ANNUAL REPORT OF THE DIRECTOR FOR FISCAL YEAR 1999–2000

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It is a privilege and a distinct pleasure for me to present to you my Annual Report for the Fiscal Year 1999–2000.

This has been a very active and productive year, in which we have: designed a new, even more user-friendly web site, making it more extensive, better organized, and faster; upgraded our light-curve generator to make it much faster; placed on the web site downloadable data on 400 long-period variables (1963–2000); received, digitized, and archived a record high number of observations; developed a software program for submission of observations through the web; developed the version of ZAP plotting software for Windows; developed a global Gamma-Ray Burst (GRB) network; upgraded the computer network at Headquarters; added another Ph. D. astronomer to the staff; started to computerize the chart-making process; organized the first-ever High-Energy Astrophysics Workshop for amateur astronomers together with NASA's Marshall Space Flight Center; responded to a record high number of special requests; observed a cataclysmic variable with the EUVE satellite using the EUVE Director's discretionary time; provided vital information for the scheduling of observations with NASA's FUSE, HST, and Chandra X-ray satellites; completed the revision of the *AAVSO Manual for Visual Observing of Variable Stars*.

In my Annual Report I will summarize these and other activities.

1. Internet connection

The AAVSO Internet presence continues to expand thanks to the efforts of our webmaster, Katherine Davis, and our computer system administrator, Aaron Price. The Internet, in fact, has changed the way we operate. Here are some of our accomplishments:

AAVSO data on any star can now be plotted more efficiently and faster with our improved light-curve generator on the web site. The data available for this plotting are the observations from 1963 to the present. The new light curve generator is 75% faster, allows use of calendar dates in addition to JD, adds the Quick Look file data, flags validated (evaluated) data, has more color and size choices in the plots, and has a magnitude filter.

We added educational tools such as Variable Star of the Month and the Variable Star Simulator—a PowerPoint presentation prepared by Chuck Pullen.

We enhanced the capabilities of accessing data from the AAVSO International Database by placing validated data (1963–2000) on 400 long period variables on line, accessible and downloadable by data request.

We added sections on AAVSO history and AAVSO on the Road to the AAVSO-interest pages.

There is enhanced chart selection on our website: many new charts, reversed charts, charts for new observers, and charts for CCD observing. We added the ability to search for recent chart updates, and a "help" feature for using charts.

We set up the AAVSO International Gamma-Ray Burst (GRB) Network for automated information dissemination and developed the on-line tools, two sets of finder charts for reported GRBs, notification of GRB detection via e-mail and wireless devices, and archives of GRB-specific circulars and discussions.

Here are some web site statistics from May 10, 2000, to September 30, 2000: Total number of hits—2,059,606; pages downloaded: 358,760.

Popular downloads were: Main—256,426; Charts—86,896 (standard and preliminary). The most popular day on-line was Thursday. The most popular time was 1700 (5 P.M.) EST.

Top destinations: Accessing Data—4,716; Variable Stars—4,696; On-line Charts (links to the chart catalogs)—3,778; Quick Look—3,312; Light Curve generator—3,271; Committees—3,268; Standard charts page—3,239; Easy-to-Observe Stars—2,458; Membership—1,816; Variable Star of the Month—1,789; Alert Notices—1,788; Publications—1,667; Contributing Data—1,667; Links—1,617.

The average number of pages downloaded per day was 2,507, or about 1 page every 35 seconds. The number of individual visitors was 37,268 (lots of returning visitors), or about 261 every day, or 1 every 5 minutes. The average amount of data transferred per day was about 90 Megabytes. The top visitor sites were ISPs, Commercial, US Educational (university and colleges), Italy, Canada, Poland, Germany, Spain, United Kingdom.

Number of light curves plotted since May 10—10,518; number of times "software tools" page downloaded—1,519; number of times "membership application" page downloaded—447.

The number of pages downloaded during June, July, August, and September of this year, as compared to last year: June 1999—42,106, June 2000—63,987; July 1999—69,305, July 2000—62,037; August 1999—55,607, August 2000—82,570; September 1999—63,999, September 2000—107,527.

Here are some comments we received about our revised web site:

- I have just browsed the new AAVSO web site and I found it amazing. The main page is wonderfully designed and the taste in combining the colors is superb. Needless to say, the organization of the site has greatly improved for the easier and the better. —Pablo Pecorelli, Argentina

- ...I think it's pretty fantastic!! The new look is refreshing....
  —Steve O'Connor, Canada

- ...Really super nice!! The earth looks a lot better! Rather ironic that on a page for variable stars...we are looking back at ourselves. :)....
  —Paul Norris, Massachusetts

2. Data management and data processing

2.1. Computerization and processing of current data

The computerization of the monthly data received at Headquarters by email, fax, and postal mail is up-to-date, thanks to Barbara Silva and Gloria Oritz, who enter and verify the data, Kerriann Malatesta and Michael Saladyga, who process the data, and Elizabeth Waagen, who oversees the data processing and archives the data in the AAVSO International Database. The data processing staff is continually working to streamline the data handling and data processing procedures.

The database from 1963 to date is on the web and updated each month as the data are processed and added to the International Database.

Along with the monthly data, we receive thousands of observations each night for inclusion in our Quick Look files and light-curve generator on the web site. The electronic publication *News Flash* is also created from these "nightly" data. Processing these nightly observation reports and making them available on the web site within one day is an immense job that is accomplished by Gamze Menali. As a result of her efforts, data from the Quick Look file of current observations are available for web site visitors to plot, in addition to the fully processed but unevaluated data from the AAVSO International Database that they may also plot.

A major concern that we have had over the past year is that quite a number of observers have been submitting their "nightly" observations, but not submitting "monthly" observation reports as well. Last year we made a policy that "nightly" observations must be resubmitted in the form of a "monthly report" in order for them to be included in the AAVSO International Database. This decision was made in order to make the data handling procedures more efficient. Unfortunately, since not all observers followed this procedure, quite a problem was created in that we now had observations in the *News Flash* and the Quick Look files that were not a part of the International Database. There were tens of thousands of observations from nearly 200 observers that were sent as "nightly" observations only and thus were not a part of the International Database. In the month of September we carried out a once-only project: we contacted each of these observers and asked them if we could add their observations to the International Database. All of them agreed to have their observations added, including a good number of Southern Hemisphere observers who previously had been archiving their observations exclusively with the Royal Astronomical Society of New Zealand but who decided to archive their observations with the AAVSO as well. Thus, including all of these additional observations, we processed over 80,000 records for the month of September! Compare this to a "normal" September (which is always larger than the rest of the months in the year, anyway) in which we receive 35,000–40,000 observations. To help observers submit monthly reports in the future, Technical Assistant Michael Saladyga wrote several programs that observers can use for converting their "nightly" observations to the "monthly" format.

Aaron Price recently developed software (WebObs) to submit observations through our web site. With this program an observer can enter his or her data, make modifications if necessary, and also pull up earlier observations as far back as 1960. The main purpose of this program is to make data submission and data processing as easy as possible for our members and observers, and the Headquarters staff.

2.2. Upgrading the AAVSO computer network

Thanks to the efforts of Aaron Price, our Technical Assistant and Unix Systems Administrator, we have converted both the web site and the email accounts to the Unix system for more security and efficiency and have made hardware and software upgrades to the web, ftp, and e-mail servers.

3. Requests for AAVSO data

This was a record year in responding to requests for AAVSO data. We responded to 278 electronic or postal requests that came directly to AAVSO Headquarters. In addition, 140 requests were filled by downloading validated data (1963–2000) on nearly 400 long period variables through our web site. While the requests for downloaded data were on individual stars, some of those that came to Headquarters contained requests for data on a long list of stars. These requests were in addition to a significant number of researchers and educators who obtained the data and information they needed from materials on our web site, particularly from our *News Flash* files, the light curve generator, and the Quick Look files.

AAVSO data and services were used by astronomers and researchers observing with ground-based telescopes at observatories such as: Tartu Observatory (Latvia), European Southern Observatory (Chile), William Herschel Telescope (Tenerife), Palomar Testbed Interferometer (USA), Mt. Hopkins (USA), and the Very large Array

Antenna (USA), and with instruments aboard satellites such as NASA's Rossi X-Ray Timing Explorer (RXTE), Extreme Ultraviolet Explorer (EUVE), Hubble Space Telescope (HST), Chandra X-Ray satellite, Far Ultraviolet Explorer (FUSE), European Space Agency's X-Ray Multi Mirror (XMM), and the Japanese Space Agency's ASCA satellites. Those who requested data were professional astronomers and graduate students (37%), amateur astronomers (14%), teachers (5%), newspaper and magazine reporters (2%).

A list of individuals requesting data, as well as each person's affiliation and location, is given in Table 5 at the end of my report.

Below are the statistics on requests that we responded to electronically, by postal mail, and via web data download, all combined.

The types of stars for which AAVSO data and services have been requested this year are given in the list below and in Figure 1:

a. Long-Period variables—48% (Mira 45%; Semiregular 3%)
b. Cataclysmic variables—43% (Dwarf novae 36%; novae, nova-like, recurrent novae, supernovae 7%)
c. δ Cep stars—2%
d. Irregular variables—3%
e. X-ray sources—1%
f. Miscellaneous (all other types)—3%

The areas in which AAVSO data or services have been used this year are given in the list below and in Figure 2:

a. data correlation—12%
b. scheduling of observing runs and simultaneous observations (particularly with satellites)—19%
c. data analysis—33%
d. educational and scientific projects—22%
e. reference material—10%
f. setting up observing programs—2%
g. data for *IAU Circulars*—1%
h. other— 1%

This year, we sent a questionnaire to those who requested AAVSO data or services electronically in the past three years. We wanted to obtain their input on this very important service that we provide to the astronomical community. Below are the questions asked and the results of that survey.

Special Request Survey Results:

1. During the past three years how many times have you received data from the AAVSO? Answers: 0-1 times—48%; 2-3 times—28%; 4-5 times—4%; more than 5 times—20%
2. How did you use the AAVSO data in your research? Answers: scheduling observations—27%; data correlation—27%; data analysis—35%; other—11%
3. On a scale of 5 to 1, with 5 meaning "very important," and 1 meaning "not very important," how important was AAVSO data to those specific research projects for which data was requested? Answers: 5—60%; 4—25%; 3—11%; 2—2%; 1—2%
4. During the past three years how many times have you published a scientific paper or information using data from the AAVSO? Answers: 0-1 times—66%; 2-3 times—26%; 4-5 times—4%; more than 5 times—4%

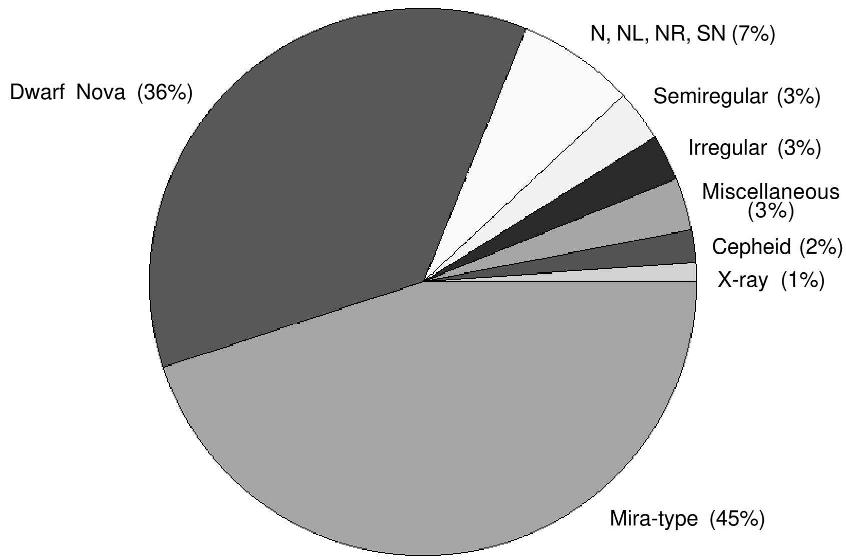


Figure 1. Types of stars for which AAVSO data were requested during fiscal year 1999–2000.

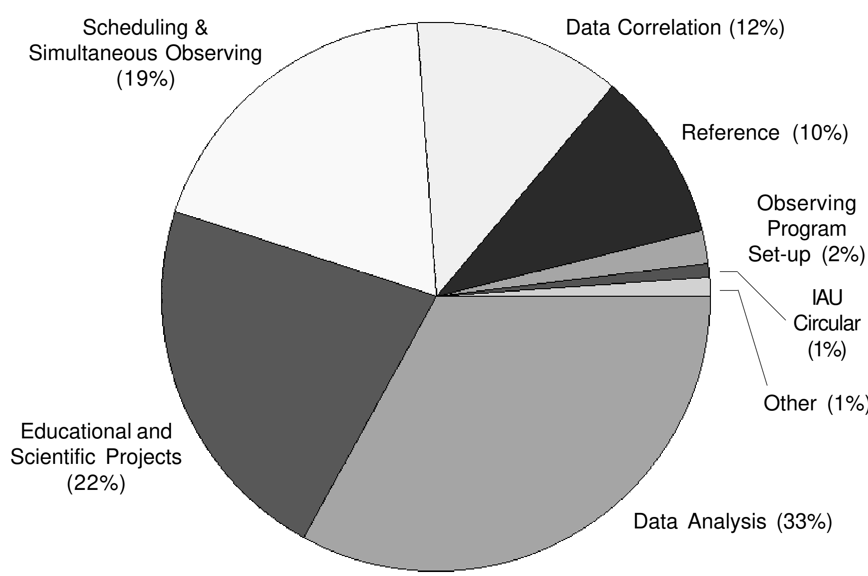


Figure 2. Areas in which AAVSO data or services were used during fiscal year 1999–2000.

