BULLETIN

CORPUS CHRISTI GEOLOGICAL SOCIETY



and

COASTAL BEND GEOPHYSICAL SOCIETY



April 2014

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*****BLOOD DRIVE***** THE BLOODMOBILE – IN <u>APRIL, 2014</u> WILL BE AT SOME CONVENIENT LOCATIONS PLEASE CALL 855-4943 for those locations or see below

ATTENTION!!!

We spoke to the Blood Center about locating us on their computers. They have us listed as <u>C.C. Geological Society</u>. Our number with them is 4254 & it would be helpful if you can give them that number also.

Thanks! Mike Lucente

FOR CURRENT SCHEDULES & LOCATIONS OF THE BLOODMOBILES YOU CAN LOG ON TO:

www.coastalbendbloodcenter.com



When you're running through those April showers --Zoom on over to the Bloodmobile!! Please Donate your Blood!! You'll be glad you did!

CCGS/CBGS JOINT MEETING SCHEDULE 2013-2014

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Dec. 18—11:30a.m.—1:00p.m. Speaker: Eddie Valek, Marathon "From 0-80 in Ninety Days: Rapid Play Entry to Fully Integrated Play Development in the Eagle Ford Trent, South-Central TX."

Jan. 15—11:30a.m.—1:00p-.m. Speaker: Kevin Schepel, ZaZa Corp. Speaker: J. Carl Fiduk, Western "Advanced Reservoir Characterization for Proof-of-Northern GOM " Concept Drilling in the Eagle Ford and Eaglebine Shales"

Feb. 19—11:30a.m.—1:00p.m. Geco, "A Brief Tectonic and Depositional History of the

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Spe	March 19—11;30a.m. 1:00p.m. April 16—11:30a.m1:00p.m. Speaker: Richard Davis (Harte Speaker: Robert C. Schoup Research Institute) "Sea-Level (Subsurface Consultants &										1.	S	peak	er: D	11:30a Dr. Pet	er R.	Rose			

Change in the Gulf of Mexico"

Speaker: Robert C. Schoup (Subsurface Consultants & Associates) "What are Global Temperatures Doing & Why Are They Doing It?" May 21—11:30a.m. 1:00p.m. Speaker: Dr. Peter R. Rose— "Geology Impacts History: Influence of the Edwards Plateau on Frontier History of the Texas Hill Country"

Calendar of Meetings and Events Calendar of Area Monthly Meetings

Corpus Christi Geological/Geophysical Society	Third Wed.—11:30a.m.
SIPES Corpus Christi Luncheons	Last Tuesday—11:30a.m.
South Texas Geological Society Luncheons	Second Wed—noon San Antonio
San Antonio Geophysical Society Meetings	Fourth Tuesday
Austin Geological Society	First Monday
Austin Chapter of SIPES	First Thursday
Houston Geological Society Luncheons	Last Wednesday
Central Texas Section of Society of Mining, Metallurgy & Exp	2 nd Tues every other month
	In San Antonio



CCGS President's Letter

The luncheon meeting speaker this month at the Town Club (Wed. April 16) will be Robert Shoup, Subsurface Consultants and Associates. His topic will be "What Are Global Temperatures Doing, and Why Are They Doing It?"

The Board voted on March 5 to give Complimentary Memberships to the following dedicated volunteers of the CCGS that have given their time to the society but do not qualify for the other categories of membership:

Dorothy Jordan –	Membership Committee
Marian Wiedmann –	Bulletin Editor
Linda & Jerrold Simpson -	Bones in Schools
Dinah Bowman –	Ice Age Mural

The CCGS documentary, "Oilmen: Tales from the South Texas Oil Patch" was shown to the San Antonio TV station KLRN audience on March 5, 2014. The movie was the largest revenue grossing film in the history of Corpus Christi based TV station KEDT.

CCGS events for April and July:

•	April 12	Earth Day	Heritage Park
•	April 24	CCGS/CBGS Shrimp Boil	Art Center
•	April 25	Seismic Interpretation Class	EOG 3 rd floor conference room
•	July 25	CCGS/CBGS Fishing Tournament	Port Aransas

Nominations for CCGS officers for the 2014-15 year are still open. If you want to run for an office or know someone that may want to run for office, please let me know. We currently have candidates running for the following positions:

President	Leighton Devine	
President-Elect	Open	
Vice-President	Randy Bissell	
Secretary	Allison Corcoran	
Treasurer	Zach Corcoran	

The officer election will be held at the April Meeting.

