

Pal Review at *Climate Research*, 1997-2003 - Chris de Freitas, Pat Michaels and their *pals*

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1 Introduction

Good peer review is crucial, but not sufficient for credible scientific publishing. It is merely an early hurdle. Even in carefully-run journals, mistakes occur, to be found later by the broader reviews following publication of anything interesting. In most fields, real junk is ignored. In climate, such junk gets widely endlessly publicized, forcing debunking.

For a few years, *Climate Research*, a generally-credible journal, published some weak or even *awful* articles. The journal had no Editor-in-Chief, so authors sent manuscripts to an Associate Editor of their choice. Each selected reviewers, handled the whole process and accepted papers with no further oversight. **From 1990 to 1996, *CR* published zero papers from any of the following**, called *pals* hereafter: Sallie Baliunas, Robert Balling, John Christy, Robert Davis, (Chris de Freitas), David Douglass, Vincent Gray, Sherwood Idso, PJ Knappenberger, Ross McKittrick, Pat Michaels, Eric Posmentier, Arthur Robinson, Willie Soon, and Gerd-Rainer Weber.² **Chris de Freitas became an editor and then accepted 14 papers from the *pals* 1997-2003.**

¹ As elsewhere, opinions are *Italicized* and Wikis are not taken as authoritative.

² www.desmogblog.com/crescendo-climategate-cacophony (MAS2010 hereafter). **Bold** names are listed on p.97-102 and short biographical entries provided. Gray was a retired New Zealand coal industry researcher, calling himself a “climate consultant.” Weber worked for the German coal industry.

Not every *pal* paper seemed bad, but some clearly were.³ In mid-2003, Hans von Storch, the most prolific editor, was to be appointed Editor-in-Chief to deal with the problem. He wanted retraction/revision of a poor paper and a veto on acceptances. Publisher **Otto Kinne** refused unless all editors agreed. At least one obviously did not, so von Storch and some other editors resigned.⁴ **No more *pals*’ papers were accepted via de Freitas and after a few more papers, the *pals* published no more in *CR*.**

Pat Michaels (co)authored 7 papers, half of the 14, accounting for half his “peer-reviewed” papers during that time.

Publisher Kinne took over most editorial duty for a few years, then appointed credible co-editors. Climate scientists had complained about *CR*, in some cases via emails found in the CRU “Climategate” affair. Michaels and others accused those scientists of trying to abuse the peer review process, that IPCC peer review was bad, etc, etc. His most recent complaint appeared at Forbes a few months ago.⁵

Serious scientists were trying to protect the credibility of their discipline’s literature, not damage it. That is a responsibility of good scientists. ***In fact, the abuse of normal peer review processes was likely more pervasive than the scientists realized at the time***, as more details are now visible.⁶ ***Editor de Freitas offered a rare opportunity for the *pals* and they took it.***

MAS2010 pp.20, 82 discuss the 1998 American Petroleum Institute GCST project, some of whose Participants were closely connected with various *pals*.

³ www.sgr.org.uk/resources/stormy-times-climate-research, by Clare Goodess, one of the other Editors at the time, who also resigned.

⁴ coast.gkss.de/staff/storch/CR-problem/cr.2003.htm von Storch comments www.arp.harvard.edu/sci/climate/journalclub/ChronicleEd.pdf

⁵ Pat Michaels, “Peer Review And ‘Pal Review’ In Climate Science,” blogs.forbes.com/patrickmichaels/2011/06/16/peer-review-and-pal-review-in-climate-science. The discredited Wegman Report also claimed review problems. www.desmogblog.com/mashey-report-reveals-wegman-manipulations

Michaels is affiliated with the CATO Institute, co-founded by Charles Koch and especially funded by the Koch brothers, MAS2010 p.94.

⁶ theconversation.edu.au/climate-change-denial-and-the-abuse-of-peer-review-1552 offers a recent discussion.

The *pals*' behavior is visible in the following chronologies and tables derived from the journal.⁷ *Pals*' papers are shown in **RED CAPITALS**, 14 accepted by de Freitas (**BOLD RED**) or 7 handled by others (*underlined Italic*). De Freitas also accepted 13 papers from other authors, shown lowercase black. They seemed normal articles. Of course, we cannot know who he chose as reviewers for the **RED** papers, *but one might wonder if any of the pals or their associates ever reviewed dubious papers.*

However, some scientists on the *CR* peer review board were concerned about de Freitas' handling of negative reviews. David Appel reported:⁸

'One of the journal's editors, Chris de Freitas of the University of Auckland, has frequently editorialized in the New Zealand press against the overwhelmingly accepted conclusions of the IPCC. And at least three scientists who were on the journal's peer-review panel--Wolfgang Cramer, Tom Wigley and Danny Harvey--have complained that de Freitas has published papers they have deemed unacceptable without notifying them.

Wigley says that such action is very unusual; de Freitas responds that he "was not too concerned [about Wigley's complaint] as periodically I receive diametrically opposed assessments from experts," especially, he says, "as the work in question was a critical assessment of Wigley's own work."