5. On a scale of 5 to 1, with 5 meaning "very satisfied" and 1 meaning "very dissatisfied," how satisfied are you with the quality of the AAVSO Data? Answers: 5—58%; 4—34%; 3—4%; 2—2%; 1—2%

6. On a scale of 5 to 1, with 5 meaning "very satisfied" and 1 meaning "very dissatisfied," how satisfied are you with the process of requesting data from the AAVSO? Answers: 5—61%; 4—22%; 3—15%; 2—2%; 1—0%

7. On a scale of 5 to 1, with 5 meaning "very quickly" and 1 meaning "very slowly," how quickly was your data request fulfilled? Answers: 5—39%; 4—41%; 3—10%; 2—8%; 1—2%

8. On a scale of 5 to 1, with 5 meaning "very useful" and 1 meaning "not useful at all," if you have used our new on-line data request feature, how useful have you found it to be? Answers: 5—63%; 4—27%; 3—7%; 2—0%; 1—3%

9. Selected Additional Comments:

> "I found your on-line data service a magnificent tool. It's a quick and efficient way to share with researchers and amateurs the huge amount of observations that AAVSO has collected for decades. Keep it going!"
>
> "Keep up the truly outstanding work that you do. I, and I know many of my colleagues, *really* appreciate it. It's nice to have the chance to say so."
>
> "I congratulate you on maintaining a huge database of variable stars and providing it to all absolutely free of charge."
>
> "The AAVSO database is extremely important and should receive as much funding as possible."
>
> "As you know, I think that the AAVSO is one of the finest organizations in the world!"
>
> "Without the support from the AAVSO, especially some of our space observations (HST, ROSAT) could not have been carried out in a meaningful way."
>
> "Most of my research on variable stars using ground- and space-based observations could not be done without the data and the input from the AAVSO. Thank you very much for all the work and care you take so the variable star research continues to live."
>
> "I am not a researcher, but a serious amateur regularly involved in public outreach and education. It is a joy to be able to talk about ways in which the amateur community contributes to the science. Thank you much for the service and the example."
>
> "It would be nice if you had an (automatic) request queue monitor which could inform the users periodically of the status of their requests."
>
> "Please encourage the CCD owners to concentrate on the fainter targets."
>
> "It would always be nice to have smaller error bars and more coverage for some objects. :)"

Here I would like to share some highlights from some of exciting collaborations.

Far Ultraviolet Spectroscopic Explorer (FUSE). This year has been extremely busy with very significant services that we provided for colleagues who observed with various major satellites. In March we collaborated with Dr. Knox Long and his team in making the observations of U Geminorum with the Far Ultraviolet Spectroscopic Explorer (FUSE). U Gem was the first cataclysmic variable Target-of-Opportunity observation with FUSE, and the satellite operations were triggered due to the early alert of the outburst from our observers. FUSE observed U Gem five times at all stages of its outburst and each time the satellite observations were triggered thanks to the data that were provided by AAVSO observers. Particularly for the very last observing run when U Gem was fading, it was crucial to know its brightness in order to adjust the sensitivity of the instruments aboard the satellite. Again, it was the observations that came every night from our observers that made this very successful run possible.

Hubble Space Telescope (HST). The next satellite with which we were very significantly involved was the Hubble Space Telescope (HST) in the observations of VW Hydri. In mid-May, I received an email from Dr. Paula Szkody, who, together with Dr. Ed Sion and Dr. Boris Gaensicke, was planning to make three observations of VW Hydri with the HST. They wanted to know what the star was going to do between May 20 and May 25. Analyzing the data on VW Hyi, it looked like that particular interval was a likely time for a superoutburst. As it turned out, the star went into outburst five days before their observing run started, and two days later it was apparent that this particular outburst was a superoutburst—exactly what the researchers were hoping for.

However, upon finding out that this was going to be a superoutburst, the astronomer in charge of scheduling HST suddenly refused to give time to these astronomers. Apparently, he had seen some observations reported to VSNET that VW Hyi reaches 7.8 magnitude at superoutburst. At that magnitude the Space Telescope Imaging Spectrometer (STIS), which the astronomers were going to use, would burn up! Our colleagues soon got in touch with me asking if there were any possibility that VW Hyi would get that bright. Checking the observations in VSNET and also in our database, I realized that there were only three observations showing VW Hyi with a magnitude of 7.8 and they were all sent in by a new, inexperienced observer. In fact, they were much brighter than what others had reported and we had already flagged these three observations as discordant in the AAVSO data files. Since there is no quality control on VSNET, and no way to follow up on the history of an observer making particular observations, the HST astronomers had no way to validate these very bright observations, and they decided to cancel the observing run to protect the satellite instruments. It took an enormous amount of convincing and real dedication by our southern hemisphere observers who provided nightly data to show that, at the start of the observing run, VW Hyi would be safe to observe and it would probably be much fainter than 7.8 magnitude. After a shower of emails back and forth for a week, the HST astronomer was convinced, HST observed VW Hyi safely, and a very good set of data was obtained.

Extreme Ultraviolet Explorer (EUVE). We continue to have excellent collaboration with Drs. Christopher Mauche and Peter Wheatley in alerting them to the start of outbursts of cataclysmic variables so that they can trigger the Target-of-Opportunity Observations with EUVE and RXTE satellites. In fact, this year the EUVE Director offered 100,000 seconds of observing time (three days of EUVE time) to the AAVSO to observe a variable star of our choice, as a token of appreciation for our contribution to successful EUVE observing runs, particularly of SS Cygni. This was the first time that we were actually offered observing time on a satellite! We decided to observe the cataclysmic variable OY Carinae, which had been observed only once with the EUVE, by Dr. Mauche, and had shown some unconfirmed interesting behavior. Despite some initial technical difficulties in communicating with the satellite, the EUVE operation team did a fantastic job in fixing the situation, and EUVE observed OY Car for three days and the initial results confirmed the first set of EUVE data. We are analyzing the data further with Dr. Mauche.

Chandra X-ray satellite. We have also been collaborating with Dr. Mauche to observe SS Cygni at maximum with the High Energy Transmission Grating (HETG) Spectrometer of Chandra. The purpose of these observations is to study the spectrum of the hard X-rays emitted by the tenuous upper "atmosphere" of the boundary layer between the accretion disk and the surface of the white dwarf of this compact close binary system. The first observing window to observe SS Cyg with the satellite was between June 20 and mid-July. Using the observations from the AAVSO International Database we predicted the star's activity and informed our observers, who monitored SS Cyg very closely and kept us informed. On July 9th, while Chris Mauche was traveling, SS Cyg went into outburst. Chris had given me the authority to trigger the web-request for Chandra observations, in case SS Cyg did go into outburst in his absence. Thus, near midnight of July 9th, once we were certain that SS Cyg was in full outburst and not having small oscillations around minimum, I sent the web-request. Unfortunately, due to problems with the grating, the satellite observations could not be scheduled, so we had to wait until the next outburst. On Saturday, September 9th, our observers discovered SS Cyg brightening and by Sunday morning it was certain that SS Cyg was in full outburst. We informed Chris Mauche who in turn submitted the request to start the X-ray observations. Within hours the Chandra Operations Team was able to schedule two observations—one while SS Cyg was at maximum and the other as it was declining from this short outburst. It was quite an exciting time. In fact, the whole account of this wonderful collaboration was published in the *Chandra Chronicles* on the Chandra website—http://chandra.harvard.edu/chronicle/0300/aavso.html. Later, our member Daniel Brannen wrote a nice article on this observing run for Space.com. MSNBC also featured this very successful collaboration between the amateur and professional astronomers.

During the July outburst of SS Cygni, even though the Chandra X-ray satellite could not observe it, we alerted Dr. David Ciardi and his team who had Target-of-Opportunity observations on the Palomar Testbed Interferometer to make the first ever interferometric observations of a cataclysmic variable.

Gamma Ray Bursts (GRBs). In addition to our direct participation with the satellites, there were other exciting happenings this year. In March, member Bill Aquino and a team of observers from the Buffalo Astronomical Association observed a gamma-ray burst afterglow. Our Council member Arne Henden, through the AAVSO on-line GRB discussion group, gave information on this gamma-ray burst, and Bill and his colleagues were able to image it with a 12-inch telescope and a homemade CCD. With the help of Arne the data were reduced and reprocessed, and an afterglow was clearly detected. This particular news was featured in NASA's SpaceScience website (http://spacescience.nasa.gov). In addition, the AAVSO's Gamma-Ray Burst Network was featured in the "Amateur Scientist" column of the February 2000 issue of *Scientific American*.

Later, in September, there was another successful detection of GRB afterglow, this time by Joe Dellinger of the GRB team of the Fort Bend Astronomical Club of Texas. This team was formed by our Vice President, Bill Dillon, who processed Joe's

CCD images which recorded the GRB afterglow of September 26. This generated much publicity and a web article on NASA *Space News*, and a collaborative article in the January 2001 issue of *Sky & Telescope*.

4. Awards and recognition

4.1. Awards given

a. AAVSO Observer Awards: At the AAVSO Spring Meeting in Huntsville, AL, we presented the following AAVSO Observer Awards: to Warren Morrison, who made over 100,000 observations; to Jose Ripero Osorio, who made over 50,000 observations; three awards to those observers who made 25,000 or more observations; twelve awards to observers who made 10,000 or more observations; and an award to Raymond Thompson, who made over 5000 observations with the photoelectric photometer. The list of Observer Awards was published in *JAAVSO* Vol. 29, p. 65 (2000).

b. AAVSO Director's Award: At the 89th AAVSO Annual Meeting the Director's Award was presented to Ronald E. Zissell for his valuable contributions to special observing programs, particularly with satellites, and for his work in chart revision and making measurements for the extension of comparison star magnitudes.

c. AAVSO Nova Awards: At the 89th AAVSO Annual Meeting we presented the following AAVSO Nova Awards: Gary Nowak, Alfredo Perreira, and Robert Evans.

d. The AAVSO's William Tyler Olcott Award: At the 89th AAVSO Annual Meeting we presented the first William Tyler Olcott Award to David Levy.

4.2. Recognition received

Charles Scovil received the Astronomical League's Leslie C. Peltier Award.

Dorrit Hoffleit was inducted into the 1999 Connecticut State Register and Manual.

John Percy was elected a fellow of the American Association for the Advancement of Science.

5. Special projects

5.1. The AAVSO Gamma-Ray Burst Network project

The AAVSO Gamma-Ray Burst Network was created from initiatives begun two years ago with my visit to NASA-Marshall Space Flight Center (MSFC) in Huntsville, AL, followed by an exciting talk on GRBs given last year by Dr. Jerry Fishman of MSFC at our Annual Meeting. This past December, a questionnaire was sent out inviting participation in the network, and approximately 60 entries were received.

The initiative really took off after the High-Energy Workshop and Spring Meeting in Huntsville this past April, which took place very shortly after the successful imaging of GRB 000301C by Bill Aquino and the Buffalo Astronomical Society. Since then, and especially since Aaron Price joined the full-time staff, progress has been rapid in setting up the electronic GRB network and developing automated computerized charts for distribution via the web on notification of a GRB detection from the GCN.

Unfortunately, since the demise of the Compton Gamma-Ray Observatory, few GRBs are being detected, so we did not activate the network, particularly the pager-alert aspect of it. Happily, now HETE-2 is in full operation and working very well, the AAVSO GRB Network is operational, alerts are going out by email, charts are being made, more participants are signing up all the time, and the pager-alert function is about to be activated.

We are looking forward to the exciting future of this special AAVSO project.

5.2. AAVSO educational project: *Hands-on Astrophysics*

The sale and dissemination of *Hands-On Astrophysics* (HOA) is going very well. In the past fiscal year we distributed 149 copies of HOA from sales through the Astronomical Society of the Pacific and through the AAVSO. In addition, we distributed 15 sets of slides, 4 videos, and 3 sets of software. The United Nations (UN) Space Program endorsed *Hands-On Astrophysics* and made it the observing curriculum of six UN sites around the world. Each of these sites in Paraguay, Colombia, Jordan, Sri Lanka, Honduras, and the Philippines has an observatory and a telescope donated by Japan. We sent to each site a copy of the HOA curriculum and an extensive collection of observing materials. Hopefully, they will start observing variable stars and use HOA in public outreach and educational programs.

