

# Report of the K-12 Activities of the Affiliated Societies of the AAPG

This report will be divided into the following six sections:

1. Purpose
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## PURPOSE

At the request of then President, Robbie Gries and with the concurrence of Betsy Campen, Chairman of Youth Education Activities (YEA) committee, a survey was made of the affiliated societies of the AAPG to determine their involvement with K-12 activities and to use the knowledge obtained from the survey to increase that involvement.

Later, at the suggestion of Don Clarke, Long Beach, CA, a somewhat similar survey, but of a limited nature, was made of the state Geological Surveys to see what material was available for K-12 instruction.

## METHODOLOGY

A list of the E-mail addresses of the Presidents of the Affiliated Societies was obtained from the Tulsa office of AAPG. An E-mail was forwarded to these addresses and eight specific questions concerning K-12 activities were asked. Due to a slow response, the same message was sent to those societies, who had not answered, on three additional occasions. Also three letters were sent to Presidents who did not have a listed E-mail address or whose address was invalid.

A list of E-mail addresses for the State Geologists was obtained by Dr. Douglas Patchen at the 94<sup>th</sup> Annual Meeting of the Association of State Geologists and provided for use in this survey. There again, even though this list was of a recent vintage, there were some addresses that were no longer valid. The approach to the State Surveys was to ask each of them to list what services, publications etc. they had available for K-12 instruction.

## RESPONSES

There was a wide variance in the information supplied in response to the questions asked of the affiliated societies. The following societies responded:

Alabama Geological Society,  
Albuquerque Geological Society,  
Ardmore Geological Society,  
Austin Geological Society,  
Coast Geological Society,  
East Texas Geological Society,  
Florida Association of Professional Geologists,  
Fort Smith Geological Society  
Four Corners Geological Society  
Graham Geological Society  
Grand Junction Geological Society,  
Houston Geological Society,  
Idaho Association of Professional Geologists,  
Illinois Geological Society,  
Indiana-Kentucky Geological Society,  
Kansas Geological Society,  
Lafayette Geological Society,  
Los Angeles Basin Geological Society,  
Miami Geological Society,

Michigan Basin Geological Society,  
Montana Geological Society,  
New Orleans Geological Society,  
North Dakota Geological Society,  
Nevada Petroleum Society  
Northern California Geological Society,  
Northern Ohio Geological Society,  
Northwest Energy Association,  
Ohio Geological Association,  
Oklahoma City Geological Society,  
Roswell Geological Society,  
Rocky Mountain Association of Geologists,  
San Joaquin Geological Society  
Tulsa Geological Society  
Utah Geological Society,  
West Texas Geological Society,  
Wyoming Geological Association.

The following State Surveys responded in varying degrees to the request for information:

Alabama, Alaska, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Missouri, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New Jersey,

New Mexico, New York, North Carolina, North Dakota, Ohio, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, Wisconsin, Wyoming.

## SUMMARY

### Affiliated Societies

#### **Question #1– Does your society have an organized effort to reach K-12?**

**22 Societies answered no to this question and 13 societies answered and below are their responses.**

**Coast Geological Society**– Teachers and students can attend meetings for \$7 (regular cost - \$17) Sponsor 5<sup>th</sup> – 8<sup>th</sup> grade Marine Science Camp.``

**East Texas Geological Society** - Yes, duties assigned to one board member  
**Houston Geological Society** – Sponsor a scout troop expressly dedicated to geology –  
 Contribute to Denver Earth Science Project – Sponsor Earth Science Activities at  
 Houston Museum of Natural Science – Academic Liaison Comm. Coordinates  
 presentations to schools.  
**Kansas Geological Society** – Works through the Kansas Geological Foundation with a  
 Speaker’s Bureau chairman in charge.  
**Lafayette Geological Society** – Has a youth Service committee which helps Earth  
 Science teachers – Judges for Science Fairs.  
**Los Angeles Basin Geological Society** – Teacher of the Year Award  
**New Orleans Geological Society** – School Outreach Committee  
**Oklahoma City Geological Society** – “Partners for Earth Science”  
**Roswell Geological Society** – Yes, partially  
**South Texas Geological Society** – Yes  
**Tulsa Geological Society** – Yes, Community Education Committee  
**Utah Geological Association**– Yes  
**West Texas Geological Society** – WTGS has a very active program scheduled for Earth  
 Science Week, we also help with the science fairs held each year.

