

The AAVSO Professional Astronomer Survey of 2013

Written by Kevin Paxson

Modified by Arne Henden, Matthew Templeton and Rebecca Turner

Entered into Survey Monkey by Lauren Rosenbaum

Posted on the AAVSO Facebook page on February 11, 2013

Posted on the AAVSO website as a “News Item” on February 24, 2013

Posted on the ASP website on February 6, 2013

Posted on the AAS website on February 15, 2013

Direct email to professionals by Karen Pollard, President of IAU Committee 27 (Variable Stars)

Closed on April 15, 2013

141 professional responses (denoted by “N” and %’s)

28 Survey Items

Profession (N=140 or 99.29%)

- Professional astronomer – 70.71%
- Other – 12.14% (mostly retired or staff)
- Gov't researcher – 9.29%
- Private researcher – 5.71%
- Industrial professional – 2.86%

Professional description (N=140 or 99.29%)

- Observer – 76.43%
- Data miner – 13.57 %
- Theoretician – 10.00%

Country or work and residence (N=140 or 99.29%)

- **USA – 74.29%**
- **Canada – 3.57%**
- **UK, Chile and Germany – 2.86% each**
- **Australia – 2.14%**
- **France , Poland and Russia– 1.43% each**
- **Rest of the world- 0.71% each (Belgium, Bulgaria, England, Finland, Greece, Italy, Mexico, Netherlands, Norway and Ukraine)**

Past or present AAVSO Member (N=145 or 99.32%)

- **73.57% - No and 26.43% - Yes**

Main types of variable stars studied (N=121 or 85.82%)

- Pulsating – 38.24%
- Eclipsing – 16.99%
- Cataclysmic – 16.01%
- Eruptive – 12.09%
- Rotating – 6.54%
- Other objects – 5.54%
- X-Ray – 2.29%
- Outside classification – 1.96%
- Intrinsic undifferentiated – 0.33%

AAVSO Website Quality - 8.07 out of 10 (N=105 or 74.47%), which ranked 5 out of 7.

Used AAVSO observational data in the past (N=139 or 98.58%)

- Yes – 70.50%
- No – 29.50%

Purpose of AAVSO data use (N=102 or 71.33%)

- **Publication – 50.96%**
- **Other – 25.96% (mostly observation planning or classroom use)**
- **Personal – 23.08%**

AAVSO Observational Data Quality – 8.09 (N=97 or 68.79%), which ranked 4 out of 7 for the numerically based Survey Items.

AAVSO VSP Quality – 8.57 (N=45 or 31.91%), which ranked 1 out of 8 for the numerically based Survey Items.

Source of non-VSP sequence or comparison star data (N=29 or 20.57%)

- **Literature – 16.67%**
- **Bright Star Catalogue and Landolt Standards – 10.00% each**
- **Personally generated, APASS, 2MASS, SDSS, SAO Catalogue, Simbad – 6.67% each**
- **Vizer, USNO, NGS -POSS, Tycho, Planetarium program and Hubble GSC – 3.33% each**

AAVSO VSX Quality – 7.79 (N=38 or 26.96%), which ranked 6 out of 7 for the numerically based Survey Items.

AAVSO JAAVSO Quality – 6.53 (N=60 or 42.55%), which ranked 7 out of 7 for the numerically based Survey Items.

Currently familiar with APASS (N=137 or 97.16%)

- **Yes – 36.50%**
- **No – 63.50%**

Plan to use APASS in future (N=127 or 90.07%)

- **Yes – 81.10%**
- **No – 18.90%**

Currently use AAVSO Net (N=136 or 96.45%)

- **Yes – 10.29%**
- **No – 89.71%**

AAVSONet Quality – 8.15 (N=13 or 9.22%), which ranked 3 out of 7 for the numerically based Survey Items.

Familiar with AAVSO Outreach and Public Education (N=138 or 97.87%)

- **Yes – 34.06%**
- **No – 65.94%**

Outreach and Public education Quality – 8.16 (N=42 or 29.79%), which ranked 2 out of 7 for the numerically based Survey Items.

Participation in past campaigns or collaborated with amateurs (N=139 or 98.58%)