Bob Critchlow CCGS President 2013 – 2014





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CBGS President's Letter

The Coastal Bend Geophysical Society is taking nominations/volunteers for officers. Please get in touch with Lonnie Blake, Matt Hammer, Tom Long or Ed Egger if you want to get involved in arranging talks, growing the Corpus Christi geophyscial community, or the fund raising/golf tournament for our geophysics scholarship. Or if you have ideas on how CBGS should do its business!!!!

Stephen Thomas has engaged Don Herron to do a Seismic Interpretation course in Corpus Christi. Will be either April 25th or May 2nd (Exact date unknown at time of publishing). Contact Stephen Thomas or Lonnie Blake for details.

Seismic Crews - US Onshore	Current Month	Last Month	Difference	(Per SEG/Seismic Crew Reports Survey)
_ V	Onshore/Offshore	Onshore/Offshore		
	49/22	67	+4	
	Current Month	Last Month	Last Year - Monthly	(Per Texas RRC, last reported)
Texas Production	MMBO/BCF	MMBO/BCF	MMBO/BCF	
Oil	55.7	54.5	43.8	
Gas	552	561	523	
	Current Month	Last Month	Last Year - Monthly	
Texas Drilling Permits	1,791	1,619	1,978	
Oil wells	515	451		
Gas wells	121	74		
Oil and Gas wells	1,086	1,002		
Other	69	92		
Total Completions	3,607	1,611	1,520	
Oil Completions	3,131	1,348	1,114	
Gas Completions	398	156	351	
Other	78	107	55	

Note: International seismic crew count was down 7. US crew count was up 4. Must be a glitch/typo in the January completions from the RRC.

Parting thoughts:

A twist on the "Parable of the Blind Men and the Elephant". The impact of using the Scientific Method, teamwork and communicating.

The parable of the blind men and the elephant is often used to argue for the

validity of their beliefs. The parable is meant to show that no body knows the whole truth, therefore (apparently) no one can ever say that the teller of the parable is wrong. The problem with the parable though, is that it is only half of the story. The blind men are confused by the elephant only because all of them have different results. But, once they follow the scientific method and verify each others results, compare them, and build a model, they should eventually come up with a pretty good description of an elephant.

There were three blind men that came across an elephant. They were all unfamiliar with elephants and had no idea what this creature looked like. Lining up against the elephant, they all began to feel with their hands:

Blind Man 1: (feeling it's tail) Well, it seems to be some sort of brush.

Blind Man 2: (feeling it's abdomen) I'm getting much different results. To me it feels like a huge wall. One, are you sure it's a brush? Blind Man 1: That's what my results show.

Blind Man 2: Ok, do you mind if I verify it?

Blind Man 1: Of course, we need to be sure (the men trade places and recheck each others work). Yes, the results do seem to be the same when I run the test as well. Would you like to verify my results?

Blind Man 2: Let's see what Three is up to. Three, what results have you got? Blind Man 3: (feeling it's trunk) it's a great rope.

Blind Man 1: Are you sure?

Blind Man 3: Oh, yeah, I've picked up on it's mystical energies

Blind Man 1: Well, we've been verifying each others results. Let's come over there and double check yours.

Blind Man 3: No! I don't need anyone to check my results. I have "Another Way of knowing"

Blind Man 1&2: Get out of the way, please

Blind Man 3: In order to say you know it's an elephant, you have to think you know everything!

Blind Man 1&2: Shut up.