Without (improperly) releasing reviewers' names, if the records were still available,⁹ an impartial observer could:

- Start with a list of *pals* and associates long involved in climate anti-science, who form a strong social network of like-minded people. The list in MAS2010 would be a good start.¹⁰
- For each of the 14 papers, tally positive and negative reviews by *pals* and others.
- Publish the results for the 14 papers without revealing any identities.

⁷ www.int-res.com/journals/cr/cr-home I checked 2007- to see if any *pal* articles appeared (2 did), but subscription was needed to find editors, so were unknown.

⁸ ScientificAmerica.com, "Politics in Peer Review," June 24, 2003.

www.scientificamerican.com/article.cfm?id=politics-in-peer-review

⁹ Sadly, I'm told this is unlikely.

¹⁰ Or at www.desmogblog.com/global-warming-denier-database

Under *CR*'s lax process, if an editor wished,¹¹ it would have been trivially easy¹² to select reviewer combinations almost guaranteed to yield at least one positive review or even assure positive majorities.¹³

Some reviewers, all quite credible researchers, had complained their negative reviews were ignored. Of course, an editor had total control.

It is very difficult to get bad papers through prestigious journals such as *Science* or *Nature*. It is easy to get papers through a journal known to have poor review, such as *Energy and Environment*, but then people rarely take anything there seriously, as there have been so many bad papers.

Sometimes a bad paper slips through a reasonable journal, as people target a journal that may not quite have the right expertise. This has happened to physics journals and statistics journals, in some cases to their chagrin.¹⁴ In a recent example,¹⁵ Wolfgang Wagner resigned as Editor of *Remote Sensing*, in a strange echo of the von Storch resignation from *CR* in 2003.

But the surge of papers into *CR* from authors never before published there illustrates the very "best" case. **Get an ardently-sympathetic editor into an otherwise-credible journal with lax processes.** People can augment their counts of peer-reviewed articles,¹⁶ but even better, they can get truly poor papers into the "peer-reviewed" literature, guaranteed to be referenced and quoted evermore by authors and their friends.

That is the theory, let us turn to see the details in this case.

¹¹ The reader might consult **A.2**. De Freitas has a multi-decade history of campaigning against the views of mainstream climate science.

¹² With 14 pals, if each reviewed only 2 papers in 7 years, there easily could be 2 **accept** votes per paper.

¹³ As discussed in **A.2**, Willie Soon and Sonja Boehmer-Christiansen were selected to "review" his paper. They were chosen by de Freitas' brother.

¹⁴ www.usatoday.com/weather/climate/globalwarming/2011-05-15-climate-study-plagiarism-Wegman_n.htm

¹⁵ www.realclimate.org/index.php/archives/2011/09/resignations-retractions-and-the-process-of-science

¹⁶ Some papers might be fine, some might be weak.

2 Active editors, tenure by received dates

The grey bars show approximate tenure as derived from received dates of papers. End of tenure is less clear, since people seemed to stay to complete papers in progress, while accepting no new ones.

Regardless of the merits of the papers, it is clear that:

- **pals** started submitting papers a few months after de Freitas began,
 - most of their accepted papers were edited by him
 - half the papers he accepted came from **pals**
 - **R** (McKittrick and Michaels) was received a few weeks before blowup,
 - very few **pals** papers were accepted after the 2003 resignations.
- Of course, one can only see accepted papers, not rejections.

Von Storch seemed the obvious choice to become Editor-in-Chief, given his handling of 110 papers. The identities of the reviewers used by de Freitas are (properly) unknown, but one might wonder:

- *Did dubious papers often get reviewed by **pals** (or their friends)?*
- *Were there negative reviews by others and how much did they count?*

The table on next page shows the authors, their papers and other activities, chronologically. The varied year-widths here align this table with the next.

The pals arrived with de Freitas, sent him most of their papers and essentially departed after the von Storch resignation.

The papers are listed in **Appendix A.1** and then briefly analyzed.

Active editors, tenure (gray bars) derived from received dates, papers received, other events

Year, with A.HOCKX, & A.Hockey ~2006	1990	1991	1992-	1993	1994	1995--	1996--	1997	1998-	1999	2000	2001--	2002	2003	2004	2005--	2006	2007	2008	2009	# paper
Meentemeyer, V																					67
Esser, Gerd																					60
von Storch, Hans															X Resignation						110
Yarnal, Brent																					35
Kalkstein, Laurence																					22
de Freitas, Chris	From pals																				14
	From others																				13
Hulme, Mike																					15
Davis, Robert																					36
Goodess, Clare															X Resignation						15
Comrie, Andrew															X Resignation						22
Kinne, Otto (Publisher) fills in																					50
Khandekar, Madhav																					8
Mayer, Helmut																					13
unknown																					
unknown																					

3 People X Articles & Activities, Chronological

The following lists *pal authors*, plus **Fred Singer** and the George Marshall Institute (GMI) as key connectors. Most are extracted from MAS2010 pp.97-102. Activities are listed in the Index and described there in more detail. Higher numbers show stronger involvement. *Pals'* CR articles are shown in **red**, with relevant climate anti-science activities in black, roughly chronologically, although some activities continued over years, so that participation does not imply a specific year. Singer was a close ally of the GMI founders, of whom two were on his SEPP board (Naomi Oreskes & Erik Conway, *Merchants of Doubt*, 2010.)