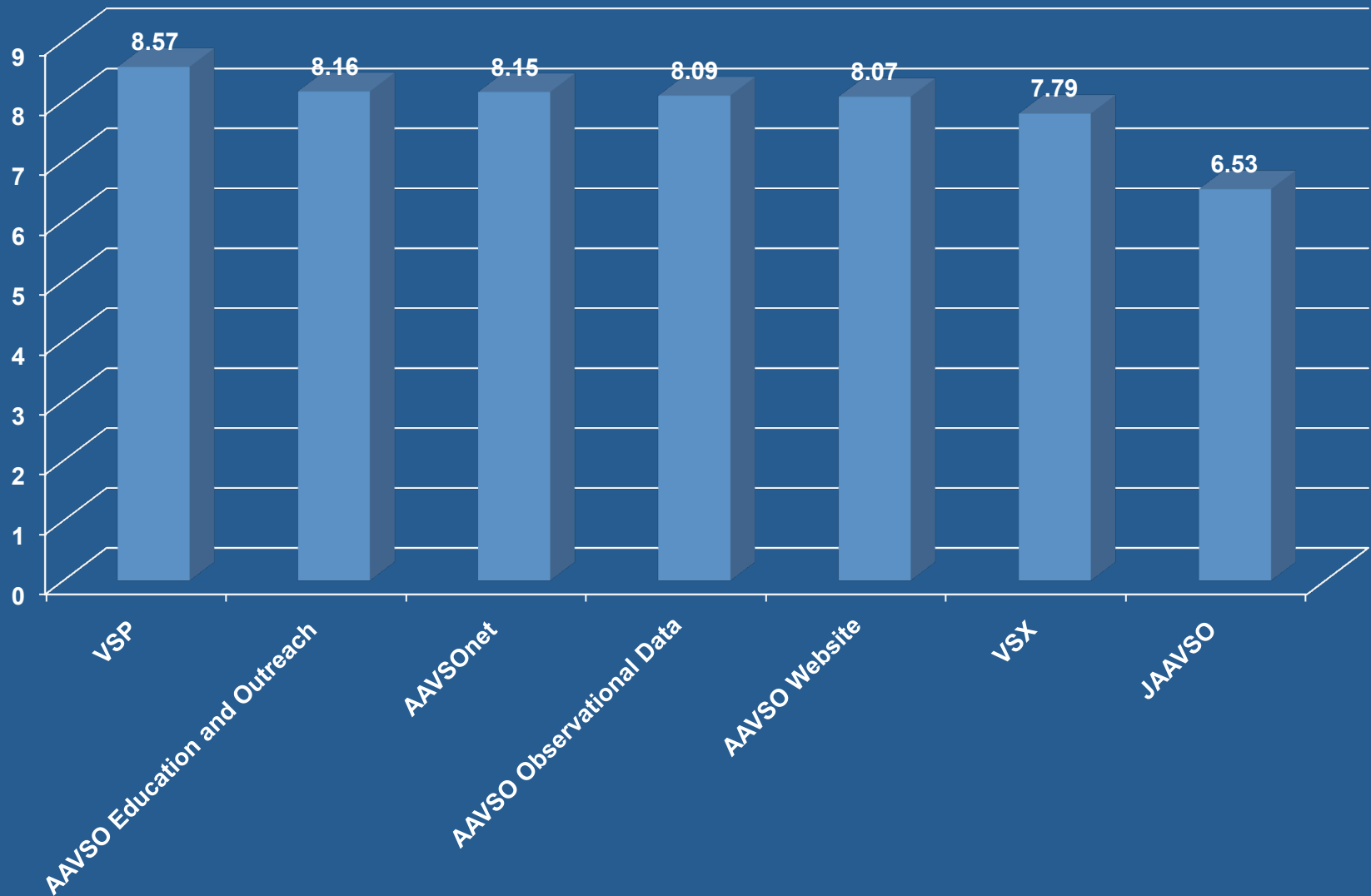
- **Yes – 50.36%**
- **No – 49.64%**

Published with amateurs as co-authors (N=136 or 96.45%)

- **Yes – 37.50%**
- **No – 62.50%**

Published in the JAAVSO (N=135 or 97.12%)

- **Yes – 19.26%**
- **No – 80.74%**



Quality Ratings for the numerically rated Survey Items.

SWOT Analysis – Strengths (N=94 or 66.66% and 229 total responses)

Rank	Strengths	Count	Net %
1	Data, the archive, observations and accessibility	82	37.99
2	Amateur members and observers	30	13.10
3	The organization, mission, enthusiasm and sense of community	20	8.73
4	Public Education, Outreach, member training, Citizen science	19	8.30
5	Collaboration, campaigns and amateurs in research	19	7.30
6	Online tools - LGC, VSP, VSX and others	13	5.58
7	Online publications, resources, information and materials	9	3.93
8	APASS	8	3.49
9	AAVSONet and robotic systems	5	2.18
10	Tradition, name recognition and longevity	5	2.18
11	Administration, staff and volunteers	4	1.75
12	Website and infrastructure	3	1.31
13	Help, assistance, motivation and focus	3	1.31
14	News events and announcements	1	0.43
15	No specific comments	3	1.31
	Totals	229	100.00

SWOT Analysis – Weaknesses greater than 2% (N=62 or 43.97% and 98 total responses)

Rank	Weaknesses	Count	Net %
1	Poor AAVSO marketing and PR of resources and capabilities	14	14.29
2	Poor data quality and accuracy (visual and CCD)	14	14.29
3	Poor age and gender demographics	5	5.10
4	Poor funding	5	5.10
5	Abundance of visual data	4	4.08
6	Perception as US based, not international	4	4.08
7	Poor campaign or monitoring process	4	4.08
8	Uneven coverage of variables	2	2.04
9	Limited data / observers in southern hemisphere	2	2.04
10	Slow server	2	2.04
11	Data extraction issues	2	2.04
12	Observers go for "numbers and awards" versus doing good goal oriented science	2	2.04
13	Lack of AID magnitude depth	2	2.04
14	Lack of multi-wavelength data	2	2.04
15	Amateur/volunteer status of members	2	2.04
16	Narrow/specialized field of study	2	2.04

