



NMSR Reports

The Newsletter of the
New Mexicans for Science and Reason

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NMSR Reports, David E. Thomas, Editor, P.O. Box 1017, Peralta, NM 87042

FEBRUARY MEETING:

NEW MEXICANS FOR SCIENCE AND REASON WILL HEAR

Jim Middleton on

“A Patent Primer for Non-Lawyers”

WEDS., FEB. 10th, 2010, 7 PM

==>UNM Law Building <==

==> 1117 Stanford NE, ROOM 2402 <==

Bring a friend

FEB. 10TH, 2010 NMSR MEETING: PATENTS



Our February meeting will feature NMSR member Jim Middleton, speaking on “A Patent Primer for Non-Lawyers.” Join us on Wednesday, February

10th at 7PM at the UNM Law Building. Information: 268-3772.

More Meetings – page 2

Hockey Stick Politics: ClimateGate or ClusterPuck?

By Mark Boslough

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In 2005, Sen. James Inhofe (R-OK) called global warming the “greatest hoax ever perpetrated on the American people.” Rep. Joe Barton, (R-TX) joined the assault by harassing three respected climate scientists, demanding immediate documentation of what he called “methodological flaws and data errors” in their work. Barton held hearings and ordered a review of the “hockey stick” temperature graph the scientists had published. Edward Wegman—a statistician with no background in climatology and little understanding of physics—led the investigation. Wegman’s team submitted a report that criticized the statistical methods used by the scientists. Denialists embraced this criticism, claiming that

the hockey stick has been discredited and declaring that global warming was a fraud.

To many researchers, the investigation was nothing more than an anti-science witch-hunt. Scientists play by well-defined rules. They require peer reviewed publication, logic, and evidence. Science is like a hockey game that only works if fans understand it and teams play by the rules. Inhofe and Barton knew their side could not win against a world-class “hockey team.” They

chose instead to create confusion and sow doubt. Their tactic was to act like unruly fans and throw hundreds of decoy pucks onto the ice and then take advantage of the chaos. The idea was simply to delay any action in order to protect vested interests in the status quo. They didn’t have to win the game. All they needed to do is disrupt it by turning it into one big “ClusterPuck”.



Scientists were understandably angry and were not always circumspect in their private messages. They did not expect political activists—willing to tap phones and break into computers—to steal their correspondence. Although there was no evidence for any wrongdoing by the scientists, their words were twisted and taken out of context. Emails were published by bloggers and broadcast by media for whom controversy and conflict trumps accuracy. This non-scandal became known as “ClimateGate.”

The actual scandal is associated with the Barton investigation. Last month a blogger called “Deep Climate” demonstrated that, in a cruel irony, the Wegman team actually plagiarized from a textbook written by one of the scientists under investigation. Even worse, they changed the meaning of the text they stole. The supposedly unbiased referees of the game were part of the ClusterPuck.

New evidence continues to mount (see deepclimate.org for updates). Will the media investigate and report the “ClusterPuck” scandal as aggressively as they did for the “ClimateGate” non-scandal? Or is there a journalistic double standard that favors deniers? Stay tuned.

MORE FUTURE MEETINGS

MARCH 10TH, 2010 NMSR MEETING: Benjamin Radford, on "Behind the Scenes on a TV Ghost Show"

The March NMSR meeting will feature Skeptical Inquirer's managing editor Benjamin Radford, talking on "Behind the Scenes on a TV Ghost Show." Ben's synopsis:

"Most of us have seen 'reality' TV shows about ghosts, from Ghost Hunters to Paranormal State and others. But what's it really like between takes, and in front of the camera? How real is 'reality' TV on these shows? Scientific paranormal investigator, Skeptical Inquirer managing editor, and



Weekly Alibi columnist Benjamin Radford recently investigated a haunted house for the History Channel's TV show 'MysteryQuest.' Come for an insider's behind-the-scenes look at ghosts, investigation, and the reality of TV production."