HOA has been highlighted around the country and around the world in the past year through talks given at astronomical meetings and workshops. We organized an HOA workshop for 20 teachers the day before the High-Energy Astrophysics Workshop in Huntsville, Alabama. Ray Berg, Chuck Pullen, and Brian Rogan joined me in making presentations on HOA and the various ways it can be used by educators.

In June, HOA was highlighted and extensively used in a two-week teacher and student workshop held on the Big Island of Hawaii. The program, called "Toward Other Planetary Systems" (TOPS), was highly successful. Several students from that workshop participated in our Annual meeting this year.

During the International Astronomical Union General Assembly in Manchester, England, John Percy and I made several presentations. I gave a talk at the special "Education Symposium" and John made a presentation at the special teacher's workshop.

Other HOA presentations included: a poster paper by John Percy and myself given at the AAS meeting in Atlanta, Georgia; John's talk at the International Planetarium Society; and my presentation at Naugatuck Valley Community College in Waterbury, Connecticut, during their Astronomy Day. Several members also made HOA presentations at the following meetings:

At Astrocon 2000, in Ventura, CA, July 19–22, 2000, Both Ray Berg and Chuck Pullen gave a HOA workshop and tended the AAVSO display; Ray also gave a talk on "Eta Carinae: the Ultimate Supernova."

At the MCE Homeschooling Convention, in Sturgis, Michigan, June 24, 2000, Ray gave a HOA workshop and tended the display.

At the Sacramento (California) Valley Astronomical Society's Astronomy Day, May 20, 2000, Lance Shaw and Chuck Pullen manned the display booth on the AAVSO and HOA, and featured a presentation on the Variable Star Telescope Simulator.

One member, Ann McMahon, our former assistant and now an education coordinator in the St. Louis area, has been promoting HOA in her district. She also did a workshop on HOA at the National Science Teachers Association national meeting in Orlando, Florida.

Donna Young, who is the principal author of the HOA Manual, publicized HOA during the Science Olympiad programs. Several new members resulted from those programs.

6. Summary of observations

This year we received 440,099 observations. This record high number was partly due to the incorporation of the "nightly" observations mentioned above, partly to receiving "backlogs" of observations from two observers (Rod Stubbings of Australia sent us 18 months' data, and Albert Jones of New Zealand sent 27 months' data), and partly to a major CCD observing undertaking on the part of Lew Cook.

An unusually high number of observers also contributed observations this year. This was due largely to the discovery of two bright novae—Nova Aquilae 1999 No. 2

and Nova Velorum 1999. Nearly 100 observers were added to our observing files because of these two objects alone.

6.1. Annual observations

This year we received 440,099 visual, photoelectric, and CCD observations from 708 observers worldwide. These totals include 142,929 observations, of which 25,090 are inner sanctum observations, from 244 observers in the United States, and 299,170 observations, of which 63,358 are inner sanctum observations, from 464 observers abroad.

The total number of observations since 1911 in the AAVSO International Database is 9,957,086. Figure 3 shows the number of observations submitted annually to the AAVSO International Database since 1911.

Our top six observers for this fiscal year were Georg Comello (The Netherlands) with 10,059 observations, Gene Hanson (USA) with 10,728, Gary Poyner (England) with 11,091, Lewis Cook (USA) with 19,842 (all CCD), Rod Stubbings (Australia) with 25,736 (18 months' data), and Albert Jones (New Zealand) with 26,181 (27 months' data).

Table 1 lists the number of observers and the total observational contribution from each country during this fiscal year. Table 2 gives the same information for each state or territory in the United States. Table 3 is an alphabetical list of observers, giving each person's AAVSO observer initials, location, and annual totals of observations and inner sanctum observations (magnitude 13.8 or fainter, or "fainter than" 14.0 or fainter).

Table 4 lists the numbers of observers, each of whom made 1 to 999 observations; 1,000 to 9,9999 observations (in increments of 1,000); and 10,000 or more observations this year. Table 4 also lists for each category the total number of observations and the percentage of all observations the category represents. Figures 4, 5, and 6 are schematic representations of the information in Table 4.

We received 2,884 observations (including 2,873 observations of program stars) from 23 photoelectric observers. Howard Landis, chair of the AAVSO Photoelectric Photometry Committee, digitizes these observations, reduces them to standard format, archives them, and sends them to Headquarters to be included in the AAVSO Photoelectric Photometry Database.

We received 47,863 CCD observations (including 1,403 observations of program stars) from 47 observers. These include B, V, R, I observations of CCD program stars and the CCD observations of other types of stars, particularly faint cataclysmic and long period variables. Gary Walker, the chair of the AAVSO CCD Committee, makes sure that the CCD-program star observations are reduced in the standard format, archived, and submitted to Headquarters for inclusion in the AAVSO CCD Database.

We received 31, 625 eclipsing binary and RR Lyrae stars observations (including 30,107 observations of program stars) from 78 observers. Marvin Baldwin, chair of the AAVSO Eclipsing Binary and RR Lyrae Committees, together with committee member Gerry Samolyk, reduces and archives the observations for the determination of times of minima and maxima, respectively.

We received 6,130 Supernova Search observations from 4 observers. These observations, which are not included in the annual totals, are archived at AAVSO Headquarters. Rev. Robert Evans, chair of the AAVSO Supernova Search Committee, continues to provide vital guidance to the observers.

We received 13,086 Nova Search observations from 6 observers. These observations are not included in the annual totals. Rev. Kenneth Beckmann, chair of the AAVSO Nova Search Committee, compiles these observations and provides valuable guidance to observers.

We received 10,982 sunspot observations from 68 observers, and 354 SID observations from 10 observers (due to the resignation of our SID analyst in the early

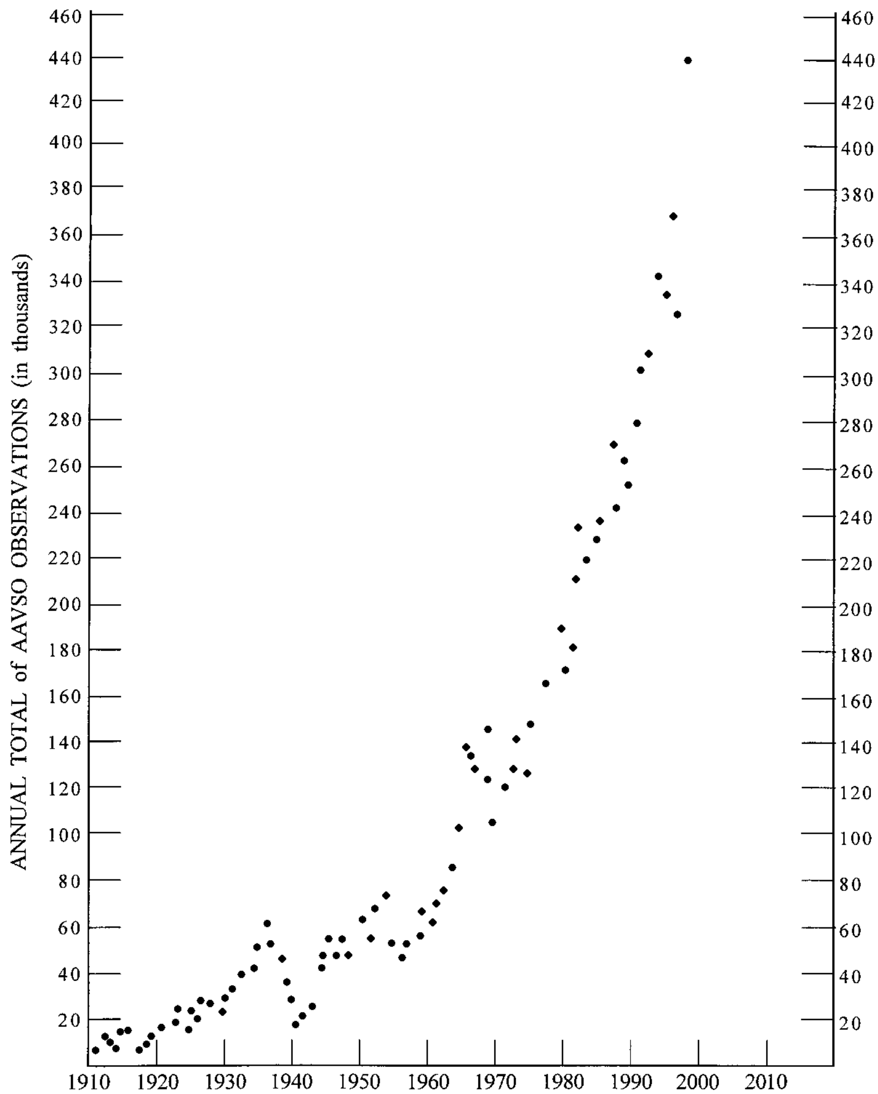
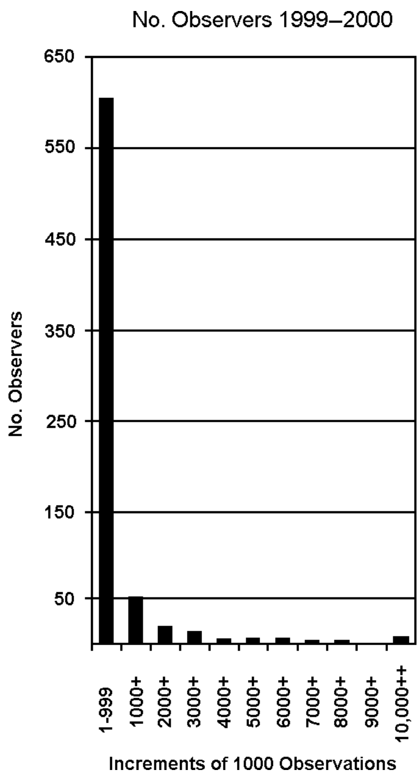
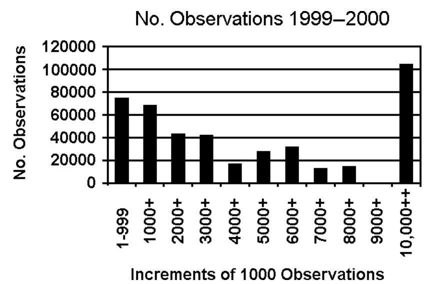
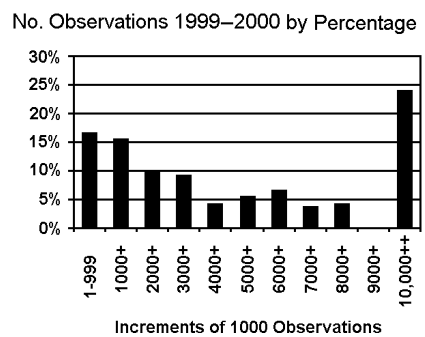


Figure 3. Number of observations submitted each year to the AAVSO International Database since its founding in 1911.







Figures 4, 5, and 6. These figures represent the information given in Table 4. Figure 4 (left) shows the number of observers, each of whom contributed 1–999; 1,000–9,999 (in increments of 1000), and 10,000 or more observations in fiscal 1998–1999. Figure 5 (top right) shows, for each increment of 1,000 observations, the total number of observations contributed by the corresponding number of observers shown in Figure 4. Figure 6 (bottom right) shows, for each increment of 1,000 observations, the number of observations given in Figure 5, represented as a percentage of the total number of observations contributed to the AAVSO in fiscal 1999–2000.

part of 2000, SID reports from the first 5 months of 2000 were not analyzed). Carl Feehrer, chair of the AAVSO Solar Division, assisted by Arthur Ritchie, compiles and digitizes the sunspot observations, and provides valuable guidance to the solar observers. Michael Hill performs the SID analysis.

My most sincere thanks to all our observers for their tireless efforts, dedication, and vital astronomical contributions to the AAVSO International Database.

My sincere thanks to our data processing and archiving staff—Elizabeth Waagen, Kerriann Malatesta, Michael Saladyga, Barbara Silva, Gamze Menali, and Gloria Ortiz, who very carefully digitize, process, and archive our hundreds of thousands of observations received each year.

My thanks also to Marvin Baldwin, Howard Landis, Gary Walker, and Ken Beckmann—the chairs of the Eclipsing Binary, RR Lyrae Stars, Photoelectric Photometry, CCD, and Nova Search committees, respectively—for compiling and archiving the observations they receive.