**Question #2 – Do you have a committee with a chairman to pursue these activities?**

**22 Societies answered no to this question and 14 societies answered yes and below  
 are their answers.**

**Coast Geological Society** – The officers of the society and our most diligent  
 AAPG/Pacific Section delegate, Ms. Joan Barminski coordinate these efforts,  
**East Texas Geological Society** – Duties assigned to a single board member  
**Houston Geological Society** – Don’t have a chairman for K-12 activities per se, but  
 many committees work on K-12  
**Kansas Geological Society** – Has a Speaker’s Bureau Chairman – the Speaker’s Bureau  
 has 20 speakers, a videotape library (300 plus tapes loaned free of charge to teachers) and  
 a Downtown walking tour that can be self-guide or guided.  
**Lafayette Geological Society** – Have had the same committee chairperson for a number  
 of years.  
**Los Angeles Basin Geological Society** – Have a chairman  
**Montana Geological Society** – “Betsy Campen is new chair by virtue of her position as  
 chairman of the YEA Committee of AAPG”  
**New Orleans Geological Society** – Has an active committee with a chair and 7 other  
 members  
**Oklahoma City Geological Society** – Committee with nine members  
**Rocky Mountain Association of Geologists** – Has a Popular Geology and Education  
 responsible for any K-12 activities  
**South Texas Geological Society** – “Yes”  
**Tulsa Geological Society** – Community Education Committee – Fred Murray, Chairman  
**Utah Geological Association**– Education Committee chaired by Paul Jewell  
**West Texas Geological Society** – Dave Percy is our committee chairman for ESW and  
 Jim Adams is our Youth Education Chairman

**Question #3 – Do you have a Speaker’s Bureau available to make presentations to schools?**

**19 societies answered no to this question and 18 societies answered yes and below are their answers.**

**Albuquerque Geological Society** – No, but speakers are available

**Ardmore Geological Society** – The geological society does not, but the Oklahoma Energy Resources Board does. The President of the geological society is involved with it.

**Coast Geological Society** – Yes, it is informal, but we do have members who speak at schools when invited.

**East Texas Geological Society** – No, but when requested we send a member to the school.

**Houston Geological Society** – Our Academic Liaison Comm. handles this and several of our members are involved in Earth Science through their children’s schools.

**Idaho Association of Professional Geologists** – No, however we have made presentations and attend school field trips to answer geologic questions.

**Indiana-Kentucky Geological Society** – Yes, but it is not publicized. We make approximately 10 presentations annually.

**Kansas Geological Society** – The Speaker’s Bureau has 20 speakers and a list of the speaker’s topics has been sent in the past to the earth science teachers in USD 259 (Wichita area) thru the district’s science coordinator, plus lists sent to the independent and Catholic schools. This year a letter identifying the society’s website where the information was listed was distributed to the same recipients. This does not appear to have been successful.

**Lafayette Geological Society** – We do not have a formal Speaker’s Bureau. Most of the members are available to make presentations.

**Los Angeles Basin Geological Society** – Not a formal one set up, but members have done this through their employers, such as my employer, Stocker Resources or through the SPE who often call on a Geologist to assist a Petroleum Engineer.

**Michigan Basin Geological Society** - We do speak at schools, but nothing organized,

**Montana Geological Society** – No again, this mostly occurs by word of mouth

**Nevada Petroleum Society** – The Nevada Petroleum Society does not have a formal education program, however many of our members are on the Nevada Bureau of Mines and Geology’s speakers list

**New Orleans Geological Society** – We have a number of talks (powerpoint) available and are working on more. We also have an extensive collection of fossils; particularly dinosaur material and other hands on material. Our local society considers outreach work important and puts a significant budget towards it to build a significant outreach collection. We hope to have most of this on our website soon.

**Oklahoma City Geological Society** – Our “partners in Earth Science “ do this.

**Rocky Mountain Association of Geologists** – Occasionally contacted to speak at schools. RMAG fulfills these requests and is assisted by the Colorado School of Mines Museum which has assembled rock and mineral study sets with accompanying laboratory exercises. The kits have enough material for a class of 24. A set is also available at the RMAG office.

**Tulsa Geological Society** – Members of Community Education Committee made presentations to schools.

**Utah Geological Association** – Paul Jewell coordinates the requests we receive from schools with the Association members. We make presentations to science classes, career days and judge science fairs.

