

To: Dr. Schuhmann
From: Kelly Mulcahey, Joseph Ortiz, Jacob Snyder, Zachary Rohrman

Class: ENGR 408
Date: 3/28/2011

Subject: **The reliability of all peer reviewed literature**

The *Journal of American Physicians and Surgeons* is the official journal for Association of American Physicians and Surgeon. It is also known as the AAPS, which is a non-profit organization and politically affiliated that was founded in 1943 (7). In contrary to these attributes, this journal is not included in the major database of MEDLINE/PubMed or the Web of Science. Mostly all professional and reliable journals are listed within these databases. When the AAPS could not be accessed through these databases, the credibility level decreased.

As research was being conducted on this journal, the range of information that is provided does not venture beyond the medical profession. Many negative reviews have been documented regarding this journal. Criticism included: findings of inaccurate information, lack of proof for many statements, and errors within the writings. Science Blogs have stated these flaws within the journal. We concluded that because of these reported flaws and incredible characteristics that we came upon; *The Journal of American Physicians and Surgeons* is not a reliable piece of literature.



http://www.aapsonline.org/index.php/article/journal_of_american_physicians_and_surgeons/

The scientific institution that these scientists are affiliated with is not credible. The authors associated with this article are represented by the Oregon Institute of Science and Medicine (OSIM). The OISM describes itself as a “non-profit institute established in 1980 to conduct basic and applied research in subject immediately applicable to increasing the quality, quantity, and length of human life” (11). These authors may appear to be official and trusted to publish peer reviewed articles, but when further research was conducted, the OISM was

found to be publishing fake journal articles. Posted clearly on the homepage of the Oregon Institute of Science and Medicine website, is “The Institute currently has six faculty members, several regular volunteers, and a larger number of other volunteers who work on occasional projects” (Robinson). However, after doing research on this organization it was found that only one of the six faculty members, Arthur B. Robinson (founder of OISM in 1980), was getting paid (4). According to PRwatch.org, the research done by Robinson, as well as the professional titles of the individuals who signed the Oregon Petition (a global warming petition project), were found to be controversial and many scientists questioned the validity of OISM (10). Robinson was a known chemist who self-applied the title of peer reviewed to his research and petition, when in fact it was not.

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Subject: **There is a scientific consensus regarding anthropogenic climate change**

The article "The scientific Consensus on Climate Change" talks about the consensus position on the human impact on global warming. Professor Oreskes' class found 928 papers using Web of Science in 2003 using the keywords "global climate change" (8). Of these 928 papers, none contradicted the conclusions of the scientific community that the climate has warmed over the past 50 years. 75% of the papers dealt with explicit endorsement of the consensus position, evaluation of impacts, and mitigation proposals while 25% of the papers dealt with methods, paleoclimate analysis, and rejection of the consensus position. This 25% of papers did not explicitly disagree with the consensus that greenhouse gases are accumulating in Earth's atmosphere as a result of human activities and most of the observed warming of the last 50 years is due to the increase in greenhouse gas concentrations, but they talk about reasons for climate change other than greenhouse gasses. After researching global warming, it's nearly impossible to find an article that proposes



<http://historyweb.ucsd.edu/oreskes/pages/profile.html>

greenhouse gasses are not a factor. Even the Environmental Protection Agency states that "Human activities are changing the composition of Earth's atmosphere" (12). Although Naomi Oreskes is not published on Web of Science, her Ph. D. in Geological Research and History of Science and employment history make the article a credible source.

