordova, F.	Los Alamos National Laboratory, NM
Cordova, F.	Los Alamos National Laboratory, NM
Cordova, F.	Los Alamos National Laboratory, NM
Cordova, F.	Los Alamos National Laboratory, NM
Davis, R.	Center for Astrophysics, MA
DiCicco, D.	**Sky & Telescope** magazine
Dreschel, H.	Remeis Sternwarte, West Germany
Edberg, S.	Jet Propulsion Laboratory, CA
Faulkner, J.	University of California
Feast, M.	South African Astronomical Observatory
Feast, M.	South African Astronomical Observatory
Flowers, J.	North Carolina
Gehrz, R.	University of Wyoming
Gillet, D.	European Southern Observatory, West Germany
Goldsmith, M.	University of Keele, England
Hadley, D.	University of Texas
Heintz, W.	Swarthmore College, PA
Heise, J.	National Institute for Space Research, Netherlands
Herr, R.	University of Delaware
Hinkle, K.	Kitt Peak National Observatory, AZ
Hutchings, J.	Dominion Astrophysical Observatory, Canada
Iijima, T.	Osservatorio Astrofisica, Italy
Ishihara, T.	Japan
Jameson, R.	University of Leicester, England
Kenyon, S.	Center for Astrophysics, MA
Kenyon, S.	Center for Astrophysics, MA
Kenyon, S.	Center for Astrophysics, MA
Kiplinger, A.	NASA Goddard Space Flight Center, MD
Kleinman, S.	University of Massachusetts
Koppman, K.	West Germany
Lamb, D.	Center for Astrophysics, MA
Lamb, D.	Center for Astrophysics, MA
Landolt, A.	Louisiana State University
Lane, A.	National Radio Astronomy Observatory, VA
MacDonald, J.	University of Delaware
Magalhaes, A.	Vatican Observatory, AZ
Mahon, P.	Oregon

Malmros, M.	Pennsylvania
Marcey, B.	Virginia
Moshe, C.	Center for Astrophysics, MA
Moshe, C.	Center for Astrophysics, MA
Michalitsianos, A.	NASA Goddard Space Flight Center, MD
Mitra, U.	India
Nather, E.	University of Texas
Ogelman, H.	European Southern Observatory, West Germany
Orliti, T.	Case Western Reserve University, OH
Osborne, J.	University of Durham, England
Oznovich, I.	University of Colorado
Pascu, D.	U.S. Naval Observatory, DC
Percy, J.	University of Toronto, Canada
Percy, J.	University of Toronto, Canada
Percy, J.	University of Toronto, Canada
Piemonte, T.	Massachusetts
Pollidan, R.	University of Arizona
Pollidan, R.	University of Arizona
Pollidan, R.	University of Arizona
Pollidan, R.	University of Arizona
Pollidan, R.	University of Arizona
Pollidan, R.	University of Arizona
Pollidan, R.	University of Arizona
Pollidan, R.	University of Arizona
Pollidan, R.	University of Arizona
Rand, P.	Massachusetts
Ravelnidran, A.	Indian Institute of Astrophysics, India
Robinson, E.	University of Texas
Robinson, E.	University of Texas
Sasselov, D.	University of Sofia, Bulgaria
Schaefer, B.	NASA Goddard Space Flight Center, MD
Schaefer, B.	NASA Goddard Space Flight Center, MD
Schaefer, B.	NASA Goddard Space Flight Center, MD
Schmidtke, P.	Arizona State University
Seaquist, E.	University of Toronto, Canada
Shafter, A.	University of Texas
Shafter, A.	University of Texas
Shafter, A.	University of Texas
Shafter, A.	University of Texas
Sheffer, Y.	University of Texas
Smith, D.	**Sky & Telescope** magazine
Snyjders, T.	Royal Greenwich Observatory, England
Snyjders, T.	Royal Greenwich Observatory, England
Snyjders, T.	Royal Greenwich Observatory, England
Solheim, J.	University of Tromso, Norway
Solheim, J.	University of Tromso, Norway
Solheim, J.	University of Tromso, Norway
Stachnik, R.	Center for Astrophysics, MA
Stachnik, R.	Center for Astrophysics, MA
Szkody, P.	University of Washington
Szkody, P.	University of Washington
Taylor, R.	Kapteyn Laboratorium, Netherlands
Tic, B.	British Columbia, Canada
Thorstensen, J.	Dartmouth College, NH
Viotti, R.	CNR Astrofisica, Italy
Viotti, R.	CNR Astrofisica, Italy
Vojkhanshaya, N.	Special Astrophysical Observatory, USSR
Wallerstein, G.	University of Washington
Wallerstein, G.	University of Washington
Wallerstein, G.	University of Washington
Wallerstein, G.	University of Washington
Webbink, R.	University of Illinois
Willson, L. A.	Iowa State University
Willson, L. A.	Iowa State University
Willson, L. A.	Iowa State University
Willson, L. A.	Iowa State University
Willson, L. A.	Iowa State University
Wing, R.	Ohio State University
Wright, D.	Ontario, Canada

* Name repeated for each request.