Join us on Wednesday, March 10th at 7PM at the UNM Law Building.

APRIL 14TH, 2010 NMSR MEETING: POLITICS OF THE 'HOCKEY STICK'

Our April meeting will feature NMSR member Mark Boslough, Sandia Labs, speaking on "Hockey Stick Politics: Climategate or Clusterpuck?" Join us on Wednesday, April 14th at 7PM at the UNM Law Building. Information: 268-3772.



New Mexicans for Science & Reason (NMSR)

NMSR is a non-profit group with the goals of promoting science, the scientific method, rational thinking, and critical examination of dubious or extraordinary claims. NMSR meets at 7 PM on the second Wednesday of each month, in Albuquerque, New Mexico, at the UNM Law Building (1117 Stanford NE, Room 2402, toward the west [golf course] side of the building). *NMSR Reports* is its official newsletter.

NMSR officers:

Dave Thomas, President

P.O. Box 1017, Peralta, NM 87042

(505) 869-9250 nmsrdave@swcp.com

John Geohegan, Vice-President

450 Montclair SE, Albuquerque, NM 87108

(505) 268-3772 jgeoh@swcp.com

Nancy Shelton, Treasurer

11617 Snowheights NE, Albuq., NM 87112

(505) 296-1467 nshelton10@comcast.net

Kim Johnson, Industrial Physicist

(505) 897-3364 kimber@comcast.net

Marilyn Savitt-Kring, Science Mom

<marilynsavitt-kring@comcast.net>

Harry Murphy, Physicist, Medical Quackery

Membership: \$25/year, includes newsletter, check payable to NMSR, send to treasurer (Shelton).

Newsletter subscription: \$15/year (12 issues)

NMSR Advisors:

• *Robert Cormack*

Professor of Psychology, NMIMT

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Cyber-Cypher Clue: M = S

Bonus Puzzle Clue: Algebra?

Wonder Quest

by April Holladay



Why geese walk

Q: Why do geese walk across a road when they can fly, thereby not getting hit by a car? *Angelo, Staten Island, New York, USA*



Canada Geese crossing the street in Issaquah, WA. Photo courtesy of Eric Williams, copyright, all rights reserved, used with permission.

A: Geese certainly *can* fly across a road. Explorers report them flying even across Mount Everest. Migrating bar-headed geese routinely overfly the Himalayas. Migrating Canadian geese fly, in fair weather, up to 1.6 kilometers (a mile) high, reaching speeds of 70 to 100 km/hr (45 to 60 mph).

So geese could fly across a road. There are exceptions: they can't fly while molting (mid June to mid July). Also domestic geese have largely lost flying ability. Moreover, people often remove part of their wings (pinioning) to prevent domestic geese from flying away. Consequently, domestic geese only flap their wings furiously and maybe lift off a couple of feet.

So why don't wild geese fly across roads? Primarily because a goose is a grazing animal and grazers walk as they graze. Their legs are positioned to their bodies farther forward than either duck or swan legs. They can, therefore, "walk and graze on dry land," writes biologist Chuck Fergus in Wildnotes of the Pennsylvania Game Commission.

Walking uses far less energy than flying.

Conserving energy for fleeing danger and long migrations helps the species survive. Researchers (A.J. Woakes <http://www.biosciences.bham.ac.uk/labs/butler/Woakes1.htm> et al) at the Universities of Birmingham and Wales found that the rate of oxygen consumption was significantly higher for flying rather than walking geese.

Geese tend to walk to their feeding site from water. "Because they are grazers, they will do more walking, but they don't avoid flying," emails biologist Marion E Larson <http://www.mass.gov/dfwele/dfw/> of the Massachusetts Division of Fisheries and Wildlife. They fly to migrate thousands of miles. Also they fly from their nighttime home waters (river, pond or lake) to nearby fields to graze during the day, and then fly back to the lake for the night. Such forays may take them a few hundred yards or over 20 miles, depending on food availability. But food drives the flights, not predators.