SWOT Analysis – Opportunities greater than 1% (N=59 or 41.84% and 102 total responses)

Rank	Opportunities	Count	Net %
1	Professional co-operation, collaboration and campaigns	12	11.76
2	More amateurs with CCD's and reduction software	7	6.86
3	Outreach and Education for new members and observers	7	6.86
4	Increased coverage, monitoring and time domain observations of variable stars	7	6.86
5	Spectroscopy	6	5.88
6	APASS	6	5.88
7	More all sky bright star photometry	3	2.94
8	Lobby and increase variable star efforts in the community	2	1.96
9	AAVSONet and or remote observing	2	1.96
10	DSLR photometry	2	1.96
11	Outreach and Education	2	1.96
12	Follow ups for new discoveries and transients	2	1.96
13	Robotic telescopes	2	1.96
14	Automated surveys	2	1.96
15	Continued expansion and more data	2	1.96
16	Do more than photometry	2	1.96
17	New equipment and technology	2	1.96
18	Increasing the credit given to amateurs in pro publications	2	1.96

SWOT Analysis – Threats greater than 2% (N=56 or 39.72% and 90 total responses)

Rank	Threats	Count	Net %
1	Funding and cuts in grants	18	20.93
2	All sky surveys	16	18.60
3	Light pollution	7	8.14
4	Age demographic	6	6.98
5	Variable star subject matter	3	3.49
6	Observer interest, motivation and relevancy	3	3.49
7	Trying to do many things	2	2.33

Suggestions to better serve the professional community (N=38 or 26.95%)

Rank	Suggestions for Improvement	Count	Net %
1	More PR on AAVSO resources and capability at professional meetings	8	21.05
2	Doing fine, serving professional community well and keep up good work	5	13.16
3	Better relationships with professional community through personal contact and emails	4	10.53
4	Better data quality (CCD and visual)	2	5.26
5	Merge data from professional and amateur sources from around the world	2	5.26
6	Better means for collaboration and campaigns	2	5.26
7	Make VS astronomy more exciting and significant	1	5.26
8	Increase member education for research and quality science	1	2.63
9	Focus on a limited number of bright stars not covered by very large surveys	1	2.63
10	Get APASS magnitudes deeper	1	2.63
11	"Fainter than" alerts	1	2.63
12	Get members and observers to do IR photometry and high resolution spectroscopy	1	2.63
13	Expand AAVSONet for time series work	1	2.63
14	Continue strong leadership for professional co-operation	1	2.63
15	Sponsor regional meetings of VS research	1	2.63
16	Make APASS light curves available	1	2.63
17	Make APASS queries easier	1	2.63
18	Do spectroscopy correctly to ensure high quality	1	2.63
19	Find better ways to highlight news and discoveries to pros and public	1	2.63
20	No specific suggestions	2	5.26
	Totals	38	100.00

Leave personal email address for survey feedback.

- **41 individuals (29.08%) responded.**
- **AAVSO will be sending thank you letters and copies of the Executive Summary.**

Professional Astronomer Survey Take Away – Six Problem Areas for Improvement

Increased public relations for AAVSO resources and capability at professional meetings

- **Ranked first on the Improvement suggestions list.**
- **The highest ranked Weakness on the SWOT analysis.**
- **Professional knowledge of AAVSO and capabilities commonly unknown.**
- **Suggestions included increased presence, presentations and/or booths at professional meetings.**

Poor data quality/abundance of visual data

- **Poor data quality ranked second on the Weakness of the SWOT analysis.**
- **Poor data quality ranked fourth on the Improvement suggestion list.**
- **Abundance of visual data ranked fifth on the Weakness of the SWOT analysis.**
- **Visual and CCD data quality needs to be improved.**
- **There is too great of an abundance of visual data relative to CCD.**

More and improved networking with the professional community

- Ranked third on the Improvements suggestion list.
- Suggestions included more personal contact, creating professional email lists and sponsoring an annual Variable Star Conference for professionals.
- Create a “Professional only” section on the AAVSO website?

Quality of the JAAVSO

- Lowest quality score (7 out of 7) of the numerically based Survey Items.
- Suggestions included a standardized page size and format, inclusion of figures within the text and improved technical content.
- Council moved to form committee to improve the JAAVSO.

Better means for collaboration and campaigns

- Ranked first on the Opportunity list of the SWOT analysis.
- Ranked sixth on the Improvement suggestions list.
- Some astronomers found the process for initiating campaigns and collaboration lacking, difficult and/or poorly defined.

Increased coverage/less uneven coverage of variable stars

- **Increased coverage ranked fourth on the Opportunity list of the SWOT analysis.**
- **Uneven coverage of certain variable stars ranked sixth on the Weakness list of the SWOT analysis.**
- **Data gaps and cadence were seen as problem areas.**
- **Many desired better coverage (LT monitoring and time domain data) of more variables of all types.**

Finis.

**Kevin B. Paxson – PKV
June 2013**