6.2. International cooperation

We acknowledge with appreciation the observations sent to the AAVSO by members of the following variable star associations, either individually or as a group, for inclusion in the AAVSO International Database for dissemination to the astronomical community worldwide:

a. Agrupacia Astronomica Albireo of Seville (Spain);
b. Associacion Argentina Amigos de la Astronomia;
c. Asociacion de Variabilistas de Espagne (Spain);
d. Association Française des Observateurs d'Étoiles Variables (France);
e. Astronomical Society of South Australia;
f. Astronomical Society of Southern Africa, Variable Star Section;
g. Astronomischer Jugendclub (Austria);
h. Astronomisk Selskab (Scandinavia);
i. British Astronomical Association, Variable Star Section;
j. Brazilian Observational Network REA;
k. Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e.V. (BAV) (Germany);
l. Grupo Astronomico Silos (Zaragoza, Spain);
m. Liga Ibero-Americana de Astronomia (South America);
n. Madrid Astronomical Association M1 (Spain);
o. Magyar Csillagàszati Egyesület, Valtozócsillag Szakcsoport (Hungary);
p. Nederlandse Vereniging Voor Weer-en Sterrenkunde, Werkgroep Veranderlijke Sterren (Netherlands);
q. Norsk Astronomisk Selskap, Variable Stjernegruppen (Norway);
r. Planetario e Observatoria Astronomicao do Colegio Estadual do Paraná;
s. Red de Observatores de Estrellas Variables—MIRA (Spain);
t. Royal Astronomical Society of Canada;
u. Royal Astronomical Society of New Zealand, Variable Star Section;
v. Sociedad Astronomica 'Syrma' (Valladolid, Spain);
w. Svensk Amator Astronomisk Förening, variabelsektionen (Sweden);
x. Ukraine Astronomical Group, Variable Star Section;
y. Uniao Brasileria de Astronomia, Variable Star Commission (Brazil);
z. Unione Astrofili Italiani (Italy);
aa. URSA Astronomical Association, Variable Star Section (Finland);
bb. Variable Star Observers League in Japan;
cc. Vereniging Voor Sterrenkunde, Werkgroep Veranderlijke Sterren (Belgium).

7. Membership

At the 89th Spring Meeting, held in Huntsville, AL, on April 15, 2000, we elected 83 new members, one of whom joined as a Sustaining member. A list of these new members appears on page 64 of Volume 29, No. 1, of the *Journal of the AAVSO*.

At the 89th Annual Meeting, held in Waltham, MA, we elected 78 new members, including 3 junior and 3 sustaining members. A list of these new members appears in this issue of the *Journal* following the Minutes.

8. Publications

This year the following were published by the AAVSO:

a. *Journal of the AAVSO*, Vol. 28, Nos. 1 and 2, edited by by Charles A. Whitney, with assistance from Elizabeth O. Waagen, Michael Saladyga, and Lynn M. Anderson (Vol. 28, No. 1).

b. *AAVSO Bulletin 63: 2000 Predicted Dates of Maxima and Minima of 561 Long Period Variables*, prepared by Janet A. Mattei, with assistance from Elizabeth O. Waagen.

c. *AAVSO Alert Notice,* Nos. 263–277, prepared by Janet A. Mattei, with assistance from Elizabeth O. Waagen.

d. *AAVSO News Flash,* Nos. 505–678, prepared by Janet A. Mattei, with assistance from Rebecca T. Pellock, Kerriann Malatesta, and Gamze Menali.

e. *AAVSO Newsletter,* No. 23, Edited by Lynn M. Anderson.

f. *AAVSO Circular,* Nos. 347–359, prepared by John E. Bortle, with assistance from Leonard Abbey and Charles E. Scovil.

g. *AAVSO 2000 Ephemeris for Eclipsing Binaries*, prepared by Gerard Samolyk and Marvin E. Baldwin.

h. *AAVSO 2000 Ephemeris for RR Lyrae Stars*, prepared by Gerard Samolyk and Marvin E. Baldwin.

i. *AAVSO Solar Bulletin,* Vol. 55, Nos. 9–12, prepared by Joseph D. Lawrence, Vol. 56, Nos. 1–8 prepared by Carl Feehrer.

j. *AAVSO Photoelectric Photometry Newsletter*, Vol. 19, No. 2, edited by John. R. Percy.

k. *AAVSO Eclipsing Binary Update*, Nos. 8 and 9, edited by David. B. Williams.

9. Other publications with AAVSO participation

a. "The Light Curve and Evolutionary Status of the Carbon Star V Hya" by G. R. Knapp, S. I. Dobrovolsky, Z. Ivezic, K. Young, M. Crosas, J. A. Mattei, and M. P. Rupen was published in *Astronomy and Astrophysics*, **351**, 97; 1999.

b. "Hands-On Astrophysics: Variable Stars in Math, Science, and Computer Education" by J. A. Mattei and J. R. Percy was published in the *Bulletin of the American Astronomical Society*, **31**, 5, 1528; 1999.

c. "Orbital Light Curve of the Peculiar Binary V Sagittae in Extended High States of Brightness" by V. Simon and J. A. Mattei was published in *Astrophysics and Space Science*, **272**, 333; 2000.

d. "Variable-Star Measurement and Analysis: Tools to Develop Astronomical Research and Education" by J. A. Mattei and J. R. Percy was published in *Astronomy for Developing Countries, the proceedings of the 24th meeting of the IAU, Special Session*, ed. Alan Batten; 2000.

e. "Changes of the Physical State in Semiregular Variables" by L. L. Kiss, G. Szabo, K. Szatmary, and J. A. Mattei was published in *The Impact of Large-Scale Surveys* *on Pulsating Star Research*, *ASP Conference Series 203* (also IAU Colloquium #176), ed. L. Szabados and D. Kurtz, 117; 2000.

f. "Trend Analysis of Long Period Variables" by J. A. Mattei and G. Foster was published in *Variable Stars as Essential Astrophysical Tools*, ed. C. Ibanoglu, Kluwer Academic Publishers, Dordrecht, 485; 2000.

g. "Flickering in FU Orionis" by S. J. Kenyon, E. A. Kolotilov, M. A. Ibragimov, and J. A. Mattei was published in the *Astrophysical Journal*, **531**, 1028; 2000.

h. "Amateur-Professional Collaborations in the AAVSO" by E. O. Waagen, J. A. Mattei, and G. Hawkins was published in the *Bulletin of the American Astronomical Society*, **32**, 2, 688; 2000.

i. "Partnership in Variable Star Research from Ground and Space" by J. A. Mattei and G. A. Hanson was published in the *Bulletin of the American Astronomical Society*, **32**, 2, 690; 2000.

j. "EUVE TOO Helps Reveal Stages of Optical, X-ray, and EUV Emission Observed in SS Cygni Observations" by J. A. Mattei, C. W. Mauche, and P. J. Wheatley was published in the *Bulletin of the American Astronomical Society*, **32**, 2, 692; 2000.

k. "Outburst Characteristics in the Dwarf Nova SU Ursae Majoris" by P. Rosenzwieg, J. A. Mattei, S. Kafka, G. W. Turner, and R. K. Honeycutt was published in the *Publ. Astron. Soc. of the Pacific*, **112**, 632; 2000.

l. "Multiperiodicity in Semiregular Variables. II. Systematic Amplitude Variations" by L. L. Kiss, K. Szatmary, G. Szabo, and J. A. Mattei was published in *Astronomy and Astrophysics*, **145**, 283; 2000.

In addition, during the IAU General Assembly, while Brian Marsden and Daniel Green, the editors of the *IAU Circular*, were in England attending the meetings, AAVSO Senior Technical Assistant Elizabeth O. Waagen edited the *IAU Circulars* Nos. 7475, 7476, and 7478.

We have finished the revision of the *Manual for Visual Observing of Variable Stars* and it is almost ready to go to press.

10. Meetings attended and talks given

10.1 Meetings attended

I attended the following scientific meetings during fiscal 1999–2000:

a. 195th Meeting of the American Astronomical Society, January 11–15, 2000, Atlanta, GA.

b. INTEGRAL (INTErnational Gamma Ray Astrophysics Laboratory), March 26–April 1, 2000, Les Diablerets, Switzerland.

c. 196th Meeting of the American Astronomical Society, June 3–8, 2000, Rochester, NY.

d. TOPS (Towards Other Planetary Systems), June 16–29, Hawaii.

e. 24th General Assembly of the IAU, August 7–18, 2000, Manchester, UK.

f. New Virtual Observatory, June 10–13, 2000, Pasadena, CA.

10.2 Talks given

I have given the following talks this year:

a. "Hands-on Astrophysics," at the 195th Meeting of the American Astronomical Society, January 11–15, 2000, Atlanta, GA.

b. "Hands-on Astrophysics," at Naugatuck Valley Community College, April 29, 2000, Waterbury, CT.

c. Workshop on Variable Stars and Hands-on Astrophysics, with Ray Berg, Chuck Pullen, and Brian Rogan, April 12, 2000, Huntsville, AL.

d. "Partnership in Variable Star Reasearch," with Gene Hanson at the 196th Meeting of the American Astronomcal Society, June 4–8, 2000, Rochester, NY.

e. "EUVE TOO Helps Reveal Stages of Optical, X-ray, and EUV Emission Observed in SS Cygni Observations," with C. Mauche and P. Wheatley at the 196th Meeting of the American Astronomcal Society, June 4–8, 2000, Rochester, NY.

f. Commission 42 Science papers, presented at the 24th General Assembly of the International Astronomcal Union (IAU), August 12, 2000, Manchester, UK.

g. Special Education session, at the 24th General Assembly of the International Astronomcal Union (IAU), August 14–16, 2000, Manchester, UK.

In addition, Ray Berg, Dan Kaiser, Chuck Pullen, John Percy, Elizabeth Waagen, and Lance Shaw made presentations on the AAVSO at meetings or public events.

11. Personnel at Headquarters

Our Association is extremely fortunate to have a very special group of people as staff at Headquarters.

After quite a number of changes in the first three months of the fiscal year, the staff has stabilized and morale in the office has been greatly improved. They all chipped in with determination to get the work done, and together we built a stronger technical and administrative staff.

I express my sincere appreciation and thanks to our dedicated, hardworking, conscientious, and team-spirited staff who assist me in running the AAVSO:

George Hawkins, Staff Astronomer; Elizabeth Waagen, senior technical assistant and Associate Editor of the *Journal of the AAVSO*; Rebecca Pellock, technical assistant and meetings coordinator; Kerriann Malatesta, technical assistant; Michael Saladyga, technical assistant and *Journal* Production Editor; Gamze Menali, technical assistant; Katherine Davis, technical assistant and web site administrator; Victor Gonzalez, membership services coordinator and administrative assistant; Travis Searle, administrative assistant and publications assistant; Sarah Turner, office assistant; Aaron Price, technical assistant and Unix System administrator; Sara Beck, our 7-month full-time technical assistant; Barbara Silva and Gloria Ortiz, our part-time data entry technicians; and Carl Feehrer, Arthur Ritchie, and Frank McCorrison, our loyal volunteers.

I also wish to thank our contract personnel: Charles Scovil, Mark Biesmann, and Mike Gutner—chart preparation; Ronald Zissell—comparison star measurement; Ayo Ijidakinro—visual-basic programming; and Ann Saladyga—accounting.

Special thanks go to Rebecca Pellock for her 5 years of service to the AAVSO as Astronomical Technical Assistant and Meetings Coordinator.

12. Acknowledgements

I want to thank with deep feelings of appreciation and gratitude all those who have contributed so much to the Association this year.

We remember Clint Ford with fond memories and are grateful to him for providing us with our own Headquarters and with a legacy—the Clinton B. Ford Fund—that will assure a sound future for the AAVSO.

We remember Margaret Walton Mayall for her dedicated service to the AAVSO, for making it survive during very hard times, and for the bequest that she and Newton made to assure the sound future of the AAVSO.

We remember Leonard Kalish, who had been a long time member, and who left a bequest to the AAVSO.

Our appreciation and thanks go to our dedicated, devoted, and untiring observers—708 of them (a record high)—around the world this year, the unsung heroes of the AAVSO who make this Association vital to variable star research. Special thanks to all those who have contributed to the AAVSO *News Flash*, and to our special observing programs.

Our thanks go to members who support the AAVSO with their dues; special thanks to those who are sponsoring the membership of an active observer, and to those who have generously contributed above their dues so that we can serve you, our members, and the astronomical community, well.

My sincere thanks and appreciation go to our Committee Chairpersons who give so generously of their time and wisdom to the Committee for which they are responsible. Thanks to: Gary Walker, Marvin Baldwin, Rev. Kenneth Beckmann, Howard Landis, Carl Feehrer, Charles Scovil, and Rev. Robert Evans.

I appreciate the support of and thank our Vice Presidents Daniel Kaiser and William Dillon, and our Council members Raymond Berg, Peter Garnavich, Arne Henden, Margarita Karovska, Kristine Larsen, Mario Motta, Msgr. Ronald Royer, and David Williams.

Additional thanks to Dan Kaiser for his being in charge of our Mentorship program, Arne Henden for his leadership in our GRB program, and Bill Dillon for his contribution to the selection of the AAVSO Olcott award.

I especially want to thank Lee Anne Willson, our President, and Martha Hazen, our Secretary.

A special thanks goes to Ted Wales, our past Treasurer, for his help and advice, and to Ann Saladyga, our accountant, for her hard work, particularly during the illness of our Treasurer, Wayne Lowder.

My sincere appreciation to Charles Whitney for his continuing editorship of the *Journal of the AAVSO*.

Our thanks to John Percy for his excellent editorship of the *AAVSO Photoelectric Photometry Newsletter*.

Thanks go to Stamford Observatory for allowing Charles Scovil and John Griesé to use the 22-inch telesocpe for making variable star observations, and for allowing Charles Scovil to use the facilities of the Observatory to prepare charts.