**Question #4 - Do your members lead field trips for teachers and students?**

**15 Societies answered no to this question and 21 societies answered yes and below are their answers.**

**Albuquerque Geological Society** – “Yes”

**Ardmore Geological Society** – “Yes”

**Coast Geological Society** – When asked, we find volunteers

**East Texas Geological Society** – Yes, we have only done this once in the past year.

**Fort Smith Geological Society** – Invites teachers to join them on their field trips

**Four Corners Geological Society** – Yes, but on an unorganized basis

**Grand Junction Geological Society** – Yes, at times

**Houston Geological Society** – Yes, our Earth Science Day trips are expressly targeted to these groups

**Kansas Geological Society** – We have a Downtown Geological Walking Tour that may be guided or self guided which is particularly well suited to K-12 groups.

**Lafayette Geological Society** – Although their answer is no, nevertheless their comment is interesting “the school system does not request assistance for field trips. To my knowledge field trips are not offered to students or teachers”

**Los Angeles Basin Geological Society** – Yes, but it is generally through companies, SPE and individuals not through the LABGS.

**Michigan Basin Geological Society** – Our society is open to all to go on field trips, but not any specifically for teachers.

**Montana Geological Society** – Yes, but not under the auspices of the MGS.

**New Orleans Geological Society** – We have had a few field trips before for students and teachers – Mississippi Delta and Llano Texas areas. We do not have any trips planned currently.

**North Dakota Geological Society** – If called upon some of our members may do such a thing. However, our membership is low (-50) and the North Dakota Geological Survey is generally first.

**Northern Ohio Geological Society** – Yes, but not as NOGS members

**Oklahoma City Geological Society** – All day field trip to Arbuckle and Wichita Mountains complete with published guidebooks as well as contributions from the Oklahoma Geological Survey.

**Rocky Mountain Association of Geologists** – RMAG members continually lead field trips with annual and sectional meetings, but RMAG doesn’t organize separate teacher field trips.

**San Joaquin Geological Society** – We always invite Cal State, Bakersfield to participate in our trips, but not at the K-12 level.

**South Texas Geological Society** – “Yes”

**Utah Geological Society** – Not on a regular basis

**West Texas Geological Society** – “We are starting a mentoring program thru WTGS that will result in some field trips, if we can work out something out with liability issues”.

**Question #5 – Does your society maintain a library with publications, videotapes etc. available to teachers.**

**25 societies answered no to this question and 9 societies answered yes and below are their answers.**

**Alabama Geological Society – “Yes”**

**Houston Geological Society –** The HGS maintains copies of all of its prior publications and members (including teachers of course) have access. However as a practical matter this is completely unpublicized. We are building our website to meet this need.

**Kansas Geological Society –** A videotape library with over 300 titles is available to teachers to check out on a free-of-charge basis. Hard copy lists as well as lists on the website ([www.kgslibrary.com](http://www.kgslibrary.com)) are available.

**New Orleans Geological Society –** We have a number of books and videotapes available for loan listed on our website.

**North Dakota Geological Society –** The NDGS videotape library is housed at the offices of the ND Survey. And is listed on the society’s website as well as in the list of publications offered by the North Dakota Geological Survey.

**Oklahoma City Geological Society –** Yes, but not used much

**Rocky Mountain Association of Geologists –** The RMAG maintains a library that is available to everyone.

**Tulsa Geological Society –** They have rock, mineral and fossil specimens, available to teachers, stored at the SEPM office

**West Texas Geological Society –** “The technical section of the Midland County library is an excellent source for all of our materials and we donated our videotapes to UTPB library so they could be utilized to a grater extent.

**Question #6 – Does your society have a process by which it recognizes the outstanding teachers in your area?**

**22 societies answered no to this question and 13 societies answered yes and below are their answers.**

**Austin Geological Society – “Yes”**

**Coast Geological Society –** Seek candidates for “Teacher of the Year”

**East Texas Geological Society –** Yes, we award a Geology/Earth Science Teacher of the Year award to a single teacher, \$250 to the winner, \$250 to the school. This teacher is our nominee for the GCAGS for Teacher of the Year.

**Houston Geological Society –** We have a formal Earth Science award given annually

**Idaho Association of Professional Geologists –** Yes, IAPG awards \$250 to the outstanding Earth Science teacher who is selected by the Idaho Earth Science Teachers Association (IESTA)

**Kansas Geological Society –** Working with the Kansas Earth Science Teachers Association (KESTA), an award of \$1000. is made annually to an outstanding teacher.