Editorial tenures, by visible received dates, are shown in gray.

Most are noted in www.desmogblog.com/global-warming-denier-database

The reader can ignore details and focus on patterns. **Just counting CR papers and close-linked activities, everyone is within one hop of either Singer or Michaels.** Balling and Michaels had signed Leipzig Declaration by 1997, de Freitas signed by 2005 (2*). Given de Freitas' long history (Appendix A.2), others would certainly have known of him.

Davis was both editor and author during the 1999-2006 period, but published only 2 papers from *pals*. Khandekar later participated in many activities and handled 8 papers, but none from *pals*.

Most *pals* have participated 1-2 decades in climate anti-science activities, of which the CR focus was just one, a target of opportunity.

People X climate anti-science activities, chronologically, with CR articles added																																													
People X Activities Mostly from MAS2010 table A.6.2	GM1990	Heide1992	SIPP1993	Leipzig1995- A.Santer		OISM1998	GC SCT		US.CONG	GM12002		TI12003	GM12003		A.Oreskes	GM12005	GM12005a	MIC2005	A.HOCKXX	A.Hockey	Stock2006	ISPM2007	TGS2007	BAL12007	Heart#1	Manhat2008	NIPCC2008	GRE2008	Heart#2	CATO2009	APS2009	Heart#3	NIPCC2009	HeartExp#1	Heimer2009	HeartExp#2	EPA#1	A.GATE	A.CRU.Parl	Heart#4	# papers	DeSmogBlog list			
Year, with A.HOCKX, & A.Hockey ~2006	1990	1991	1992-	1993	1994	1995-	1996--	1997	1998-	1999	2000	2001--	2002		2003		2004	2005--		2006		2007		2008			2009												2010						
Baliunas, Sallie	2								5	F		I	2	3	L	3			4	X	5	3													2							3	X		
Balling, Robert					2	5		A	B	E	G	H					S			4		4	2		4	I									2		2						6+2		
Christy, John R	4					5									N	4			4	?	4		3											2		2			5			1	X		
Davis, Robert E.									1	G		J	K	M		4			4																2		2						3+2	X	
de Freitas, Chris					2*														4		4	2				U								2			3				1	X			
Douglass, David					5				1						N			4							3	3		3	2	1				2		2				3		1			
Gray, Vincent								D																2	3	2	3			2				3	2							1	X		
Idso, Sherwood								C		1		I		3										2		2				2												1+1	x		
Knappenberger, P..						3		A	B		G	J	K	M						?																		3	3		5+2	X			
McKittrick, Ross												2						4		4		5	2	4				3	2					2	4	2	3	5	4			1	X		
Michaels, Patrick					2	5		A	B		G	J	2	K	3	M	N	4		5	X	5	2	3	4				3	2				3	2			3	5			7+2	X		
Posmentier, Eric												I							4																2		2					1			
Robinson, Arthur									5	F											4					2									2						3		1	X	
Soon, Willie									5	F		I		L		3		4		4	X	5	3			3				4					3		3				3		3	X	
Weber, Gerd-Rainer					3				E																3	3	3		3	2				3	2	2							1	X	
Khandekar, Madhav																						3		2	3	3	3		1	2				3	2	2								X	
Singer, S. Fred			5	5	5	5			1	4		2	3		4	3		5	?	?	X	3		3	2	4	3	5	3	3		5	3	5	2	5		3	5		3			X	
GMI	5		4		4	5			5	4		2	5		5			5	5	4	X	5	3					3					5		2										

4 People X Organizations

This lists the 15 *pals* plus Fred Singer, a connection for many, and Madhav Khandekar. Most are extracted from MAS2010 pp.96-102. A few were not involved enough in the MAS2010 story to be listed there, but were found in a more inclusive 600-person table. Higher numbers imply stronger involvement, described p.96. Organizations are described in more detail and listed in the MAS2010 Index, p.4. Some people have published real science (a necessity to build any credibility and access to the research community), but all have shown persistent involvement with organizations that do climate anti-science, most of which also have tobacco connections.

Almost everyone has been involved with CATO, (GMI) or Heartland, usually more than one. Baliunas, Balling, Michaels, Soon and Singer each are listed 9+ times. Knappenberger seems the least involved, but was Michaels' student and has worked for him for decades.

Khandekar arrived at the end of the de Freitas era, so was not included in the *pals* group, although he surely knew them well. He did not stay long.

Most *pals* have been involved in many organizations that do climate anti-science. The same people appear again and again.