Our thanks to Lenny Abbey for his help in formatting the *AAVSO Circular*, to Doug Welch for administering the AAVSO and GRB discussion groups, and to Ray Berg, Chuck Pullen, and Lance Shaw for their presentations on the AAVSO and Variable Stars.

We received financial support from institutions, private foundations, and government agencies this year. We gratefully acknowledge the following:

The Curry Foundation—a grant to support the High-Energy Astrophysics Workshop, AAVSO Gamma-Ray Burst Network, and operations;

National Oceanic and Atmospheric Administration—a grant in support of the AAVSO Solar Division activities in 1998 (last quarter) and 1999;

National Aeronautics and Space Administration—a grant in support of our collaboration with Chris Mauche for EUVE observations;

NASA Goddard Space Flight Center—a grant in support of the HEA Workshop;

NASA Headquarters—a grant in support of the HEA Workshop;

International Astronomical Union—a grant for registration and partial accommodations to attend the 24th IAU General Assembly;

American Astronomical Society—a travel grant to attend the IAU General Assembly.

We are very fortunate to have the support of so many individuals and organizations and we sincerely thank each of them.

Finally, my personal thanks to my husband Mike for his continuous understanding and support.

Table 1. AAVSO Observer Totals 1999–2000 by Country.

Country	No. Observers	No. Obs.	Country	No. Observers	No. Obs.
ARGENTINA	15	10522	MALTA	1	1
AUSTRALIA	8	36390	NETHERLANDS	16	15251
AUSTRIA	2	725	NEW ZEALAND	5	28662
BELGIUM	15	20317	NORWAY	14	2737
BRAZIL	25	4883	PARAGUAY	1	15
CANADA	25	17208	POLAND	16	15391
CHILE	1	126	PORTUGAL	3	95
CZECH REPUBLIC	3	320	ROMANIA	6	8279
DENMARK	6	9001	RUSSIA	8	578
ENGLAND	17	22452	SCOTLAND	1	1
FINLAND	7	8689	SLOVAKIA	1	3168
FRANCE	32	15421	SOUTH AFRICA	12	13386
GERMANY	39	21394	SPAIN	31	4164
GREECE	7	3030	SWEDEN	1	325
HAITI	1	273	SWITZERLAND	7	2728
HUNGARY	81	16854	TURKEY	1	5
INDIA	3	449	UKRAINE	12	3785
IRELAND	3	343	URUGUAY	9	92
ISLE OF MAN	1	53	USA	244	142929
ISRAEL	3	148	VENEZUELA	1	1
ITALY	17	8128	YUGOSLAVIA	2	32
JAPAN	4	1669	ZIMBABWE	1	81
			TOTAL	708	440,099

Table 2. AAVSO Observer Totals 1999–2000 USA by State or Territory.

State		No. Observers	No. Obs.	State		No. Observers	No. Obs.
ALABAMA	(AL)	1	64	MISSISSIPPI	(MS)	1	32
ARIZONA	(AZ)	12	12774	MISSOURI	(MO)	3	178
ARKANSAS	(AR)	1	614	MONTANA	(MT)	1	1
CALIFORNIA	(CA)	25	25385	NEBRASKA	(NE)	1	7
COLORADO	(CO)	6	2370	NEW HAMPSHIRE	(NH)	2	562
CONNECTICUT	(CT)	10	2595	NEW JERSEY	(NJ)	6	870
FLORIDA	(FL)	5	1841	NEW MEXICO	(NM)	5	5710
GEORGIA	(GA)	6	9560	NEW YORK	(NY)	18	10336
HAWAII	(HI)	2	47	NORTH CAROLINA	(NC)	2	4
IDAHO	(ID)	1	6	OKLAHOMA	(OK)	1	7
ILLINOIS	(IL)	14	7163	OHIO	(OH)	12	4537
INDIANA	(IN)	7	11244	PENNSYLVANIA	(PA)	9	2818
IOWA	(IA)	6	348	PUERTO RICO	(PR)	2	249
KANSAS	(KS)	2	94	RHODE ISLAND	(RI)	3	1607
KENTUCKY	(KY)	1	96	TEXAS	(TX)	8	602
LOUISIANA	(LA)	2	92	UTAH	(UT)	2	1931
MAINE	(ME)	4	3098	VIRGINIA	(VA)	4	2288
MARYLAND	(MD)	8	1146	WASHINGTON	(WA)	8	369
MASSACHUSETTS	(MA)	16	12543	WEST VIRGINIA	(WV)	1	439
MICHIGAN	(MI)	6	5422	WISCONSIN	(WI)	11	10922
MINNESOTA	(MN)	8	2821	WYOMING	(WY)	1	137
				TOTAL		244	142,929

Table 3. AAVSO Observers, 1999–2000.

Code		*Name*	*No. Obs.*	*No. I.S.*
AAP		A. Abbott, Canada	1515	107
ACH	*	C. Accary, France	213	
AAK	#	A. Ackermann, Hungary	4	
ABB		B. Adams, CA	710	83
AJO	*	J. Afonso, Portugal	4	
AJF	√	J. Alcazar Fernandez, Spain	5	
ARL	£	R. Alencar Caldas, Brazil	544	
ALN		R. Allison, IA	97	21
AAA	£	A. Alves, Brazil	28	
AAX	£	A. Amorim, Brazil	912	
AEJ		E. Anderson, NY	384	
ABG	$	B. Andresen, Norway	25	
AWI		W. Anthony, NJ	122	15
AWJ		W. Aquino, NY	44	
AGI		G. Arcuri, Italy	1	
AKT		T. Atkin, Haiti	273	
AAI		A. Axenovsky, Russia	46	
BQA	⊗	A. Bachi, Uruguay	1	
BXM	£	M. Bain, Brazil	7	
BAH		A. Balcerek, Poland	86	
BM		M. Baldwin, IN	6673	
BGQ	#	G. Balogh, Hungary	1	
BIV	#	I. Balogh, Hungary	639	
BHZ	#	Z. Balogh, Hungary	287	
BGZ		G. Banialis, IL	29	
BDI	¶	D. Bannuscher, Germany	591	
BXA	¢	A. Baransky, Ukraine	1276	
BSF		S. Barnhart, OH	2	
BSR	@	S. Baroni, Italy	529	
BCT	*	C. Barret, France	3	
BCW	&	C. Bassa, Netherlands	3	
BBA		B. Beaman, IL	608	36
BJS		J. Bedient, HI	22	
BEI		J. Beisser, Germany	1	
BXL		L. Bell, MN	35	
BTY		T. Benner, PA	58	9
BBE	#	B. Berente, Hungary	9	1
BTU		T. Beresky, MO	118	
BEB		R. Berg, IN	2534	5
BEN	#	E. Berko, Hungary	14	9
BMM	‡	M. Biesmans, Belgium	272	125
BGW		G. Billings, Canada	6	
BXN	*	M. Bisson, France	8	
BNV	$	N. Biver, Norway	19	
BXT	$	T. Bjerkgaard, Norway	1	
BGX		G. Blair, NJ	1	
BXC	√	C. Blanco Arca, Spain	25	10
BOI		B. Bois, Canada	79	
BNQ	#	N. Boja, Hungary	6	
BYJ	#	J. Bonyak, Hungary	1	
BEC	¶	E. Born, Germany	25	
BRJ		J. Bortle, NY	6069	2408
BJB	λ	J. Bosch, Switzerland	1	1
BBW		B. Bose, India	44	
BTW	*	T. Boudoyen, France	13	
BMU	&	R. Bouma, Netherlands	1841	65
BPI	*	P. Bourret, France	26	
BQJ	#	J. Bozsoky, Hungary	7	
BMK		M. Bradbury, IN	258	2
BDT		D. Branchett, FL	45	
BQD		D. Brannen, PA	12	
BCC	£	C. Brasil, Brazil	1	
BHT		T. Brennan, WA	3	
BVM	&	M. Brentjens, Netherlands	1	
BTB		T. Bretl, MN	260	47
BHA	¶	H. Bretschneider, Germany	758	
BPL		P. Brierley, England	1	
BLP	#	P. Brlas, Hungary	8	
BOS	‡	E. Broens, Belgium	1	
BJQ		J. Brooks, CA	17	
BXV		X. Bros, Spain	30	
BHJ		J. Brownfield, OH	205	26
BOA	*	A. Bruno, France	6	
BCY		C. Bryja, NY	33	24
BTH		T. Burrows, CA	1069	436
BVQ	⊗	V. Buso, Argentina	9	
CVJ	λ	J. Carvajal Martinez, Spain	19	6
CVR	%	R. Carver, Australia	90	4
CLQ		L. Cason, VA	22	
CKN		K. Castle, AZ	409	54
CGN	⊗	G. Cerrutti, Uruguay	24	
CNB	⊗	N. Cerrutti, Uruguay	23	
CNT		D. Chantiles, CA	509	3
CMH	*	M. Chapelet, France	13	
CGF		G. Chaple, MA	3490	1419
CJL		J. Charles, MI	138	
CPT		P. Chevalley, Switzerland	9	
OCR	‡	O. Chretien, Belgium	36	
CLK		W. Clark, MO	55	
CRX		R. Cnota, Poland	1100	
CJU	^	J. Coco Lopez, Spain	2	
CAY	£	A. Coelho, Brazil	4	
CCT	£	C. Colesanti, Brazil	4	
COL		P. Collins, AZ	17	
CME	@	E. Colombo, Italy	584	
CMG	&	G. Comello, Netherlands	10059	1212
COO		L. Cook, CA	19842	48
CK		S. Cook, AR	614	
CTM		T. Cook, NY	28	
COM	+	T. Cooper, South Africa	530	15
CPJ		P. Corbally, NY	2	
CDV		D. Cornell, IL	13	3
CLZ	*	L. Corp, France	18	
CAI		A. Correia, Portugal	43	
CTO	‡	T. Corstjens, Belgium	9	
COV		V. Coulehan, NY	526	
CGD	*	G. Coute, France	15	
CMV		M. Covington, GA	1	
CWD		D. Cowall, MD	80	
CLX		L. Cox, Canada	190	

Table 3. AAVSO Observers, 1999–2000, cont.

Code		*Name*	*No. Obs.*	*No. I.S.*	*Code*		*Name*	*No. Obs.*	*No. I.S.*
CR	%	T. Cragg, Australia	2612	750	FRF	#	R. Fidrich, Hungary	539	14
CCU		C. Cremaschini, Italy	22		FSE	@	S. Foglia, Italy	5593	
CRR		R. Crumrine, NY	39		FDO	#	D. Foldesi, Hungary	1	
CBZ	#	B. Csak, Hungary	15		FFC	#	F. Foldesi, Hungary	123	4
CJK	#	J. Csanyi, Hungary	12		FJD		J. Foley, WI	52	
CGB	#	G. Cseri, Hungary	55		FJT	*	J. Fontalba, France	127	
CTI	#	T. Csorgei, Hungary	326		FT		G. Fortier, Canada	230	2
CSM	#	M. Csukas, Romania	469		FWD		W. Fortune, IA	4	
CKB		B. Cudnik, CA	518	10	FXJ		J. Fox, MN	1113	18
DAH	$	H. Dahle, HI	25		FMC	*	M. Frangeul, France	42	
DMI	¶	M. Dahm, Germany	41		FBN	+	B. Fraser, South Africa	182	
DSG	@	S. Dallaporta, Italy	273		FJS	⊗	J. Freitas, Uruguay	2	
DMP		M. Dasgupta, India	25		FDD		D. Friday, NC	1	
DVA		D. Del Valle, PR	244		FML	&	M. Fridlund, Netherlands	100	
DRO		R. Demara, CO	14		FMG		G. Fugman, IA	103	
DFR		F. Dempsey, Canada	127	1	FFL	£	F. Funari, Brazil	3	
DAY	¢	A. Deputatov, Ukraine	146		GMB		M. Gable, OH	1087	2
DNO		O. Deren, Poland	1702		GBZ		O. Gabzo, Israel	21	
DSJ	£	J. De Souza Aguiar, Brazil	5		GEC		E. Gale, IA	122	
DVN	+	C. De Villiers, South Africa	35		GDX	*	D. Gamero, France	9	
DVI	+	F. De Villiers, South Africa	98		GFE	⊗	F. Garcia, Argentina	41	
DHN	¶	H. Diederich, Germany	96	38	GPA	λ	F. Garcia, Spain	2	
DPA	‡	A. Diepvens, Belgium	5010	483	GAJ	⊗	J. Garcia, Argentina	168	
DRG		R. Diethelm, Switzerland	1292	904	GGO	⊗	G. Gaynicotch, Uruguay	2	
DRD		R. Dietz, CO	1		GMD	&	M. Geldorp, Netherlands	38	
DLA		A. Dill, KS	71		GJN	¶	J. Gensler, Germany	236	
DIL		W. Dillon, TX	48	1	GCP		C. Gerber, Germany	1302	
DST		S. Dodder, AZ	13		GBT	#	B. Gere, Hungary	4	
DKT	#	K. Dolp, Hungary	14		GSR		R. Geschwind, OH	285	2
DPL		P. Dombrowski, CT	814	234	GGU	&	G. Gilein, Netherlands	422	1
GDB	#	G. Domeny, Hungary	7		GMC		M. Gill, England	10	
DZS	⊗	S. Dominguez, Argentina	6229		GMH		M. Gille, NJ	1	1
DEH		E. Donaghy, WY	137	12	GVN		V. Giovannone, NY	78	
DHE	+	H. Doyle, South Africa	1		GDQ	⊗	D. Giraudi, Argentina	2	
DOH		O. Drucker, Israel	4		GMY		M. Glennon, Ireland	151	
DPV		P. Dubovsky, Slovakia	3168	982	GLG		G. Gliba, MD	14	
DLQ	£	L. Duczmal, Brazil	2		GLC		C. Glowinski, Germany	2	
DMB	ξ	M. Duenas Becerril, Spain	2		GHA	¶	H. Goldhahn, Germany	1004	
DMO	*	M. Dumont, France	279		GIN	√	I. Gomez, Spain	12	
DKS		S. Dvorak, OH	1926	348	GOT	*	T. Gomez, Spain	19	
DGP		G. Dyck, MA	5580	3829	GZN	*	A. Gonzales Herrera, Spain	523	40
EEZ		E. Eggleston, TX	4		GKA		K. Graham, IL	292	76
EM		G. Emerson, CO	5	1	GRL	$	B. Granslo, Norway	1165	1
EPE	¶	P. Enskonatus, Germany	440		GRI		J. Griese, CT	64	45
EJO	#	J. Erdei, Hungary	1650	71	GVD		V. Grigorenko, Russia	177	
FMA	@	M. Fadda, Italy	414		GCE		C. Grigoropoulos, Greece	12	
FMX	%	F. Farrell, Australia	25		GBI		B. Grim, UT	63	
FCA		C. Fausel, IN	74		GJJ		J. Grnja, Yugoslavia	17	
FGI		G. Favero, Italy	103		GHR		R. Grossenbacher, OH	1	
FMI		M. Feist, England	1		GIO	*	L. Grouiller, France	17	2
FKJ	#	J. Fekete, Hungary	664		GCT	∉	C. Grunnet, Denmark	223	
FNI	¢	N. Felbaba, Ukraine	150		GPR		P. Guilbault, RI	1142	
FPX	£	P. Fernandes, Brazil	4		GUN	*	J. Gunther, France	4051	943
FJM	ξ	J. Fernandez Andujar, Spain	28		GUS		S. Guryanov, Russia	5	
FMQ		M. Fiaschi, Italy	7		GGX	*	G. Guzman, France	355	15