"Because they're big, strong and aggressive, geese are less subject to predation than most other waterfowl," Fergus says. Hawks and owls — airborne dangers — are about the only predators immatures need worry about. Few adults need concern themselves at all. Furthermore, wild geese are smart and quickly learn where refuge-area boundaries are in regions where humans hunt them. Geese become accustomed to road traffic. Intelligent and wary with keen hearing and vision, geese easily avoid traffic. On land, they feed in groups and at least one goose always scouts for trouble. Indeed, the grazing flock multiplies a lookout's sharp senses.

So, to answer your question, "Canadian geese prefer to walk or swim. They do not like to fly," says the New Mexico State University Cooperative Extension. And they don't need to fly to avoid a mere car.

Further Reading:

Heart rate and the rate of oxygen consumption of flying and walking barnacle geese (*Branta leucopsis*) and bar-headed geese (*Anser indicus*) <http://jeb.biologists.org/cgi/content/abstract/205/21/3347> by S. Ward, C. M. Bishop, A. J. Woakes and P. J. Butler, Universities of Birmingham and Wales, July

2002

Canada Goose

http://www.portal.state.pa.us/portal/server.pt/gateway/PTARGS_0_706618_0_0_18/canada_goose.pdf

by Chuck Fergus, Pennsylvania Game Commission Wildlife Notes

How geese squeeze oxygen from thin air
<http://www.cbc.ca/technology/story/2009/07/28/tech-090728-bar-headed-geese-oxygen-altitude-scott.html?ref=rss> , CBS News, July 2009

Canada Geese in Massachusetts
http://www.mass.gov/dfwele/dfw/wildlife/living/living_with_geese.htm , Massachusetts Division of Fisheries and Wildlife

April Holladay lives in Albuquerque, New Mexico. Her column, WonderQuest, appears every second Monday of the month on WonderQuest.com. To read April's past columns, please visit her website. If you have a question for April, visit www.wonderquest.com/AskQuestion.htm.

(Answered 11 Jan. 2010)

Readers contributed to December's geese-walk question. Here's your next question:

Can a domestic cat be trained as well as a dog? Because, I've tried to train mine with not much success... Vicky, Maracaibo, Venezuela

Deadline: 22 Feb. We will publish the best answers on 8 March.

Go here to give April your answer:
<http://www.wonderquest.com/get-answer.htm>

<http://www.wonderquest.com/>
Find Wonder Quest at USA TODAY's site!

To read April's past WonderQuest columns, please check out her site, www.wonderquest.com. If you have a question for April, visit this informational page: www.wonderquest.com/AskQuestion.htm.

REMEMBER, our next regular NMSR meeting is at **7 PM** on **WEDNESDAY, FEBRUARY 10th, 2009**, at the **UNM LAW BUILDING (2402)!**

PUZZLE TIME!

[Please send solutions to Dave Thomas at: nmsrdave@swcp.com, or at P.O. Box 1017, Peralta NM 87042.]

Cyber-Cypher FEBRUARY PUZZLE (Submitted by Dave Thomas)

The following letters are a simple substitution cypher. If R stands for L, R will stand for L everywhere. Your Cyber-Cypher Clue: Clue? Oh, well - if you must, see p. 2.

" J E O K L ' Z H S K I U F Z I
 K E I W H M K N L I J K S ,
 O K L ' Z H U F Z I K E I W H
 U Z H G J U J I F I H . " —
 M G J H S I J M I ' M T L Q U H Z
 M I J G X H Z

SUPER SECRET WORD!