People X Organizations that sometimes promote climate anti-science, higher means more involvement

People X Organizations Mostly from MAS2010 table A.6.2	ACSH	AnnapCtr	APCO	API	CATO	CEI	CFACT	CHC	CSCDGC	E&E	FoS	Fraser	GCC	GMI	Heartland	Heritage	Hoover	ICECAP	ICSC	Lavoiser	Manhattan	NZCSC	PRI	SciAll	SEPP	SPPI	STATS	TASSC	TCS	TII	UofR-Phys	WCR	WFA		
Tobacco	\$	\$	T		T	T																													
Funding in A.6.1	\$	\$			\$	\$			\$			\$		\$	\$	\$	\$			\$	\$	\$	\$	\$	\$	?	\$	\$	\$	\$				#	
Non-profit 501(c)3	n	n			n	n	n					n		n	n	n					n	n	n	n	n	?	n	n	n	n	n				
Baliunas, Sallie	3	3		3		3	3				3		3	4	5	3	3	3			3			3			3		3			4	4	18	
Balling, Robert					2	3						2		3	4			3					?	2					3			4	4	11	
Christy, John R					3					3				4	4																2			5	
Davis, Robert E.														2	4														3	2		4	4	6	
de Freitas, Chris											3				4			3	3	3		3												6	
Douglass, David					2					3					3																	4		4	
Gray, Vincent					2										3			3	3			3												5	
Idso, Sherwood					2		3		5	3				3	2																			6	
Knappenberger, P..																									3							4	4	3	
McKittrick, Ross			2		2					3	3	4		4	5																			7	
Michaels, Patrick			3		4					3				3	5		1	3												3		5	5	10	
Posmentier, Eric														3	4																			2	
Robinson, Arthur										3					4																			2	
Soon, Willie				2				3		3	3			4	5											4			3			3		9	
Weber, Gerd-Rainer					2		2								3																			3	
Khandekar, Madhav					2			3	4					3					3															5	
Singer, S. Fred	3		3	3	3					3				5	5	3		3							5			3		4	3			13	
Totals	2	1	3	4	9	2	3	2	2	8	3	3	1	11	15	2	2	6		1	1	3	1	1	1	1	2	1	1	5	3	2	6	5	17

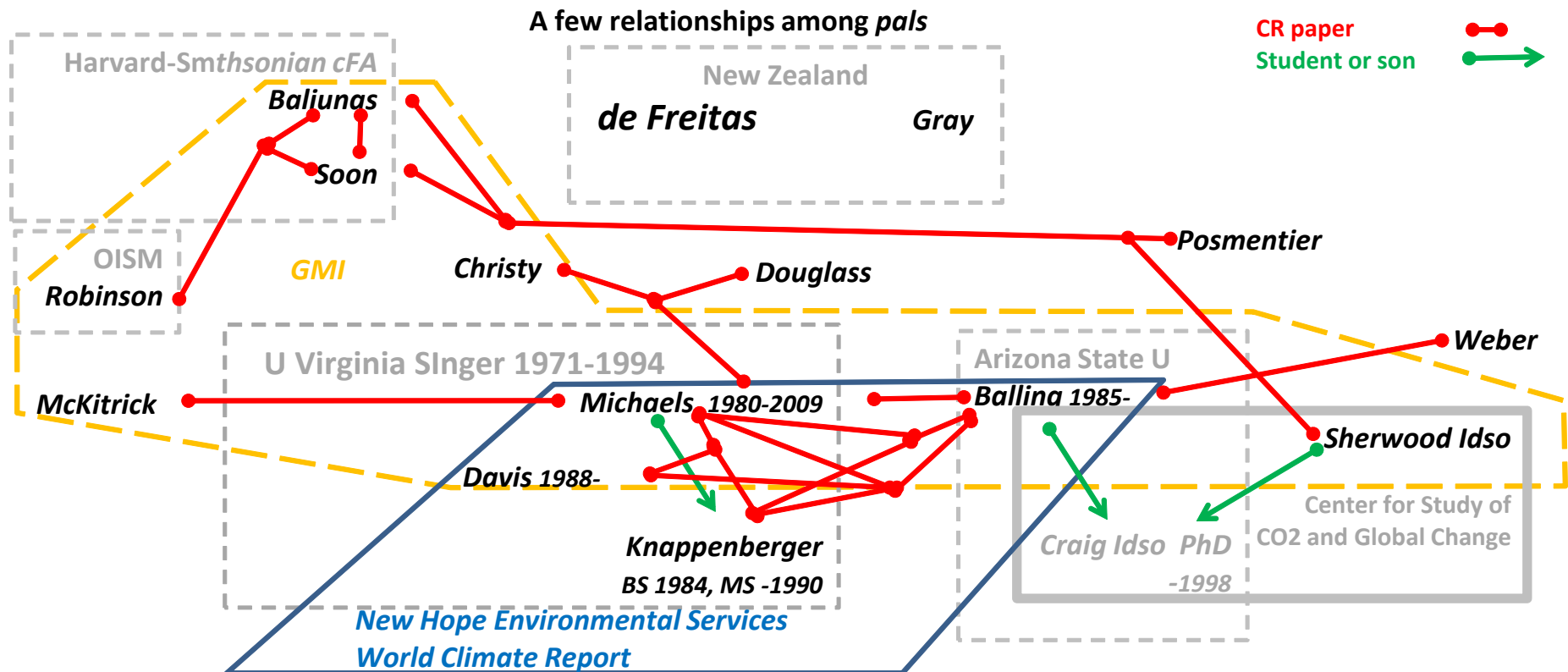
5 Social Network of the pals, a few hints

The following illustrates some of the relationships, counting only the papers written together through de Freitas at CR (red lines) and ignoring most of the shared activities and organizations shown earlier.