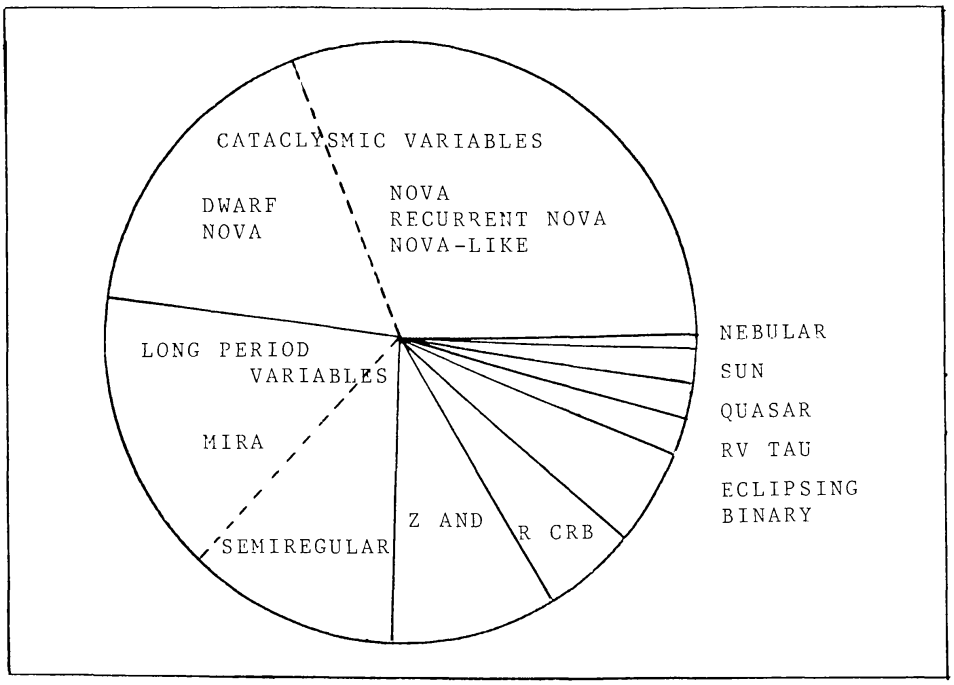

Figure 1. Types of variable stars for which AAVSO data were requested during the fiscal year 1984 - 1985.