However you prefer to do the cypher itself (above or below), simply **duplicate those actions** on the alphabetized row of cypher letters below. You'll build an answer key, **and** you'll also reveal - the *Super Secret Word!*

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

JANUARY CYPHER SOLUTION

"NOT ONLY IS THERE NO GOD, BUT TRY GETTING A PLUMBER ON WEEKENDS." -- WOODY ALLEN

Esteemed January Code Crackers were: **Mike Arms***, **Ross Goeres***, **John Geohegan***. **Congratulations!!** (*:Secret Word – ATHEISM NOW)

February Bonus: "Big Crowd at the Inn"

Courtesy seventeenth-century France

41 persons eat at an inn. The total bill is 40 sous and each man pays 4 sous, each woman 3, and each child 1/3 sou.

The February Bonus: How many men, women, and children were there?

January Bonus Solution: "Time?"

Adapted from Intriguing Mathematical Problems by Oswald Jacoby, with W. H. Benson.

Simpkins and Green made arrangements to meet at the railroad station to catch the 8:00 train to Philadelphia. Simpkins thinks that his watch is twenty-five minutes fast, although it is in fact ten minutes slow. Green thinks his watch

is twenty minutes slow, while it has actually gained five minutes. **The January Bonus: What will happen if both men, relying upon their watches, try to arrive at the station five minutes before train time?**

Answer: Simpkins arrives at 8:30 (a half-hour late) and Green arrives at 7:30 (a half-hour early).

JANUARY BONUS SOLUTION SOLVERS:

Rocky S. Stone (NM), Mike Arms (NM), Eric Hanczyc (WA), Keith Gilbert (NM), Ken Hessel (NM), Harold Gaines (KS).

DELAYED RECOGNITION FOR December 2009 Bonus Solvers: Keith Gilbert, Mike Arms. Congrats!!

Sudoku Corner by Ross Goeres



NMSR is pleased to announce that our Sudoku Corner is going *GREEN*. We are taking our Sudoku pages off of the hard-copy newsletter, and posting them directly on the World Wide Web. Ross Goeres develops the puzzles and solutions, and Dave Thomas has made a Python program that displays these puzzles as interactive

web pages using JavaScript and HTML.

While you can still print the puzzles out if you want to, NMSR's new paperless Sudoku Corner will allow you to solve the puzzle *right on the web* – simply click on cells in the puzzle, and type in your answers! There's even a cool little button that will tell you how many correct entries you've made so far, with one click.

You do NOT have to be on-line to play. If you are looking at any of the three June Sudoku puzzles while on-line, simply Save the page (either 'Save As HTML' or 'Save As Complete Web Page' will work). Later, while you are off-line, open the saved file(s) by clicking it, and play away! (Alas, your work is NOT saved between sessions! Java Scripts are cool, but they're not *Magic!*)

You can still enjoy Ross Goeres' innovative Standard Sudoku, Seek Word Sudoku and Sudoku-X puzzles every month: just log on to www.nmsr.org/sudoku.htm. And Go Green!

JANUARY 11TH, 2009 NMSR MEETING:

VOLCANISM AND CLIMATE CHANGE



Steve Cather, a geologist at New Mexico Tech, spoke on "Explosive volcanism, oceanic iron fertilization, and their relationship to global cooling episodes." at our Jan. 13th meeting. The talk

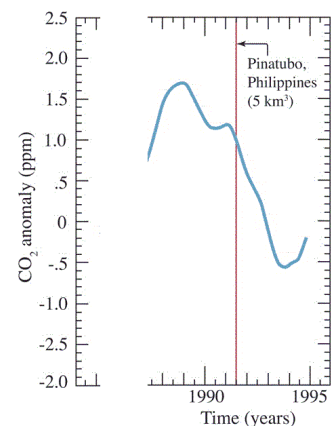
discussed the new paper, "*Explosive volcanism, oceanic iron fertilization, and their relationship to global cooling episodes*," (Steven Cather, Nelia Dunbar, William McIntosh, and Peter Scholle of New Mexico Tech, and Fred W. McDowell of the U. Texas at Austin), published in *Geosphere* in June 2009. The hypothesis explored by the team is this: "*Explosive volcanism can cause global cooling via iron fertilization of oceans by volcanic ash.*" Cather pointed out that long-term basaltic volcanism, like that which produced the Malpais area near Grants, releases carbon dioxide in the long term, and tends to increase climatic warming. However, Cather argued that *explosive* silicic events, called SLIPS (Silicic Large Igneous Provinces, from repeated ignimbrite eruptions), which happen relatively rarely, serve to *decrease* global warming. The mechanism by which this happens involves iron residues in the large amounts of ash released in such events. It turns out that concentrations of iron in the