Singer, Michaels, Davis and Knappenberger (Michaels' student) overlapped at U Virginia. Singer would have known almost everyone, including Weber (who spoke at the 1995 Leipzig meeting for Singer). Michaels founded New Hope Environmental Services, which has involved Davis, Knappenberger and Balling.

Although not shown here, Sherwood Idso wrote many papers with Balling, under whom son Craig got his PhD. The Idso family business CSCDGC, like New Hope, has a long history of murky-funded climate anti-science activities. Thinktank GMI is shown (orange) because it was such a crucial connection in the earlier times.

This is a tight social network, even ignoring the fact that everyone would have been connected with de Freitas and Singer. Many directly connected with Michaels, just on this small sample. **Remember, Michaels and others accuse others of being too close for good peer review.**



6 Conclusion

When de Freitas became editor, CR was “open for business” and it arrived quickly from the *pals*, a group of people who have accumulated a long history of climate anti-science activities, papers and involvement with organizations that promote anti-science, not just for climate, but often for other areas.¹⁷

Some papers seemed fine, if not necessarily very important, but some very dubious papers were accepted. Michaels’ 7 papers accounted for half of his entire peer-reviewed production during the period.

When de Freitas left, the flow of papers from *pals* effectively dried up.

One need know nothing about climate science to see the patterns here. It is a fine example of lax processes allowing a “rogue editor” to subvert the normal peer review process. **The scientists were not only right to be worried about CR, but may well have underestimated the extent of the problem.**

Acknowledgements

Thanks to various reviewers and help from *DeSmogBlog*.

Thanks to CR for giving open access to its older papers.

Most all of all, I thank the legions of scientists who tirelessly do the often-thankless task of peer review and do it well. Most of the articles in *CR* seemed reasonable, meaning that editors and reviewers did much work on other people’s publications. *This case seems a real outlier.*

¹⁷ Most notably, tobacco, whose advocacy is curiously intertwined with climate anti-science. That is a whole separate story.

A.1 – Papers from *Climate Research*

These show all papers authored by any *pals* or edited by de Freitas, sorted by Received date. The 700-entry spreadsheet is available. Commentaries follow.