Table 3. AAVSO Observers, 1999–2000, cont.

Code		Name	No. Obs.	No. I.S.
HCS	#	C. Hadhazi, Hungary	1960	
HTY		T. Hager, CT	24	
HK		E. Halbach, CO	2347	19
HMG	#	G. Halmi, Hungary	27	
HJU	⊗	J. Halo, Uruguay	2	
HDW		D. Hamilton, NE	7	
HP		W. Hampton, CT	107	
HAN		J. Hannon, CT	149	149
HSG		G. Hanson, AZ	10728	7093
HAV		R. Harvan, MD	191	
HRX		R. Harvey, Canada	1	
HAI		A. Hastings, MA	66	
HHU	‡	H. Hautecler, Belgium	2083	5
HAB		R. Hays, IL	1051	
HZL		L. Hazel, NY	266	94
HTP		P. Heath, MT	1	
HLS	$	L. Heen, Norway	3	
HQA		A. Henden, AZ	10	3
HEN		C. Henshaw, England	373	
HJN	+	J. Hers, South Africa	440	48
HES		C. Hesseltine, WI	1579	
HRI		R. Hill, AZ	1129	
HIM		M. Hill, MA	9	
HED		D. Himes, OH	201	19
HZR	¶	R. Hinzpeter, Germany	530	
HIR		Y. Hirasawa, Japan	477	32
HJX	£	J. Hodar, Brazil	13	
HWD		W. Hodgson, England	59	
HSY	$	S. Hoeydalsvik, Norway	3	
HFO		G. Hoffer, Germany	20	
HBA	¶	A. Holbe, Germany	2180	
HBO	#	B. Hollosi, Hungary	2	
HZJ		J. Holtz, PA	441	
HOO	&	G. Hoogeveen, Netherlands	17	
HTB	#	T. Horvath, Hungary	22	13
HOA		A. Howell, GA	3305	
HWT		W. Hullett, TX	8	
HDU		D. Hurdis, RI	208	1
HUR		G. Hurst, England	1465	170
HDR	¶	D. Husar, Germany	310	
HUZ		R. Huziak, Canada	3783	123
IRM	√	R. Iglesias Marzoa, Spain	349	
IPA	⊗	P. Ingrassia, Argentina	36	
ION		O. Ivanov, Russia	52	
IVM		V. Ivanov, Russia	218	
IFJ	%	F. Ives, New Zealand	162	
JTP	*	P. Jacquet, France	264	18
JM		R. James, NM	832	70
JSI		S. Jenner, England	16	
JLT	∉	L. Jensen, Denmark	8188	5305
JKK	$	K. Jensen, Norway	9	
JFA	√	F. Jiminez Alvarado, Spain	10	
JIS	√	I. Jiminez Sanchez, Spain	8	
JCH	&	C. Johannink, Netherlands	3	
JRJ	&	R. Johanns, Netherlands	1061	140
JMR		M. Johns, MO	5	
JOG		G. Johnson, MD	169	1
JRA		R. Johnson, MN	142	
JON	‡	K. Jonckheere, Belgium	4	
JA	%	A. Jones, New Zealand	26181	
JCN		C. Jones, England	3482	2218
JRW	+	R. Jones, South Africa	463	
JSH		S. Jones, MA	29	
KDA		D. Kaiser, IN	29	
KB		W. Kaminski, NM	1184	522
KAD	#	A. Karpati, Hungary	43	
KKI		K. Kasai, Switzerland	568	
KMZ		M. Kazmierczak, GA	1	
KRX		R. Keen, CO	2	
KDI		D. Kell, WA	15	
KIV	#	I. Kelley, Hungary	50	
KZX	#	Z. Kereszty, Hungary	2	
KSZ	#	S. Keszthelyi, Hungary	151	
KRB		R. King, MN	623	194
KTO	∇	T. Kinnunen, Finland	6020	4590
KJH		J. Kirkland, NY	1	
KHN	#	H. Kiss, Hungary	1	
KIL	#	L. Kiss, Hungary	774	3
KON	∉	O. Klinting, Denmark	1	
KHB		H. Knapp, FL	1	
KGT		G. Knight, ME	56	
KSP		S. Knight, ME	43	3
KS		J. Knowles, NH	530	
KOC	#	A. Kocsis, Hungary	27	1
KDL	¶	D. Koehn, Germany	55	
KHL		M. Kohl, Switzerland	710	
KVL	∇	V. Koistinen, Finland	2	
KHJ		H. Koller, Canada	129	
KRS		R. Kolman, IL	2365	165
KAO	¢	A. Koloskova, Ukraine	65	
KMA		M. Komorous, Canada	2056	72
KGG		G. Koralewski, Poland	970	22
KOS	#	A. Kosa-Kiss, Romania	4446	
KJF	#	J. Koszo, Hungary	158	
KVS	#	A. Kovacs, Hungary	57	
KGX	#	G. Kovacs, Hungary	1	
KVI	#	I. Kovacs, Hungary	285	14
KSR	#	S. Kovacs, Hungary	4	
KTB	#	T. Kovacs, Hungary	56	
KKE		K. Kreutzer, KY	96	
KWO	¶	W. Kriebel, Germany	151	19
KIS	¶	G. Krisch, Germany	2881	89
KRK		K. Krisciunas, WA	76	67
KOY	$	O. Kristiansen, Norway	1	
KMK		M. Krolik, Poland	61	
KWN	⊗	W. Kryzanowski, Uruguay	2	
KTZ		T. Krzyt, Poland	980	9
KVO	¢	V. Kucharchuk, Ukraine	88	
KPG	&	G. Kuipers, Netherlands	4	
KBO		R. Kuplin, PA	33	

Table 3. AAVSO Observers, 1999–2000, cont.

Code		*Name*	*No. Obs.*	*No. I.S.*	*Code*		*Name*	*No. Obs.*	*No. I.S.*
KMI		M. Kuzmin, Russia	25		MN		H. Mason, CA	224	
LDT	#	T. Ladanyi, Hungary	12		MVK	#	V. Matis, Hungary	10	
LTO	¶	T. Lange, Germany	1521		MAV		D. Matsnev, Russia	30	
LMF	£	M. Lara, Brazil	1		MTT		J. Mattei, MA	1	
LVA	$	A. Lauvstad, Norway	19		MTM		M. Mattei, MA	8	
LZT		T. Lazuka, IL	1182		MMZ	%	M. Mattiazzo, Australia	13	
LEB	*	R. Lebert, France	160		MPR	¶	P. Maurer, Germany	1239	73
LFC	‡	F. Lecoyer, Belgium	4		MGE		G. Mavrofridis, Greece	652	33
LMT		M. Legutko, Poland	14		MJW		J. Mayer, PA	1055	93
LNZ		G. Lenz, CT	368		MGU		T. McCague, IL	36	
LJL		J. Leonard, IL	51		MQS		S. McCann, England	2	
LSI		S. Leonini, Italy	343		MQC		Q. McCleery, NC	3	
LMO		M. Lessard, Canada	24		MDP		P. McDonald, Canada	703	55
LRV	£	R. Levai, Brazil	2		MGH		H. McGee, England	2319	810
LEV		A. Leveque, CA	120		MGG		G. McGinnis, WA	16	5
LVY		D. Levy, AZ	85	79	MKJ		J. McKenna, NJ	741	150
LIW		W. Liller, Chile	126		MIB	$	I. Mediaas, Norway	1	
LMK		M. Linnolt, CA	431	40	MED		K. Medway, England	1769	
LLZ	#	L. Liziczai, Hungary	246		MXC	£	C. Meluzzi, Brazil	2	
LOB	λ	J. Lobo-Rodriguez, Spain	88		MGQ		G. Menali, MA	10	
LCS	£	S. Lomonaco Carvalho, Brazil	4		MHI		H. Menali, MA	63	
LMG		M. Looby, IL	4		MMD	£	M. Mendes, Brazil	51	
LKE		K. Loomis, NM	1		MZX		A. Menzl, WA	21	
LEQ		E. Lopata, CA	10		MZN	#	A. Meszaros, Hungary	1	
LRD		D. Loring, UT	1868		MTK		T. Michalik, VA	387	
LEJ		E. Los, NH	32		MIH	*	A. Michalski, France	7	
LRG	√	R. Losada Menendez, Spain	16		MDI		I. Middlemist, England	44	
LMS		M. Loucas, Greece	68		MOK	$	O. Midtskogen, Norway	1419	182
LX		W. Lowder, NY	3		MGB		G. Milani, Italy	3	
LTB		T. Lubbers, MN	572		MKD		K. Millyard, FL	5	2
LBG		G. Lubcke, WI	1332		MZS	#	A. Mizser, Hungary	1092	21
LKA		K. Luedeke, NM	54		MZE	#	C. Mizser, Hungary	12	
LJU		J. Luengo, PA	111		MCE		E. Mochizuki, Japan	46	
LMJ	∇	M. Luostarinen, Finland	121	1	MRV		R. Modic, OH	590	260
LME		M. Lyons, England	193		MMI	¶	M. Moeller, Germany	5	
MDW		W. MacDonald, Canada	165	2	MSG		A. Molina Saorin, Spain	11	
MTX		T. Mackenzie, Canada	1		MOL		J. Molnar, VA	1878	
MFA	¢	Alexandr A. Maidyk, Ukraine	156		MLF	+	B. Monard, South Africa	3813	1763
MQA	¢	Alexandr S. Maidyk, Ukraine	950		MDM		D. Moody, Scotland	1	
MZA	¢	Anastasia Maidyk, Ukraine	53		MXJ		J. Morden, Canada	3	
MQN	¢	N. Maidyk, Ukraine	367		MOI	*	E. Morillon, France	685	
MVL	¢	V. Maidyk, Ukraine	303		MOW		W. Morrison, Canada	5230	278
MZG	¶	G. Maintz, Germany	362		MDA		A. Morton, WA	26	5
MLI		L. Maisler, NY	310	17	MHR	£	D. Mota, Brazil	2	
MVO	∇	V. Makela, Finland	18		MKH		S. Mukherjee, India	380	
MNV	¢	N. Maksimenko, Ukraine	125		MMU		M. Munkacsy, RI	257	
MPH		P. Manker, GA	40		MUY	‡	E. Muyllaert, Belgium	8586	3074
MOT	∇	O. Manner, Finland	8		NGY	#	A. Nagy, Hungary	1	
MKE		R. Manske, WI	168		NAG	#	G. Nagy, Hungary	3	
MZY	#	Z. Margyarics, Hungary	100		NZO	#	Z. Nagy, Hungary	65	4
MKW		A. Markiewicz, Poland	1546		NDA		D. Nance, AL	64	
MXS	#	S. Marosi, Hungary	533		NTA	£	T. Napoleao, Brazil	34	
MMN		M. Martignoni, Italy	33	19	NLX	%	P. Nelson, Australia	241	138
MXR		R. Martin, MD	115		NJO	¶	J. Neumann, Germany	1615	
MRX	¶	H. Marx, Germany	967	79	NFD	&	F. Nieuwenhout, Netherlands	76	

Table 3. AAVSO Observers, 1999–2000, cont.