--

Lonnie

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LUNCHEON MEETING ANNOUNCEMENT

Corpus Christi Geological Society & Coastal Bend Geophysical Society

Wednesday, April 16, 2014

Location:	The Town Club; 6 th floor
Bar Sponsor:	Sara Davis (Seismic Ventures)
Student Sponsor:	Core Lab (Juan Cabasos) and CCGS
<u>Time</u> :	11:30 AM, Lunch served at 11:45 AM, speaker at noon
<u>Cost</u> :	Members \$25 (\$3 Surcharge if no reservation, No-shows will be invoiced)
Reservations:	Please make your reservations by email allison@aaoperating.com

What Are Global Temperatures Doing, and Why Are They Doing It? Robert C. Shoup Subsurface Consultants and Associates Houston, TX <u>Biography</u>

Bob Shoup is a Board Certified Petroleum Geologist with over 30 years experience in

basin analysis, regional studies, new play generation, prospect evaluation, field studies and development planning, drilling operations, and project management. Bob began his career at Shell Oil in 1980; followed by four years working for private oil companies before becoming an independent consultant in 2003, consulting in Thailand, Malaysia, Vietnam, and New Zealand. A recognized expert in clastic depositional environments, rift basins, and syndepositional structural systems, Bob is a proven oil finder with a 46% exploration success rate and over 100 MMBOE discovered resources.

In addition to consulting, Bob teaches various SCA training courses in Houston, the Asia Pacific and Middle East Regions. Bob is a creative individual, both within the work and home environment. In 1994 he was a nominee for the Pulitzer Prize in drama for his play Second Alarm.



Bob is also an active contributor in the professional community. He is a Past President of Bangkok's Chapter of the South East Asia Petroleum Exploration Society and of AAPG's Division of Professional Affairs, and past Secretary-Editor of the AAPG House of Delegates. He has served on numerous AAPG Committees and was Chairman of AAPG's Mentor, Membership and Student Chapter Committees. He is a recipient of AAPG Certificates of Merit in 1990, 1991, and 1998; AAPG's Distinguished Service Award in 2000, the DPA's Distinguished Service Award in 2008, and DPA Life membership in 2010. He currently serves as an ethics lecturer for the DPA.

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TEXAS IS HOT... AGAINA



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Extended Abstract What Are Global Temperatures Doing, and Why Are They Doing It?

R.C. Shoup

1) What are temperatures actually doing?

The answer to this question should be reasonably straightforward, but it is not. An examination of the various average temperature profiles from Mann to NASA to Hadley reveal that each one is different than the others, sometimes significantly so. One reason is that the averages that are plotted are not simply arithmetic averages. They are constructed from a subset of the total data and include extrapolated data as well as modified data.

Moreover, none of the averages look much like the majority of the raw station data. Figure 1 shows four temperature profiles, two from Texas, one from Colorado, and one from California. As you can see, they have little similarity from one to another.



Figure 1: Surface Temperature Profiles from stations in Texas, Colorado, and California. Points above the red line are the 5 warmest years; below the blue line, the 5 coolest (NASA GISS)

These differences are a function of the fact that there is considerable regional, and for that matter, local variation in temperatures. The problem comes in developing an average temperature curve from such disparate data. It is a little like drilling an oil well, a gas well, and a dry hole then telling management that 'on average' you have a low-saturation condensate play.

All of this tends to confuse the issue. More importantly, claims based on the averages are in-fact not true for a majority of surface temperature stations. For example NASA's claim that the five warmest years worldwide since 1850 are 2005, 1998, 2002, 2003, and 2006 is not true for almost 2/3rds of the individual station data (Does Global Warming Meet the Standards of AAPG and DPA, *The Correlator*, 2007-2008 Summer Issue). In AGU's Climate Statement they claim that

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"as of 2006, eleven of the previous twelve years were warmer than any others since 1850." That statement, which is based on average temperature curves, is not true for almost 3/4ths of the station data. Being the simple-minded individual that I am, I have an expectation that a plot of average temperatures should represent the majority of the data, not the minority.

That said, we need to use average temperature profiles or we would bog down in the data. There are two average temperature curves that seem to be reasonable based on my review of several hundred temperature profiles, as well as many published average profiles. The first is the NCDC/NESDIS/NOAA curve shown in Figure 2 which seems to be a reasonably good curve of short-term average temperature anomalies. The Loehle curve shown in Figure 3 seems to be a reasonably good curve for the medium-term (2000 years).



Figure 2: Jan-Dec Global Mean Temperature over Land and Ocean (NOAA)

continued on page 19

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Figure 3: 2000 Years of Global Temperature (Loehle, 2007)

Based on these curves we can see that there has been a slight increase of 0.6 to 0.8 degree C since the end of the Little Ice Age in the mid 1800's; an average change of 0.009 degrees C/year. Note, however, that NOAA's curve flattens after 1998, Loehle's curve shows a temperature decline after 1998, and the Hadley curve (red line, Figure 2) continues to increase after 1998.