c=comment, r=Reply, o=Comment, e = Erratum, E=Editorial, P=Publisher, N=Note. (R=Review, blank=Research - only these are plotted elsewhere) ?n = comment/reply sequence									
Vol.I	Page	Art	Authors	Editor(s)	Recv	Accept	Year	#Day	File
8.3	163	a	1 Stehr N	Chris de Freitas, Auckland, NZ	01/07/97	08/12/97	10/09/97	217	www.int-res.com/articles/cr/8/c008p163.pdf
9.3	225	b	1 Andreescu MP, Frost DB	Chris de Freitas, Auckland, NZ	01/07/97	08/06/97	02/27/98	211	www.int-res.com/articles/cr/9/c009p225.pdf
9.3	213	c	1 Abdullah MA, Al-Mazroui MA	Chris de Freitas, Auckland, NZ	02/03/97	06/19/97	02/27/98	136	www.int-res.com/articles/cr/9/c009p213.pdf
12.1	65	d	1 Lindkvist L, Chen D	Chris de Freitas, Auckland, NZ	03/26/97	12/21/98	06/15/99	635	www.int-res.com/articles/cr/12/c012p065.pdf
9.3	175	A	-2 Balling RC Jr*, Michaels PJ, Knappenberger PC	Chris de Freitas, Auckland, NZ	05/08/97	07/28/97	02/27/98	81	www.int-res.com/articles/cr/9/c009p175.pdf
10.1	27	B	-2 Michaels PJ, Balling RC Jr, Vose RS, Knappenberger PC	Chris de Freitas, Auckland, NZ	07/15/97	02/03/98	04/09/98	203	www.int-res.com/articles/cr/10/c010p027.pdf
10.1	69	R	C -2 Idso SB*	Laurence Kalkstein, Newark, DE	08/03/97	01/22/98	04/09/98	172	www.int-res.com/articles/cr/10/c010p069.pdf
10.2	155	R	D -3 Gray V* (Climate consultant!)	Chris de Freitas, Auckland, NZ	10/08/97	02/20/98	08/14/98	135	www.int-res.com/articles/cr/10/c010p155.pdf
10.3	193	E	-2 Balling RC Jr*, Vose RS, Weber GR	Chris de Freitas, Auckland, NZ	04/20/98	08/20/98	12/10/98	122	www.int-res.com/articles/cr/10/c010p193.pdf
13.2	149	R	F -3 Soon W, Baliunas SL, Robinson AB, Robinson ZW	Chris de Freitas, Auckland, NZ	04/28/98	07/01/99	10/26/99	429	www.int-res.com/articles/cr/13/c013p149.pdf
14.1	1	G	-2 Michaels PJ, Knappenberger PC, Balling RC Jr, Davis RE	Chris de Freitas, Auckland, NZ	06/01/98	10/18/99	01/24/00	504	www.int-res.com/articles/cr/14/c014p001.pdf
13.2	141	e	-1 Bromberek Z	Chris de Freitas, Auckland, NZ	12/15/98	07/06/99	10/26/99	203	www.int-res.com/articles/cr/13/c013p141.pdf
16.1	31	H	-1 Balling RC Jr, Hildebrandt M	Chris de Freitas, Auckland, NZ	10/21/99	05/29/00	11/10/00	221	www.int-res.com/articles/cr/16/c016p031.pdf
19.1	15	f	1 Pfizenmayer A, von Storch H	Chris de Freitas, Auckland, NZ	05/08/00	02/13/01	11/22/01	281	www.int-res.com/articles/cr2002/19/c019p015.pdf
18.3	259	R	I -3 Soon W, Baliunas S, Idso SB, Kondratyev KY, Posmentier ES	Chris de Freitas, Auckland, NZ	09/18/00	01/08/01	11/02/01	112	www.int-res.com/articles/cr/18/c018p259.pdf
17.1	45	J	-2 Knappenberger PC, Michaels PJ, Davis RE	Chris de Freitas, Auckland, NZ	10/20/00	03/20/01	07/04/01	151	www.int-res.com/articles/cr/17/c017p045.pdf
22.3	215	g	1 Svensson MK, Eliasson I, Holmer B	Chris de Freitas, Auckland, NZ	11/28/00	09/20/01	11/04/02	296	www.int-res.com/articles/cr2002/22/c022p215.pdf
22.2	175	K	? Davis RE, Knappenberger PC, Novicoff WM, Michaels PJ	Andrew Comrie, Tucson, AZ	09/11/01	12/14/02	09/06/02	459	www.int-res.com/articles/cr2002/22/c022p175.pdf
25.2	135	h	1 Schmidt M, Glade T	Chris de Freitas, Auckland, NZ	11/28/01	09/04/03	12/05/03	645	www.int-res.com/articles/cr2003/25/c025p135.pdf
23.2	89	L	-3 Soon W, Baliunas S	Chris de Freitas, Auckland, NZ	04/11/02	08/29/02	01/31/03	140	www.int-res.com/articles/cr2003/23/c023p089.pdf
23.1	1	M	-2 Michaels PJ, Knappenberger PC, Frauenfeld OW, Davis RE	Chris de Freitas, Auckland, NZ	05/17/02	09/02/02	12/20/02	108	www.int-res.com/articles/cr2003/23/c023p001.pdf
22.2	185	c	I2 Risbey J	Chris de Freitas, Auckland, NZ	08/25/02	GUESS	09/06/02		Monthly surface temperature records from 1979 to
22.2	187	r	I3 Soon W, Baliunas S, Idso SB, Kondratyev KY, Posmentier ES	Chris de Freitas, Auckland, NZ	08/31/02	GUESS	09/06/02		www.int-res.com/articles/cr2002/22/c022p187.pdf
24.1	15	N	? Douglass DH, Clader BD, Christy JR, Michaels PJ, Belsley DA	Chris de Freitas, Auckland, NZ	12/02/02	03/26/03	06/10/03	114	www.int-res.com/articles/cr2003/24/c024p015.pdf
24.1	91	c	I4 Karoly DJ, Mitchell JFB, Allen M, Hegerl G, Marengo J, Zwiers F	Chris de Freitas, Auckland, NZ	03/10/03	03/24/03	06/10/03	14	www.int-res.com/articles/cr2003/24/c024p091.pdf
24.1	93	r	I5 Soon W, Baliunas S, Idso SB, Kondratyev KY, Posmentier ES	Chris de Freitas, Auckland, NZ	03/19/03	03/24/03	06/10/03	5	www.int-res.com/articles/cr2003/24/c024p093.pdf
26.1	1	Q	1 Kalkstein AJ, Balling Jr RC (ASU)	Robert Davis, Charlottesville	05/14/03	02/20/04	04/19/04	282	www.int-res.com/articles/cr2004/26/c026p001.pdf
25.2	171	P	1 Roy SS, Goodrich GB, Balling Jr RC	Chris de Freitas, Auckland, NZ	06/25/03	10/17/03	12/05/03	114	www.int-res.com/articles/cr2003/25/c025p171.pdf
26.1	61	Q	? Davis RE, Knappenberger PC, Michaels PJ, Novicoff WM	Andrew Comrie, Tucson, AZ	06/26/03	02/23/04	04/19/04	242	www.int-res.com/articles/cr2004/26/c026p061.pdf
26.2	159	R	-3 McKittrick R, Michaels PJ	Chris de Freitas, Auckland, NZ	07/10/03	04/20/04	05/25/04	285	www.int-res.com/articles/cr2004/26/c026p159.pdf
25.3	265	i	1 Kysely J, Huth R	Chris de Freitas, Auckland, NZ	09/21/03	12/08/03	01/23/04	78	www.int-res.com/articles/cr2003/25/c025p265.pdf
27.2	105	j	-1 Scott D, McBoyle G, Schwartzentruber M	Chris de Freitas, Auckland, NZ	09/25/03	08/17/04	10/07/04	327	www.int-res.com/articles/cr2004/27/c027p105.pdf
27.1	51	k	1 Chang YS, Jeon D, Lee H, An HS, Seo JW, Youn YH	Chris de Freitas, Auckland, NZ	02/11/04	05/25/04	08/04/04	104	www.int-res.com/articles/cr2004/27/c027p051.pdf
27.2	171	c	R2 Benestad RE (refutation)	Chris de Freitas, Auckland, NZ	08/11/04	08/30/04	10/07/04	19	www.int-res.com/articles/cr2004/27/c027p171.pdf
27.2	175	r	R3 McKittrick R, Michaels PJ	Chris de Freitas, Auckland, NZ	08/25/04	08/30/04	10/07/04	5	www.int-res.com/articles/cr2004/27/c027p175.pdf
27.3	265	e	R4 McKittrick & Michaels	Chris de Freitas, Auckland, NZ	09/14/04	09/17/04	12/08/04	3	www.int-res.com/articles/cr2004/27/c027p265.pdf
30.2	113	S	1 Ellis AW, Brommer DM, Balling RC Jr	Robert Davis, Charlottesville	11/29/04	12/27/05	02/23/06	393	www.int-res.com/articles/cr2005/30/c030p113.pdf
28.3	243	I	1 Ali-Toudert F, Djenane M, Bensalem R, Mayer H	Chris de Freitas, Auckland, NZ	12/09/04	04/12/05	05/24/05	124	www.int-res.com/articles/cr2004/28/c028p243.pdf
30.3	227	m	1 Rost J, Mayer H	Chris de Freitas, Auckland, NZ	09/01/05	01/17/06	04/26/06	138	www.int-res.com/articles/cr2005/30/c030p227.pdf
35.3	241	T	? Ellis AW, Hawkins TW, Balling RC Jr, Gober P	?	2007?		02/14/08		www.int-res.com/abstracts/cr/v35/n3/
38.1	61	U	? Scott D, Gossling S, de Freitas CR	?	2007?		??/??/08		www.int-res.com/abstracts/cr/v38/n1/