**Los Angeles Basin Geological Society -** Yes, we award a Teacher of the Year Award to a K-12 teacher from a LA Basin school. We receive \$250 for the award from the Pacific

Section – AAPG and turn that amount to the award winner, plus plaque and recognition at a dinner meeting and in the newsletter.

**Nevada Petroleum Society** – The NPS has selected a teacher of the year and awarded money to the winners. This is not an annual event

**Northern California Geological Society** – Yes, we have gotten involved with the Award for Excellence in the Teaching of Natural Resources in the Earth Sciences. The society did not participate in 2002, however, due to the lack of interest from our local schools.

**Oklahoma City Geological Society** - We award an “Outstanding Earth Science Teacher of the Year” a special map and a \$200 check at our OCGS Honors Dinner Meeting.

**Rocky Mountain Association of Geologists** – Yes, the Popular Geology and Education committee recognized an earth science teacher from Pomona High School as the Earth Science Teacher of the Year.

**Tulsa Geological Society** – Presented Science Teacher Award to an 8<sup>th</sup> grade science teacher

**Utah Geological Society** – “Yes”

**West Texas Geological Society** – “The West Texas Geological Foundation has the MOST award given each year to the outstanding teacher in the Permian Basin”

#### **Question #7 – Does your society offer “Rocks in Your Head” course or similar courses to teachers**

**27 societies answered no to this question and 9 societies answered yes and below are their answers.**

**East Texas Geological Society** – Yes, we work with a local Children’s Science Museum. They offer a program (weekends) and a summer (week day camp) program. We sponsor children to these programs.

**Houston Geological Society** – We offer Earth Day presentations and financial support for local presentations of Denver Earth Science Project programs.

**Kansas Geological Society** – Presented “Rocks in Your Head” in 1999 to 100 teachers with a waiting list of 15. Will present a similar course in August, 2002. Members man a booth at Earth Day where educational materials are distributed.

**Lafayette Geological Society** – LGS offered the “Rocks in Your Head” course when we hosted the GSAGS convention in 1999. The attendance was capped at 50 due to the AAPG moving the response deadline up and the school system’s failure to get the message out to the teachers.

**Los Angeles Basin Geological Society** – We have in the past when the LABGS hosted the Pacific Section of the AAPG convention. The 2003 convention will be the LABGS and we intend to do so again.

**Michigan Basin Geological Society** – We recently offered the course with the Eastern Section

**Roswell Geological Society** – “Yes”

**Rocky Mountain Association of Geologists** – “Yes, I think the “Rocks in Your Head” was developed locally by Steve Williams who was chair of the K-12 program of the AAPG for sometime”.

**West Texas Geological Society** – The “Rocks in Your Head” course if offered thru the WTGF

**Question #8 – What other activities are available to K-12 students and teachers?**

**20 societies answered no to this question and 13 societies answered yes and below are their answers.**

**Ardmore Geological Society** – Field trips to the Oklahoma Museum of Natural History, Arbuckle Mountains cross-sections at rest stops on I-35 north of Ardmore. Bob Allen is gathering funds to repair old signs on Highway 77 through the Arbuckle Mountains showing where formations outcrop.

**East Texas Geological Society** – We have sponsored workshops for teachers through our Children’s Science Museum (Discover Science Center), also we have become a major contributor to the museum, sponsoring a plate tectonics exhibit. We have also contributed funds for GIS software for a camp (Camp Tyler) run by our local school district

**Indiana-Kentucky Geological Society** – We participate in the local Science, Engineering Fair, by providing judges and making monetary donation for awards.

**Kansas Geological Society** – Initiating an effort an effort to have a State Rock, State Mineral and State Fossil designated for Kansas involving the Kansas Earth Science Teachers Association (KESTA) in the process During Earth Science Week have sponsored meetings open to students and teachers of presentations by two outstanding speakers from NASA, Dr. John Bacon and Dr. James Reilly, astronaut and geologist. Now planning a Field Trip to Sternberg Museum, Hays, KS followed by visitations to sites from where the fossils were excavated. Members participate with Desk and Derrick in a location and identification of rocks for K-12 age children during the annual Riverfest in May.

**Lafayette Geological Society** – We are planning a dino dig/ earth science day at Children’s Museum, the event will coincide with Earth Science Day. We are also studying ways to get into the school system to help the teachers with teaching earth science.

**Michigan Basin Geological Society** - The Michigan Survey has developed a CD, “The Rock Cycle” which is primarily designed for K- 12 education.