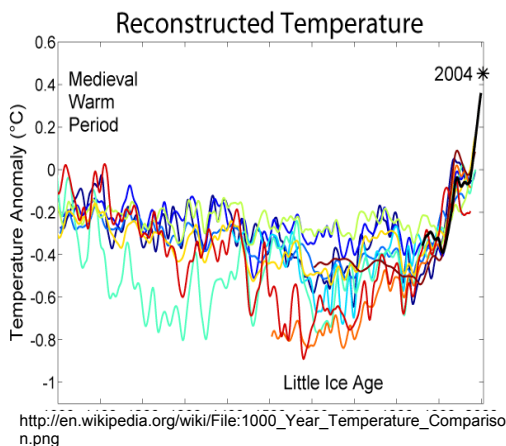
Performing a search using the keywords "anthropogenic" and "climatechange" today in the Web of Science yields 3,621 articles. Several of these articles talk about the social consequences of climate change rather than the scientific reasoning for climate change. However, performing the same search that Professor Oreskes' class used using the keywords "global climate change" on Web of Science today yields 19,034 articles. After using the filter "Environmental Sciences", 4,374 articles are found. Of which, the top article talks about methodologies other than anthropogenic climate change (1). Methods or paleoclimate ideas about climate change may not disagree that humans have had an impact on the climate via greenhouse gasses, but they also look at the history of the earth's climate and other data to explain the rising temperatures.

Of the 850+ articles claimed to be peer reviewed on populartechnology.net, we found that 30% of the articles we sampled were not peer reviewed on Web of Science. Checking the articles on Engineering Village database had similar results, agreeing in all but a few cases.

Subject: Climate scientists were justified in using “trick” to make data more accurate.

Upon searching the Internet it was found that the majority of scientists use the term “trick” while referring to a good technique to solve a purely science problem. However, interestingly when referring to graphing or plotting tricks, the term itself is used in a more deceitful way. If you search “partial differential equation tricks”, almost all of the responses will contain some easier way of solving partial differential equations. Again if you search any core science or engineering tricks you will find that it only returns ways to determine the answers to problems in a faster, more efficient manner. This leads one to believe that the scientific community believes that when dealing with core sciences, the term “trick” refers to a good problem solving technique. However, when searching “graphing tricks” or “plotting tricks” the opposite response is revealed. The journals and papers that appear talk about ways to make one’s data more presentable and biased to what they are trying to show. In this case the scientific community is undecided on whether “graphing tricks” are completely innocent and truthful.

From “The CRU hack”, a quote from Phil Jones’ email contains the controversy at hand; “I’ve just completed Mike’s Nature trick of adding in the real temps to each series for the last 20 years (ie from 1981 onwards) and from 1961 for Keith’s to hide the decline” (13). Many writers



pose that this “trick” was a nefarious act to skew the data in the team’s favor. McKittrick and McIntyre believe that Mann’s “trick” was to flip the data so that the graph would show a sharp upward slope, and thus forming the hockey stick (14). However, from Mann’s explanation, he states that most of the data for the study was taken from tree rings or natural fossils that become less accurate after the 1960’s. The proxies from tree rings tend to diverge away and be less reliable than temperatures found from modern instruments after the 1960’s (6). From Mann, it can be determined that this “trick” is merely combining the more accurate instrument data after 1960 where the proxies from the tree rings begin to diverge (5). Mann’s trick was simply used to gather the most accurate data. Though it may seem odd that Mann replaced declining data with increasing data, he did it for the right reason; accuracy. There was nothing inaccurate or falsifying about the data represented and Mann is completely justified for replacing the diverging data. We believe that there is not a decline in temperature and that there was no trick that the scientists were trying to hide.

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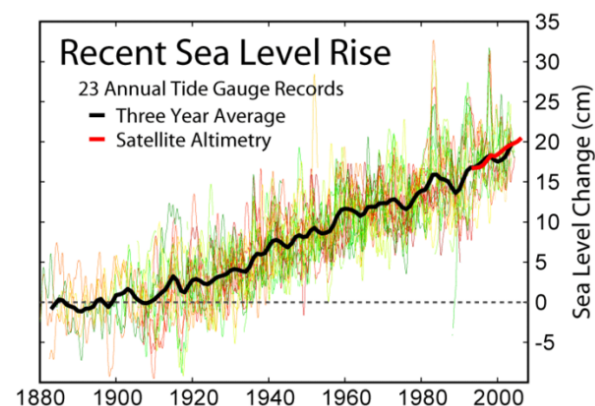
Subject: Retired military leaders' joint report perspective on climate change