Brief commentaries on the papers.¹⁸**1:** Seems OK,**-1 to -3:** increasingly problematical.**X** *Pals* paper edited by de Freitas**x** Other paper edited by de Freitas**X** *Pals* paper edited by someone else*(Review) articles offer much flexibility, needing no original research.***A -2 Balling RC Jr*, Michaels PJ, Knappenberger PC**www.int-res.com/articles/cr/9/c009p175.pdf

“Analysis of winter and summer warming rates in gridded temperature time series”

Warming might not be harmful.

“Nonetheless, a climate change predominately characterized by winter warming of some of the world's coldest airmasses is not likely to be considered disastrous, regardless of the cause. This finding, instead, adds further support to the emerging hypothesis that the earth's climate is not necessarily changing in a deleterious fashion.”

B -2 Michaels PJ*, Balling RC Jr, Vose RS, Knappenberger PCwww.int-res.com/articles/cr/10/c010p027.pdf

“Analysis of trends in the variability of daily and monthly historical temperature measurements”

Warming and variability will be less than thought by IPCC, others.

“Our results vary considerably with the popular perceptions about a warming world. We find decreasing variability within years and within months. ... We also find no evidence for an increasing frequency in the number of days in which record high temperatures occur, ... These results underscore an evolving concept of ‘moderate’ climate change (as opposed to rapid, large and dangerous change) ... suggest that the climate of the next century will be characterized by a modest warming, primarily in the high latitudes in winter, with decreased season-to-season and day-today temperature fluctuations.”

¹⁸ I make no claim to be an expert, but I do have enough background to notice issues and have studied climate anti-science memes, so recognize them when they appear. A common tactic is to describe otherwise-innocuous research, then include poorly-supported general claims in Abstract, Introduction, or Conclusion. Careful peer review tends to stop such things. Such claims are useful for PR purposes, since very few people will read the detailed papers.

C -3 Idso SB* (Review) (Ed: Kalkstein)www.int-res.com/articles/cr/10/c010p069.pdf“CO₂-induced global warming: a skeptic's view of potential climate change”*Expect little warming, CO₂-enhanced growth, models are poor.*

“These studies all suggest that a 300 to 600 ppm doubling of the atmosphere's CO₂ concentration could raise the planet's mean surface air temperature by only about 0.4°C. Even this modicum of warming may never be realized, ... which suggests to me that little net temperature change will ultimately result from the ongoing buildup of CO₂ in Earth's atmosphere.”