Code		*Name*	*No. Obs.*	*No. I.S.*	*Code*		*Name*	*No. Obs.*	*No. I.S.*
NAW	‡	A. Nieuwlandt, Belgium	25		PMK		M. Pust, Yugoslavia	15	
NBJ		B. Nikolau, IA	2		QW	¶	W. Quester, Germany	8	6
NPM		P. Norris, MA	1		QPF		P. Quinn, WI	46	
NTM	#	T. Noszek, Hungary	5		RSU	%	S. Rae, New Zealand	25	
NGZ		G. Nowak, Poland	31		RKE	¶	K. Raetz, Germany	236	
NHK	∇	H. Nylander, Finland	2304	240	RCH	*	C. Ramillon, France	501	
OCN		S. O'Connor, Canada	1615	1150	RRB		R. Raphael, ME	439	127
OMA		M. Oefelein, IL	196		RZS	#	Z. Reiczigel, Hungary	102	
OFA		A. O'Fearghail, Ireland	52	33	REP		P. Reinhard, Austria	525	
OER		E. Ofek, Israel	123		RFP	£	P. Reis-Fernandes, Brazil	480	9
OJO	∉	J. Olesen, Denmark	271		RMQ		M. Reszelski, Poland	2260	1015
OPJ	£	P. Oliveira, Brazil	1		RNA	#	N. Rezsabek, Hungary	7	
ONJ		J. O'Neill, Ireland	140		RJG		J. Ribeiro, Portugal	48	
OV		E. Oravec, NY	2086		RIX	%	T. Richards, Australia	63	
OPR		P. Ossowski, Poland	8		RQ		C. Ricker, MI	114	
OSV	#	L. Osvald, Hungary	8		RRZ	#	R. Ricza, Hungary	1232	
OSE	⊗	S. Otero, Argentina	1541		OJR	λ	J. Ripero Osorio, Spain	2276	930
OJJ		J. Ott, TX	15	1	RAS	⊗	A. Risi, Argentina	2	
OB	+	D. Overbeek, South Africa	5625	2	RBA		B. Risman, Canada	57	
OCI		C. Ovidiu, Romania	1		RMU	υ	M. Rodriguez Marco, Spain	13	
PAY		A. Pace, Malta	1		RSO	√	O. Rodriguez Santana, Spain	1	
PLA	£	A. Padilla Filho, Brazil	602		RJA	*	J. Rohart, France	60	
PSE		S. Palmer, TX	16		RBC	#	B. Romsics, Hungary	2	
PAB	#	A. Papp, Hungary	7		RCX		C. Rose, MS	32	
PPS	#	S. Papp, Hungary	2737	304	ROG		G. Ross, MI	141	73
PEX	%	A. Pearce, Australia	7610	5850	RJQ		J. Rowe, Canada	1	
PN		A. Pearlmutter, MA	25		RR		R. Royer, CA	348	152
PTI		N. Peattie, CA	138		RMO	⊗	M. Rozada, Venezuela	1	
PPB	⊗	P. Pecorelli, Argentina	1479		RGY		G. Rubright, PA	1	
PEI	∉	E. Pedersen, Denmark	182	3	RRP	λ	R. Ruiz, Spain	7	5
PEG	*	C. Peguet, France	187		RJV	*	J. Ruiz Fernandez, Spain	166	
PWD		W. Pellerin, TX	19		RPH		H. Rumball-Petre, CA	18	
PFD	⊗	F. Pfaffendorf, Argentina	5		SJU	*	J.-L. Saint-Jouan, France	3	1
PKT		J. Pickett, AZ	75	23	SSU		S. Sakuma, Japan	1143	175
PYS	‡	Y. Piersman, Belgium	20		SVP		V. Sallares Pujol, Spain	33	
PEY		E. Piggott, AZ	44		SFV		F. Salvaggio, Italy	89	
PGU	@	G. Pinazzi, Italy	62		SQL	⊗	R. Salvo, Uruguay	34	
PHT		H. Pinkston, VA	1		SAH		G. Samolyk, WI	7288	
PIJ	#	J. Piriti, Hungary	341		SNU	⊗	J. Sanchez, Argentina	1	
PPL		P. Plante, OH	162		SGX	#	G. Santa, Hungary	31	
AST	⊗	R. Podesta, Paraguay	15		STC		G. Santacana, PR	5	
POH	¶	T. Posch, Germany	18		SYA	√	A. Santana Robaina, Spain	5	
PGG	#	G. Posztpisl, Hungary	82		SQQ	⊗	M. Santander, Argentina	600	
PWR		R. Powaski, OH	41		SIA	⊗	L. Sarmiento, Argentina	24	
POX		M. Poxon, England	862	164	SKI	#	K. Sarneczky, Hungary	149	16
PYG		G. Poyner, England	11091	7583	SGE		G. Sarty, Canada	25	
PCJ		C. Predom, CT	2		SXK	¶	M. Schabacher, Germany	329	
PAH		A. Price, MA	60		SDY	¶	D. Scharnhorst, Germany	372	96
PFJ		F. Price, NY	4		SFK		F. Scheder, MD	461	113
PMC		M. Proctor, AZ	1		SXT		T. Schieding, MA	91	
PEF	@	E. Prosperi, Italy	4	4	SFS		S. Schiff, LA	30	1
PDQ	*	D. Proust, France	16	1	SPK		P. Schmeer, Germany	155	33
PUJ	λ	F. Pujol, Spain	203	80	SHV	#	A. Schmidt, Hungary	1004	11
PCH		C. Pullen, CA	247	5	SQR		R. Schmude, GA	6099	
PFR	#	F. Puskas, Hungary	443		SAQ	&	A. Scholten, Netherlands	9	

Table 3. AAVSO Observers, 1999–2000, cont.

Code		Name	No. Obs.	No. I.S.	Code		Name	No. Obs.	No. I.S.
SHX	¶	H. Schubert, Germany	13		SQO		R. Stuber, IL	232	
SCZ	*	E. Schweitzer, France	383	1	SUK		M. Stuka, CA	12	
SBQ		B. Scott, CT	100		SAC	¶	A. Sturm, Germany	184	
SCE		C. Scovil, CT	191	88	SUX	√	M. Suarez Tejero, Spain	286	
SVW		V. Scurtu, Romania	200		SUS	¶	D. Suessmann, Germany	1319	
SVJ		J. Seevers, IL	10		SQC		C. Suslavage, CA	99	
SNQ	⊗	N. Servachi, Uruguay	2		SWV		D. Swann, TX	485	
SDF		D. Shackleford, CA	245		SSW		S. Swierczynski, Poland	3828	
SHS		S. Sharpe, ME	2560	45	SSH	#	Gabor Szabo, Hungary	4	
SDP		D. Sharples, NY	3		SGO	#	Gyula Szabo, Hungary	55	1
SSA		A. Sharpless, WA	118		SZW		R. Szaj, Poland	596	42
SQN		L. Shaw, CA	130	36	SZX	#	Z. Szalma, Hungary	74	
SPT		P. Sheldrick, France	20	4	SAO	#	A. Szauer, Hungary	138	
SHW		W. Sherman, IN	7		SXZ	#	K. Sziladi, Hungary	1	
SGQ		C. Sigismondi, Italy	64		TDB		D. Taylor, Canada	368	114
SBN	£	A. Silva Barros, Brazil	2103		TPV		P. Temple, AZ	3	
SNE		N. Simmons, WI	104		TPS	#	I. Tepliczky, Hungary	1	
SXN		M. Simonsen, MI	4822	2053	TTU		T. Tezel, Turkey	5	
SXE		E. Simou, Greece	11		TGG		G. Thomas, CA	68	8
SGZ		G. Simpson, OH	15		THR		R. Thompson, Canada	762	
SOT		T. Sinor, LA	62		THU	*	B. Thouet, France	34	
SBI	#	B. Sipocz, Hungary	22		TKV		K. Thyrion, WI	6	
SWQ		W. Sizensky, NY	23		TIA	#	A. Timar, Hungary	24	
SOV	$	O. Skilbrei, Norway	5		TTF		T. Tobal, Spain	7	
SLQ	*	L. Smelcer, Czech Republic	230	6	TVG	⊗	V. Tombotto, Argentina	346	
SJX	+	J. Smit, South Africa	1611		TRT	#	T. Tordai, Hungary	9	
SMI		A. Smith, England	9	5	TTK	#	K. Toth, Hungary	81	
SDZ		D. Smith, AZ	260		TOZ	#	Z. Toth, Hungary	67	15
SJE		J. Smith, CA	219		TSC		S. Tracy, CT	776	293
SKZ	£	K. Soares, Brazil	8		TRF		C. Trefzger, Switzerland	147	63
SPV		P. Sobotka, Czech Republic	1		TRO	$	O. Trondal, Norway	51	15
SKA		K. Sokolovsky, Russia	25		TLU	⊗	L. Trumper, Argentina	39	
SBX	*	A. Sonka, Romania	3132		TSJ		S. Tsuji, Japan	3	
SOH	∉	H. Sorensen, Denmark	136		TUB	#	V. Tuboly, Hungary	82	12
SJZ		J. Speil, Poland	2008	1	TVL		V. Tudose, Romania	31	
SPC	%	C. Spell, New Zealand	1		TUC	+	C. Turk, South Africa	256	
SPO	$	J. Spongsveen, Norway	16		TYS		R. Tyson, NY	437	
SXR	#	M. Sragner, Hungary	8		VFR	*	F. Vaclic, Czech Republic	89	
SOQ		O. Staiger, Switzerland	1		Vbe	&	E. Van Ballegoij, Aruba	1195	
STR		R. Stanton, CA	57	54	VBR		H. Van Bemmel, Canada	128	14
SVD		V. Steblina, WA	94	6	VDL	‡	J. Van Der Looy, Belgium	3207	
SKS		T. Steckner, Canada	5		VDE	&	E. Van Dijk, Netherlands	420	13
SXH		H. Steele, WI	11		VNL	‡	F. Van Loo, Belgium	1049	24
STF		G. Stefanopoulos, Greece	706		VPJ		J. Van Poucker, MI	124	8
STI		P. Steffey, FL	30		VWS	‡	J. Van Wassenhove, Belgium	4	
SGP		P. Stegmann, NJ	1		VKG	#	G. Vaskuti, Hungary	3	
SAA		A. Stephan, FL	16		VSB	*	S. Vasselle, France	35	
SET		C. Stephan, FL	1749	24	VFO		F. Vazquez Rodriguez, Spain	2	
SWT		R. Stewart, NJ	4	1	VED	*	P. Vedrenne, France	4795	
STQ		N. Stoikidis, Greece	323		VKR	¢	K. Velikazova, Ukraine	106	
SDI		D. Storey, Isle of Man	53		VET	*	M. Verdenet, France	3069	1676
SDV		D. Stotz, TX	7		VIA	*	J. Vialle, France	7	
SWK		W. Strider, MD	29		VAN	¶	A. Viertel, Germany	134	
SHZ	¶	H. Struever, Germany	62		VII	#	I. Vincze, Hungary	21	
SRX	%	R. Stubbings, Australia	25736	17416	VIT	√	F. Violat, Spain	16	

Table 3. AAVSO Observers, 1999–2000, cont.