**Montana Geological Society** – The MGS usually has a booth at the Deaconess Science Fair. We have also been represented at a number of science events at ZooMontana.

**North Dakota Geological Society**- Developed a “Geology Trunk” that would become part of the traveling educational trunk program at the Gateway to Science Center, Bismarck. The trunk uses AGI’s “It’s About Time” curriculum titled “Rocks and Landforms” for middle school earth science classes.

**Ohio Geological Society** – See other activities available

**Oklahoma City Geological Society** – We are beginning a cooperative project for students entitled “Geology at the Zoo”

**Rocky Mountain Association of Geologists** – The committee is creating an interactive , multimedia CD on the geologic history of the Denver area. The goal of the CD is to provide accurate information to teachers and their students, provide materials teachers can use in their classes, and provide a list of other geologic resources available to teachers.

**San Joaquin Geological Society** – The USGS and several local museums run field trips geared more to the general public

**South Texas Geological Society** – Wayne Gordon is our K-12 liaison and he spends many hours in conversations with the schools and teachers.

**Tulsa Geological Society** – Participated in Tulsa regional fair by judging science exhibits on Geology and Environment and presented awards to a 6<sup>th</sup> grader and an 8<sup>th</sup> grader.

**West Texas Geological Society** – “We have in the past help[ed] with the fees for students to visit the Petroleum Museum.

**Wyoming Geological Association** – Student projects are funded by the John Wold Fund.

## **CONCLUSIONS**

**Conclusion #1** – The first conclusion is that this type of survey has value in the sense that it hi-lights a number of deficiencies such as:

- (a) The fact that in answer to the questions concerning K-12 activities, in most cases more than one-half of those responding answered no.
- (b) Evidence that in several cases the societies contacts within the school systems in their area is less than adequate.
- (c) Strong evidence that in many societies, the K-12 effort is an individual effort without organization. (It is time “to get organized”)
- (d) Failures in publicizing the K-12 activities

**Conclusion #2** – Expectations on the number of responses was “way to high”. Perhaps a different approach would have increased the number.

- (a) Part of the problem is outdated E-mail lists
- (b) Another problem I believe is that a number of Presidents are not members of the AAPG, which may create a sense of apathy in responding to a survey with an AAPG background.

**Conclusion #3** – There is a lot that the AAPG can do help increase participation in K-12 activities and since these are affiliated societies, it has an obligation to do so. A lot of this will be covered under recommendations

**Conclusion #4** – Not everything is negative. Some of the societies (and not always the largest ones) are doing a very good job. In particular, the East Texas Geological Society seems to be doing an excellent job.

**Conclusion #5** – Our approaches to K-12 are changing with many societies having websites etc.

**Conclusion #6** – There is a lot of material available at the State Surveys as indicated by the 30 plus pages in the State Survey Report. In many cases there is a relationship between the societies and the surveys, but perhaps there is room for increased cooperation.

**Conclusion #7** – Many of the societies are involved with cooperative efforts with museums. This should be expanded to include more museums and more societies.

## **RECOMMENDATIONS**

## **Within the Youth Educations Activities Committee's Purview**

1. This survey should be continued and updated including an attempt to reach those societies and surveys who did not respond
2. The results should be publicized thru the AAPG website, Explorer, or by other means.
3. At some point perhaps a "how to" manual should be prepared with items such as: how to contact the proper individuals in the school system, how to publicize your K-12 activities, how to do cooperative efforts with the State Surveys and Museums etc.
4. Other contacts should be made with such organizations as the SEG, SPE etc to see if they have made a similar survey of their affiliates and if so obtain a copy
5. A permanent E-mail list should be maintained and updated frequently.
6. This report should be printed and mailed to all US Affiliated Societies (Recommendation by Gries)
7. We may want to expand the questionnaire to the international affiliated societies in the future. (Recommendation by Gries)
8. Our YEA committee should consider soliciting new members from the active K-12 societies, perhaps setting up a Sub-Committee on K-12 Affiliated Society activities and get these people talking to each other (Recommendation by Gries)

## **Outside the Youth Education Activities Purview**

1. A similar survey should be made as to what the societies are doing in outreach beyond K-12. This probably should be done by the Public Outreach Committee
2. Somewhere, not just on the AAPG's website, there should be published a list of the websites for all of the Affiliated Societies.
3. The Membership Committee should increase their efforts to recruit those Presidents of Affiliated Societies who are not members of the AAPG