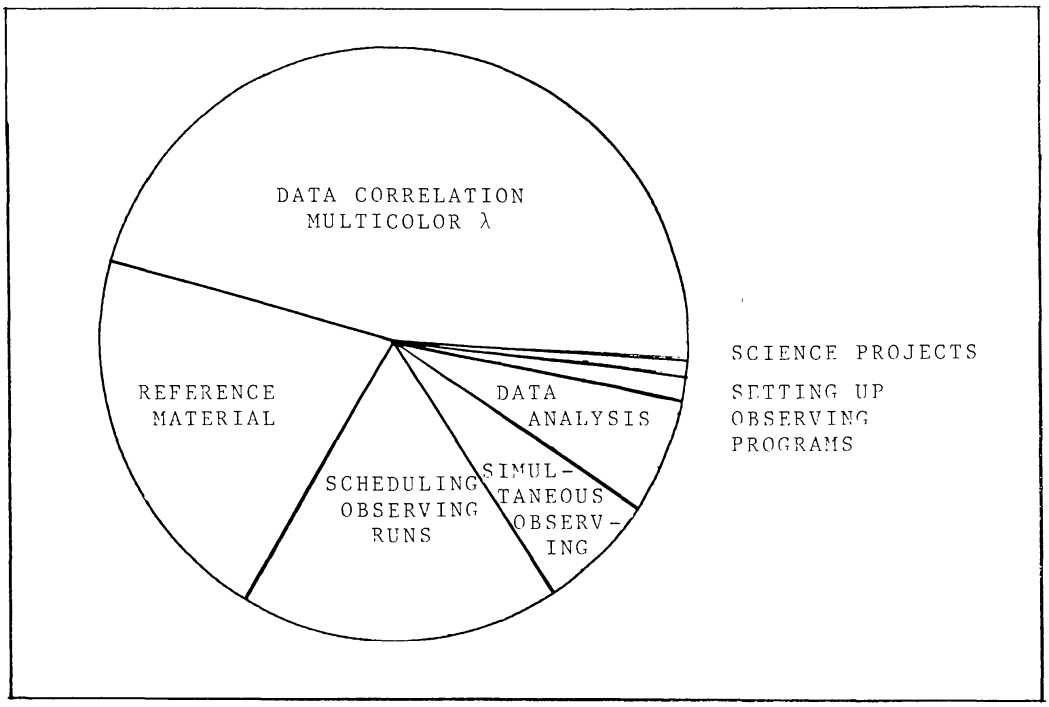

Figure 2. Areas in which AAVSO data and services were used during the fiscal year 1984 - 1985.

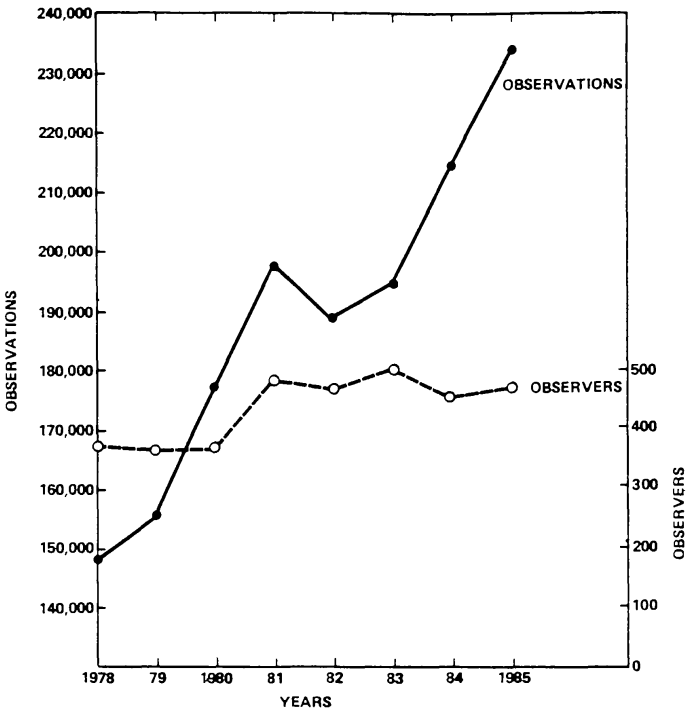

Figure 3. Numbers of AAVSO observers and observations each year since 1978.

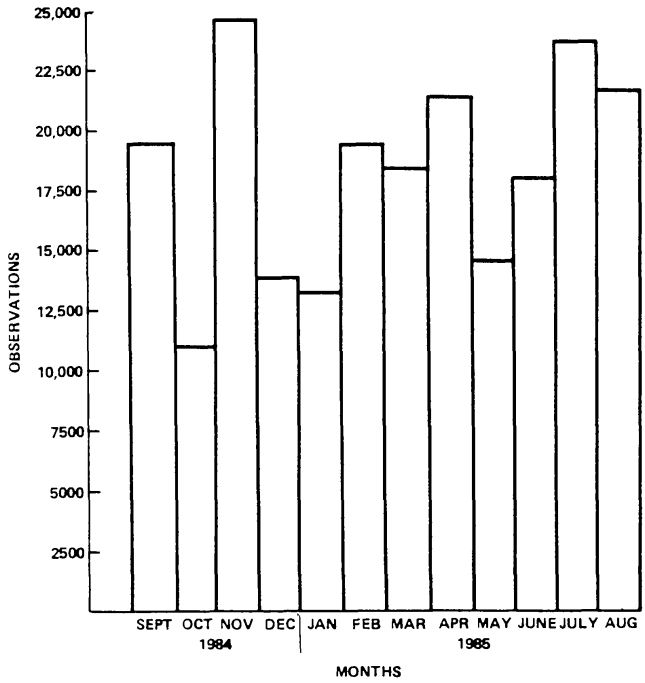

Figure 4. Number of observations received at AAVSO each month in fiscal year 1984 - 1985.