Code		Name		No. Obs.	No. I.S.	Code		Name		No. Obs.	No. I.S.
VJA	∇	J.	Virtanen, Finland	216	5	WDD		D.	Williams, MN	12	
VHC	£	H.	Vital, Brazil	66		WJL		J.	Williams, CA	3	
VGK		G.	Vithoulkas, Greece	1258		WPX	%	P.	Williams, Australia	2293	737
VFK	¶	F.	Vohla, Germany	1516	3	WRX		R.	Williams, MI	83	7
VOL		W.	Vollmann, Austria	200	4	WLP	‡	P.	Wils, Belgium	7	
WEO		E.	Waagen, MA	3		WSN		T.	Wilson, WV	439	126
WGR		G.	Walker, MA	50	27	WWJ		W.	Wilson, England	754	8
WSM	+	S.	Walsh, Zimbabwe	81	1	WKM		M.	Wiskirken, ID	6	
WFR	¶	F.	Walter, Germany	553		WUL	¶	U.	Witt, Germany	146	
WAB		B.	Warner, CO	1		WRZ		R.	Wlodarczyk, Poland	157	
WWE		W.	Webb, CA	14	2	WRQ		R.	Wojtek, Poland	44	
WER		R.	Weber, KS	23		WSV		S.	Wolfe, OH	22	
WPT	+	P.	Wedepohl, South Africa	332		WJM		J.	Wood, CA	320	
WEI		D.	Weier, WI	319	107	WPF		P.	Wright, MN	64	
WMC		M.	Weier, WI	17	1	WUB	&	E.	Wubbena, Netherlands	2	
WC		R.	Wend, IL	1094		YRK		D.	York, NM	3639	2208
WWO	¶	W.	Wenzel, Germany	17		YKA		K.	Young, CA	17	
WEF		F.	West, PA	1104		ZAG	#	G.	Zajacz, Hungary	32	
WJD		J.	West, OK	7		ZAM	@	M.	Zanotta, Italy	4	
WDM	§	M.	Westlund, Sweden	325	7	ZWD		W.	Zeilstra, IA	20	
WAH		A.	Whiting, MD	87		ZXI		X.	Zhu, PA	3	
WTK	#	K.	Wieszt, Hungary	1		ZRE		R.	Zissell, MA	3057	1233
WBO		B.	Williams, GA	114							
WI		D.	Williams, IN	1669	1						

These symbols, which appear in Table 3 (AAVSO Observers 1999–2000), indicate observers are also affiliated with the groups below:

^ Agrupacia Astronomica Albireo of Seville (Spain)
√ Asociacion de Variabilistas de Espagne (Spain)
* Association Française des Observateurs d'Étoiles Variables (France)
+ Astronomical Society of Southern Africa, Variable Star Section
∉ Astronomisk Selskab (Scandinavia)
£ Brazilian Observational Network REA
¶ Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e.V. (BAV) (Germany)
ξ Grupo Astronomico Silos (Zaragoza, Spain)
⊗ Liga Ibero-Americana de Astronomia (South America)
λ Madrid Astronomical Association M1 (Spain)
Magyar Csillagàszati Egyesület, Valtozócsillag Szakcsoport (Hungary)
& Nederlandse Vereniging Voor Weer-en Sterrenkunde, Werkgroep Veranderlijke Sterren (Netherlands)
$ Norwegian Astronomical Society, Variable Star Section
% Royal Astronomical Society of New Zealand, Variable Star Section
υ Sociedad Astronomica 'Syrma' (Valladolid, Spain)
§ Svensk Amator Astronomisk Förening, variabelsektionen (Sweden)
¢ Ukraine Astronomical Group, Variable Star Section
@ Unione Astrofili Italiani (Italy)
∇ URSA Astronomical Association, Variable Star Section (Finland)
‡ Vereniging Voor Sterrenkunde, Werkgroep Veranderlijke Sterren (Belgium)

Table 4. Observation statistics for fiscal year 1999–2000 (see Figures 5, 6, and 7).

Observations (increments of 1000)	*No. Observations per increment*	*% of All Observations*	*No. Observers per increment*
1–999	76864	17%	604
1000–1999	68707	16%	50
2000–2999	42004	10%	18
3000–3999	40973	9%	12
4000–4999	18114	4%	4
5000–5999	27038	6%	5
6000–6999	31090	7%	5
7000–7999	14898	3%	2
8000–8999	16774	4%	2
9000–9999	0	0%	0
10, 000+	103637	24%	6

Table 5. Individuals requesting AAVSO data during fiscal year 1999–2000.*

Name	*Affiliation/Location*
C. Akan	Ege University, Turkey
R. Alvarez	Universite Libre de Bruxelles, Belgium
J. Astro	email only
M. Augustus	email only
A. Baransky	Kyiv, Ukraine
G. Barie	Stuttgart, Germany
N. Basilchuck	*Burlington Free Press* Newspaper, Burlington, VT
D. Baskill (2)	Leicester University, United Kingdom
E. Baze	Selah, WA
T. Beck	Stony Brook, NY
T. Bedding	University of Sydney, Australia
M. Benitez	Buenos Aires, Argentina
R. Berg	St. Poway, CA
R. Biello	Rhode Island
L. Bing	Natick, MA
P. Bojda	Rzeszow, Poland
J. Bonjorni	Smith College, MA
J. Boon	Carmarthenshire, United Kingdom
C. Bowles	Sydney, OH
B. Brazell (11)	Shawnee State University, OH
K. Brown	University of Puget Sound, WA
S. Bryan	Victor Valley College, CA
J. Bush	Palm Beach, FL
M. Butasek	Alexandria, VA
A. Cabrerra	Space.com
C. Carla	Ozark, MO
M. Castelaz (3)	East Tennessee State University, TN
D. Christian	Space Telescope Science Institute, MD
D. Ciardi (2)	University of Florida, FL
B. Cline	Greer, SC

**List does not include individuals obtaining data or information directly from the AAVSO website. A number in parentheses after the name indicates multiple requests.*

Table 5. Individuals requesting AAVSO data during fiscal year 1999–2000, cont.

Name	*Affiliation/Location*
L. Cook	Concord, CA
D. Cornell	Principia College, IL
A. Correia	Esposende, Portugal
M. Covington	University of Georgia, GA
T. Danos	Lockport, LA
J. Davis	email only
J. Day	Leicester, United Kingdom
E. Dengiz	Cankaya Ankara Turkiye, Turkey
A. Dennis	Benson High School, MN
P. Diamond	Jodrell Bank Observatory, United Kingdom
J. DiMarco	Amenia, NY
R. Downes	Space Telescope Science Institute, MD
D. Edwards	El Paso, Texas
M. Eftimova	Chicago , IL
J. Fahey	Mainville, OH
J. Favaron (2)	Sao Paulo, Brazil
J. Fertig	Reed College, OR
P. Fieseler	Jet Propulsion Laboratory, CA
D. Foster	email only
C. Gage	Tulsa, OK
W. Gao	email only
A. Gashau	email only
R. Gasparis	email only
M. Glennon	Rathangan, Ireland
J. Greaves (4)	Northampton, United Kingdom
D. Green (5)	*IAU Circulars*, Central Bureau for Ast. Telegrams, Cambridge, MA
P. Groot	Harvard-Smithsonian Center for Astrophysics, MA
P. Grosso	Associacion Argentina Amigos de la Astronomia
P. Grudniewski (2)	Ostrowiec, Poland
A. Guller (2)	Izmir, Turkey
D. Hack	Monash University, Australia
M. Haltuf	Kolin, Czech Republic
R. Harvey	Victoria, BC, Canada
H. Hautecler	Boutersem, Belgium
M. Heald (2)	Laredo, TX
H. Heishman	Lebanon, PA
C. Hellier (2)	Keele University, United Kingdom
B. Herbert	Greenfield Center, NY
Y. Herstein	Amstelveen, The Netherlands
P. Hettiarac	Gampaha, Sri Lanka
S. Howell (2)	Planetary Science Institute, AZ
P. Hughes	Plano, TX
R. Irion	phone only
K. Johnson	Batavia, IL
A. Jorissen	Universite Libre de Bruxelles, Belgium
Y. Joshi	Tata Institute for Fundamental Research, India
D. Kaiser	Columbus, IN
M. Karovska	Harvard-Smithsonian Center for Astrophysics, MA
S. Kawaler	Iowa State University, IA

Table 5. Individuals requesting AAVSO data during fiscal year 1999–2000, cont.

Name	*Affiliation/Location*
K. Kevin	Kent, WA
S. Kimeswenger	University of Innsbruck, Austria
T. Kipper	Tartu Observatory, Estonia
E. Kirk	Chicago, IL
K. Kokkonen	Tuorla Observatory, Finland
S. Komonjinda (6)	Bangkok, Thailand
V. Krstulja	Rijeka, Croatia
E. La Bombard	Ellenburg Center, NY
A. Lauren	email only
T. Lebzelter (2)	University of Vienna, Austria
T. Lewis	Spencerport, NY
T. Lister	University of St. Andrews, Scotland
N. Lloyd	MA
R. Loidl	University of Vienna, Austria
K. Long (13)	Space Telescope Science Institute, MD
R. Ludwig	Westbury, New York
M. Lysaght	Univeristy of Massachusetts, MA
R. Macnaughton	Bolton, Ontario, Canada
K. Marasinghe (9)	Iowa State University, IA
T. Marsh	Southampton University, United Kingdom
I. Martinez-Pais	Instituto de Astrofisica de Canarias, Spain
C. Mauche (40)	Lawrence Livermore National Laboratory, CA
J. McKenna	Annandale, NJ
M. McKinnon	email only
J. McSaveney	University of Canterbury, New Zealand
R. Merrell (2)	Wentworth Falls, N. S. W., Australia
J. Metz	Mannington, WV
Mike	email only
C. Miller (40)	Iowa State University, IA
S. Moch	Weston, CT
J. Monnier	Harvard-Smithsonian Center for Astrophysics, MA
L. Morales-Rueda	University of Southampton, United Kingdom
C. More	Washington, NC
S. Mulki	Tampa, FL
B. Mullins	Charlottesville, VA
D. Myrick	Pittsburgh, PA
T. Nellis	University of Missouri, MO
R. North	University of Southampton, United Kingdom
J. Oberle	Carrollton, TX
M. O' Brian	Hopkinton, MA
L. Ondra	Brno, Czech Republic
J. Padukka	Pugoda, Sri Lanka
H. Park	Lawrence Livermore National Laboratory, CA
J. Pasachoff	Williams College, MA
S. Patterson (9)	Iowa State University, IA
Paula	email only
C. Pavlou	London, United Kingdom
J. Percy	University of Toronto, Ontario, Canada
C. Peterson	*Sky & Telescope* Magazine, Cambridge, MA
R. Pickard	British Astronomical Association, United Kingdom

Table 5. Individuals requesting AAVSO data during fiscal year 1999–2000, cont.

Name	*Affiliation/Location*
C. Pietro	Keele University, United Kingdom
L. Piovan	Padova, Italy
M. Pontefract	Blackett Laboratory, United Kingdom
T. Punyawardana	Pugoda, Sri Lanka
M. Quick	Columbus, IN
S. Quin	University of Leicester, United Kingdom
S. Ramkishun	New York, NY
G. Ramsay	Mullard Space Science Laboratory, United Kingdom
S. Reddy	*Herald-Sun* Newspaper, Durham, NC
J. Regester	Whitin Observatory, Wellesley College, MA
T. Richards (2)	Eltham, Australia
W. Richter (2)	Hot Springs, AR
G. Riegler (2)	NASA Headquarters, Washington, DC
G. Righetti (2)	Bologna, Italy
M. Rinkoski (46)	East Tennessee State University, TN
T. Robertson	Ventura County Astronomical Society, CA
B. Rodgers	University of Washington, WA
P. Rosenzweig (2)	Indiana University, IN
J. Ross	Edwards, CA
F. Salvaggio	Catania, Italy
P. Samanala	Sri Lanka
M. Sanderson	Victoria, BC, Canada
E. Schweitzer	AFOEV, France
A. Scott	Glasgow, KY
M. Scott	University Space Research Association, AL
M. Seims	United Kingdom
A. Sellar	Sri Lanka
P. Selvelli	Astronomical Observatory of Trieste, Italy
S. Shabazz	Sheridan, OR
M. Shorten	Chicago, IL
M. Silvestri	Piceno, Italy
T. Sinor	Murphy, TX
E. Sion/P. Szkody (19)	Villanova U., PA; U. Washington, WA
B. Smith	East Tennessee State University, TN
D. Smith	Centre d'Etudes Nucleaires, France
R. Smith	Somerville, NJ
L. Snyder	Incline Village, NV
P. Sobotka	Brno, Czech Republic
K. Sohl	University of Leicester, United Kingdom
G. Sokol	Sternberg Astronomical Institute, Russia
J. Sokoloski (4)	University of California, Berkeley, CA
K. Spencer	email only
A. Stanton	Fullerton, CA
Z. Stelting	Columbus, IN
M. Stettner	Ardmore, PA
M. Stoddard	Greenville, SC
B. Strider	Gaithersburg, MD
V. Surdin	Sternberg Astronomical Institute, Russia
D. Swann	Carrollton, TX
R. Szaj	Teresin, Poland

Table 5. Individuals requesting AAVSO data during fiscal year 1999–2000, cont.

Name	*Affiliation/Location*
P. Temple	Kingman, AZ
P. Thakkar	Maharastra, India
B. Tomich	email only
S. Tracy	North Granby, CT
R. Tweedy	Cheltenham, United Kingdom
E. Unda Sanzana	University of Southhampton, United Kingdom
J. Vande Hey	Krakow, WI
A. Villar(2)	Universite de Montreal, Canada
B. Waheed	Punjab University, Pakistan
T. Wegrzyn	Chicago, IL
P. Wheatley (5)	University of Leicester, United Kingdom
H. Wight	Natick, MA
S. Willetts	email only
M. Williams	Houston, TX
L. Willson (2)	Iowa State University, IA
R. Wilson	NASA Marshall Space Flight Center, AL
R. Wlodarczyk	Czestochowa, Poland
P. Woudt	University of Cape Town, South Africa
I. Yamamura	Laboratory of Infrared Astrophysics, Japan
R. Young	OH
E. Zamora	Eau Claire, WI
C. Zink	IN