There is a strong indication that there is a 30 year pattern of warming and cooling superposed on the overall warming trend (Figure 2). The warming from 1850 – 1880 marked the end of the Little Ice Age (Maunder Minimum). That was followed by a strong cooling trend from 1880 to 1910, clearly seen on Figure 2. From 1910 – 1940 there was a pronounced warming trend that led to an ice-free Northwest Passage in the 1920's and the dust bowl in the 1930's. That, in turn, was followed by cooling from 1940 – 1970. Although that cooling does not look significant on Figure 2, WW2 historians will recall that 1945 was one of the coldest years on record for much of Europe. It is also the trend that led to the 1970 global cooling crisis. Our current warming trend has been going from 1970 to 2000. Since 1998, we have seen a general cooling trend which is consistent with that 30 year pattern. These 30-year trends are caused by changes in the Pacific Ocean circulation known as the Pacific Decadal Oscillation (PDO), which in turn impacts the frequency and severity of the El Nino Southern Oscillation (ENSO).

2) What is causing temperatures to do what they are doing?

I believe that many geoscientists believe that CO2, and other greenhouse gases have an impact on climate, as do I. However, none of us know if that impact is large or small, and I suspect we will never really know given the complexity of the climate system.

However, the nature of the public debate is such that for most people, the CAUSE of global warming is CO2 associated with the burning of fossil fuels. That is what needs to be addressed in public forums.



We are all aware that temperatures have warmed and cooled frequently throughout geologic time; all without being caused by humans. We are much warmer today than we were at the end of the Pleistocene, but cooler than we were during the Medieval Maximum (Figure 3).

More recently, temperatures have been steadily rising since 1910 (Figure 1) which follows an increase in CO2 emissions (Figure 4). The logic of assigning a human cause to global warming is based on the observation that there has been a significant increase in CO2 emissions and a corresponding increase in temperatures – hence the "smoking gun".



Figure 4: Global CO2 Emissions from Fossil Fuel Burning, Cement Manufacture, and Gas Flaring (CO2 Information Analysis Center)

However this logic does not hold up to scrutiny. Over the past 400,000 years, temperatures and CO2 levels have been at increased levels 5 times (Figure 5). None of the previous increases were human caused. Moreover, temperature increases precede CO2 increases by almost 800 years, so CO2 does not cause temperature increases.



Figure 5: Temperature and atmospheric CO2 concentrations over the past 400,000 years

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So the argument becomes has atmospheric CO2 reached concentrations at which it has crossed a "tipping point" such that it is causing the current warming trend? That possibility can not be ruled out; however, the data does not seem to support that conclusion. First of all, the current warming trend can be seen to have actually started in 1700 (Figure 2), long before there was any increase in CO2 emissions.

Secondly, the current atmospheric concentration of CO2 is slightly less than 400 parts per million, or 0.04% of the total atmosphere. If one is to assume that four one-hundredths of a percent of atmospheric CO2 is sufficient to have pushed our climate system across the tipping point, then one has to believe that our climate system is not at all robust. It is somewhat like assuming that 3,600 Americans living in Bangkok, a city of almost 9 million is somehow going to tip the culture to be American.

Thirdly, there has been a concerted effort over the last decade to find the greenhouse gas signature; that is an atmospheric hot-spot at approximately 10,000 feet above msl in the tropics. Although thousands of radiosondes have been launched to find this hot-spot, none have, suggesting it is not there, or is too-small to be observed.

Fourth: the effect of carbon dioxide on temperature is logarithmic and thus climate sensitivity decreases with increasing concentration. The first 20 ppm of carbon dioxide has a greater temperature effect than the next 400 ppm. The rate of annual increase in atmospheric carbon dioxide over the last 30 years has averaged 1.7 ppm. From the current level of 380 ppm, it is projected to rise to 420 ppm by 2030. The projected 40 ppm increase reduces emission from the stratosphere to space from 279.6 watts/m2 to 279.2 watts/m2 which equates to an increase in atmospheric temperature of 0.04°C (*The Past and Future of Climate*; David Archibald June, 2007).