oceans are quite small, and the lack of iron limits the growth of phytoplankton, which require iron for photosynthesis.

Experiments in which iron has been added to oceanic areas have definitely resulted in plankton 'blooms' (growth episodes). As the plankton thrive, they incorporate CO₂ into their shells, removing it from the atmosphere, and thus promoting cooling.

Steve showed several lines of evidence supporting the hypothesis, including recent volcanic explosive episodes (such as Pinatubo, 1991), and a half-dozen major SLIPS during the Phanerozoic (the last 500 million years).



Cather explained that many eruptions cause short-term cooling because the high-altitude ash makes the earth more reflective, and thus cooler.

But, such clouds dissipate after just a few years, and can not explain the long-term icehouse events the team studied. The plankton bloom mechanism, on the other hand, is active over millions of years, and is clearly capable of explaining the connection between explosive silicic eruptions and cooling episodes. Accordingly, humans will not be able to use this process to mitigate climate change, since it takes millions of years to be effective.

NMSR thanks Steve Cather for a fascinating talk.

January Issue Correction

Keen-eyed reader Paul Braterman, Honorary Senior Research Fellow in Chemistry, University of Glasgow writes regarding a comment in the January Reports:“ *‘In regards to the East Anglia e-mail ‘scandal’, Pollack pointed out that global climate science is performed by many agencies and universities besides this small Scottish school.’ (!) Or, as Shakespeare put it, ‘Stands Scotland where she did?’*”

NMSR’s Science Watch: 1350 AM

Listen to NMSR’s Science Watch radio show on Saturdays at 2:00 PM on AM 1350, in the Albuquerque area. The hosts are Dave Thomas, Kim Johnson, Marshall Berman, Kim’s son Jesse, and CESE president Lisa Durkin. Podcasts are available at <http://www.nmsr.org/podcast.htm>.

January 2010 Shows: **January 9th** (Dave'n'Kim): "Spinning Science: Catching Governer Ventura in a Lie"; **January 16th** (Dave'n'Kim): "Haiti Update, Plus Science Potpourri"; **January 23rd** (Dave'n'Kim): "More Science

Potpourri!"; **January 30th** (Dave'n'Kim), with guest Mark Boslough (Sandia), on "Defending Planet Earth".

If you have technical problems, please e-mail Dave Thomas or other Science Watch staff from our radio updates page, www.nmsr.org/goradio.htm.

ANNOUNCEMENT: The End Is In Sight!

After four years of doing shows every weekend, Dave and Kim are retiring! We're wrapping up the weekly edition of NMSR's Science Watch on March 6, 2010. We may do special shows thereafter (for legislative emergencies or etc.), but the Weekly Shows are coming to an end! Many thanks to all our sponsors!

The NMSR e-mail list is fun! It’s an e-mail list with news announcements of interest to NMSR members, discussions about news of the times, and more. To join, send a request to nmsrdave@swcp.com.

Thanks to: John Geohegan, Ross Goeres, April Holladay, Debbie Thomas and our Puzzlers!

DUES - check the date on your mailing label. If it's time for you to renew, or to make a contribution, please check the box and send a check to
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David E. Thomas, Editor (505) 869-9250
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Patents for Non-Lawyers
Feb. 10th, 7 PM

Law Building Room 2402

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