Retired US leadership has a very different perspective than scientists, politicians, and everyday people. They see the climate change debate not as a disagreement, but rather as evidence of varying degrees of risk. They believe that it is wise to prepare for the possible outcomes instead of waiting until it is too late. This is due in large part to their military training. As a military leader, a lot of emphasis is placed on low probability/high consequence events (3). Most people are familiar with this concept though. For example, there is a low probability of getting in a car crash; however, we do whatever we can to prevent them from occurring because the consequences can be extremely high. This is perfectly applicable to climate change. The possible consequences of climate change are so great; it is not prudent to argue over what is going to happen. According to General Gordon R Sullivan of the US Army, "We never have [certainty]. If you wait until you have 100 percent certainty, something bad is going to happen on the battlefield." (3) The reality is that we need to start thinking about what our nation needs to do to be ready for different climate change events. As stated in *Deep Survival* by Laurence Gonzalez, we should be preparing for the worst possible outcome in any situation (2).

Furthermore, the board sees climate change as a serious national security threat. Extreme events can cause unrest in all countries; however, the countries that are less developed will be more susceptible to this instability. In these situations, the government would no longer be able to deliver services to its people, ensure domestic order, and protect the borders from invasion. This gives turmoil, extremism and terrorism an opportunity to flourish (3). Additionally, when people are displaced by lack of food, water, or shelter, they will migrate across borders in order to fulfill their needs. This could pose a serious national security threat to the United States, as we already have problems protecting our borders. Overall, the members of the Military Advisory Board all feel that the judgment method of "deference to experts" is ineffective for the climate change issue, as there is much debate among scientists. Instead, they prefer to focus on what can be done to protect the future.

Subject: Current military perspective on climate change

The current military shares the same basic perspective as the board of retired military leaders; climate change is a significant national security threat despite the uncertainty in climate research. The Department of Defense believes that there is a serious problem of “translation” between the climate change researchers and the people that construct our nations policies (9). However, they feel that there is sufficient information to realistically analyze the risks. The armed forces are now considering climate change as a result of a congressional order from 2008. This order required the quadrennial review, a Department of Defense study that analyzes military objectives, policies, and threats, to factor in climate change. After consulting the 2010 QDR, we found that the DoD posits that climate change will affect the military by shaping the operating environment, roles, and missions that they undertake. Furthermore, the report states that the U.S. Global Change Research Program reported in 2009 that climate-related changes are already being observed in every region of the world, including the United States and its coastal waters (15). This shows the current military is concerned about preparing for the effects of climate change in the future.



http://stevengoddard.files.wordpress.com/2010/10/700px-recent_sea_level_rise.png

Specifically, the U.S. Navy has thoroughly integrated climate change into its QDR considerations and contributed important analysis to the process (9). The Navy is far more concerned with climate change than any of the other branches for good reason. Most reports agree that one of the potential effects of climate change is a raised sea water level. Nearly all

Navy facilities are located on the coast and would be severely affected by these events. In

fact, in 2008, the National Intelligence Council found that more than 30 U.S. military installations were already facing elevated levels of risk from rising sea levels (15). The current military clearly understands that action needs to be taken now to prepare for possible future climate change events.

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Subject: **Reflection**

While completing this paper, we quickly learned that it is important to verify and check sources while not assuming that all publications are unbiased. In doing our research on global warming, we found that sources that appeared to be very credible were sometimes not peer reviewed. This reinforced the old adage that you should never judge a book (or scientific journal) by its cover. This proved to us that checking sources is an essential step in research.

This idea really interested us so we decided to research a common information website that many people visit; Wikipedia. We performed a search on global warming and looked through some of the sources that were referenced. We found a particular journal entitled The International Weekly Journal of Science. This seemed to be a very legitimate source, so we cross checked this journal with the Web of Science as well as Compendex and found that it wasn't peer reviewed. We then checked a small sample of references listed and found that only 10% were listed in the databases.

Through completing this paper, we all feel that we have learned valuable lessons about judgment that we will use in the future. In a world where information is so accessible, it is important to have the skills to identify a source's credibility.

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Subject: **Works Cited**

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