The other rationale for a human <u>cause</u> for global warming is based on model predictions. The current models just do not work without a huge human contribution. I will not now, or ever, pretend to understand climate models. However, I do have experience with geologic models, and they require many assumptions. Some of the required assumptions are well understood, others poorly understood. But the reality is that the product of a model is only as good as the poorest assumptions in them.

So how good are the assumptions in climate models? Over the course of the last year, it has been shown that the IPCC models have unreasonable assumptions regarding economic growth, which is used as a proxy for predicting future CO2 levels. Recent articles have indicated that the assumptions about the behavior of water vapor in the Antarctic are incorrect. And, we heard in the Climate Forum in San Antonio, that the role of solar activity is not properly handled in most models. So, as I have said before, models are great tools to help us understand complex processes, but they are not data.



So what is <u>The Cause</u>? The answer is the sun; it is THE driver of earth's climate. Changes in solar activity will change earth's climate. Oceanic circulation patterns also have an affect, in particular the thirty-year Pacific Decadal Oscillation (PDO). Other factors, *including CO2 and green-house gases* will impact climate, but they do not drive it. As earth scientists we fundamentally understand this, however, the general public does not. And the debate, as far as the public is concerned, is that CO2, not the sun and our planet's orientation to it, <u>causes</u> global warming.

Moreover, the impact of human-introduced CO2 has on climate appears to be minimal. It is clearly over-ridden by other factors, notably solar activity and by changes in oceanic circulation.

3) What will temperatures do?

This should be a reasonably simple issue as there are only three possibilities: temperatures will continue to generally increase, temperatures will be flat, or temperatures will begin to decrease. Of course which trend is correct will be somewhat dependent on the time-frame we choose. Choose a long enough time frame and all 3 will occur.

The IPCC and others state with a high degree of certainty that temperatures will increase. Of course now they are saying that the increase will be interrupted by a period of flat to cooling temperatures until 2015. This prediction is based largely on models – so you already know how I feel about them. If the impact of the PDO is as strong as historical data suggests that it is, then the recent movement of the PDO to its cool phase combined with the lack of sun-spot activity could indicate we are in for 30 years of cooling. The general flat temperatures seen in the data since 1998 may well indicate that this is indeed the case (Figure 6). Over the last year, we have seen a 0.6° C cooling, all but wiping out the 0.8° C increase we have seen since the 1800's.



Figure 6: 'Average' Global Temperature Anomaly, 1988 – Jan 2008

continued on page 27





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4) What is the impact of climate on humans?

Predictions for the future have been dire, bordering on catastrophic. These predictions are based on models, however, so if the models are wrong, so too are the predictions. And, some of the predictions have been shown to be wrong. For example, it was predicted that there will be an increase in the number and severity of cyclonic storms as a result of global warming, yet the number of tornados and of Atlantic hurricanes have actually been decreasing and the severity of Atlantic hurricanes based on wind speed, has remained flat.

Personally, this is the part of the debate where I feel we simply fail to learn from history. During the Medieval Climate Optimum, humanity was doing pretty well. We saw widespread global exploration and the Renaissance; both made possible because there were food surpluses. During the little Ice Age, there was widespread famine and death. Humankind has routinely done better with warm climates; so why are we trying to spend billions of dollars to make it cold?





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Caesar Mosca Nomanna Orangedale(2) Ray-Wilcox San Domingo

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BROOKS COUNTY

Ann Mag Boedecker Cage Ranch Encintas FRF Gyp Hill

Gyp Hill West

Loma Blanca Mariposa Mills Bennett Pita Tio Ayola Tres Encinos

CALHOUN COUNTY

Applina Coloma Creek, North Hevsei Lavaca Bay Long Mott Magnolia Beach Mosquito Point Olivia Panther Reef Powderhorn Seadrift, N.W. Steamboat Pass Webb Point S.E. Zoller **CAMERON COUNTY** Holly Beach

Luttes San Martin (2) Three Islands, East

Vista Del Mar

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Anna Barre Cook

*****Nordheim Smith Creek

Warmslev Yorktown, South **DUVAL COUNTY**

DCR-49 Four Seasons Good Friday Hagist Ranch Herbst Loma Novia Petrox Seven Sisters Seventy Six, South Starr Bright, West GOLIAD COUNTY Berclair

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