D -3 Gray V* (Review)www.int-res.com/articles/cr/10/c010p155.pdf

“The IPCC future projections: are they plausible?”

Retired NZ coal researcher, calling self climate consultant, says NO.¹⁹

“A combination of exaggeration and unreliability in the IPCC projections makes them unreliable as a guide to public policy..”

E -2 Balling RC Jr, Vose RS, Weber GRwww.int-res.com/articles/cr/10/c010p193.pdf

“Analysis of long-term European temperature records: 1751-1995”

Weber's affiliation is shown as “Gesamtverband des Deutschen Steinkohlenbergbaus.” Is the German coal mining industry obvious?

“The period of most rapid warming in Europe occurred between 1890 and 1950, and there is evidence that some of the observed warming during this 60 yr period may be related to urbanization or other local effects. ... Europe has not experienced warming over the past 45 yr. ... Warming observed in Europe has been confined to the low-sun months.”

Others get very different results for Europe.²⁰

¹⁹ Usually, credible review articles are written by people with clear track records in the field, not retired coal researchers. According to Google Scholar, this paper got 9 citations, most often by Gray himself, de Freitas or one other author. scholar.google.com/scholar?cites=714306861398090157&as_sdt=2005&sciodt=0,5&hl=en

²⁰ For example, Luterbacher et al, “European Seasonal and Annual Temperature Variability, Trends, and Extremes Since 1500, *Science* 5 March 2004: Vol. 303 no. 5663 pp. 1499-1503 DOI: 10.1126/science.1093877. See Figure 1. www.sciencemag.org/content/303/5663/1499.full

F -3 Soon W*, Baliunas SL, Robinson AB, Robinson ZW (Review)
www.int-res.com/articles/cr/13/c013p149.pdf

“Environmental effects of increased atmospheric carbon dioxide.”
*Neither Robinson is a climate scientist.*²¹ *Soon and Baliunas are astrophysicists long tied closely to GMI. “Recovery” from LIA, UHI, satellites, radiosondes, CO2 fertilization, etc.*

“There is no clear evidence, nor unique attribution, of the global effects of anthropogenic CO2 on climate. ...
Acknowledgements. We are grateful to Sherwood **Idso** for his illuminating advice and comments on this paper. This work was supported by the Massachusetts Space Grant Consortium (MIT grant 16717049) and the National Aeronautics and Space Administration (grant NAG5-7635).”²²
 Zachary Robison works closely with his father Arthur, but is a chemist and doctor of veterinary medicine. He is omitted for simplicity. One Robinson is enough.

G -2 Michaels PJ*, Knappenberger PC, Balling RC Jr , Davis RE
www.int-res.com/articles/cr/14/c014p001.pdf

“Observed warming in cold anticyclones”
Warming only in North. IPCC wrong. Warming OK.

“On a seasonally weighted basis, a relatively small area (12.8%) contributed over half of the annual warming, and in the winter 26% of the area accounts for 78% of the warming. Our analysis demonstrates that this warming is almost exclusively confined to the dry, cold, anticyclones of Siberia and northwestern North America. The consequences of this type of regional warming are different than those associated with other regional warming scenarios. The spatial pattern of observed warming is not coincident with that projected by many of the leading general circulation models, including those featured in the

²¹ Arthur (a chemist) runs the Oregon Institute of Science and Medicine (OISM), famed for its petition project, whose funding remains unclear. Son Zachary is a “chemist and doctor of veterinary medicine.” They work in a barnlike structure in Cave Junction, OR. www.oism.org/s32p1847.htm, which claims this article was one of those “which were the most extensively cited articles in the world on this subject during the past nine years.” Two of OISM’s directors, Kamen and Merrifield, have been deceased for years. See also OISM1998 for more detail, p.88 of www.desmogblog.com/crescendo-climategate-cacophony

²² The relevant report for NASA is:
ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20030019826_2003024150.pdf
 I have not yet found the original grant proposals, so it is unclear if these papers matched the original grants or not.

1996 Report of the Intergovernmental Panel on Climate Change.
 Strong warming that is confined mainly to the Siberian and Canadian winter has a much different effect on society than a similarly large heating in mid-latitude urban and agricultural areas during the summer. ... Warming of this air mass type may, in fact, be benign or even beneficial, although the final valuation of global warming remains elusive.”

e -1 Zbigniew Bromberek* (Architecture, U Queensland)
www.int-res.com/articles/cr/13/c013p141.pdf

“Tourists and attitudes to air-conditioning in the tropics”
Warming only in North. IPCC wrong. Warming OK.

“A survey of tourists visiting Cairns in northern Australia showed significant dissatisfaction with the indoor climate conditions provided. The rationale for a year-round fully controlled environment is questioned when, in the hot and humid weather of the tropical summer, almost half of the surveyed tourists did not perceive these conditions to justify the use of air-conditioners. Responses in the survey suggest that tourists’ needs in this respect are markedly different from those perceived to exist by tourist resort developers and operators. ...
 The number of people believing that air-conditioning was not necessary at all during the day was 60 or 19.4%, and during the night 103 or 33.3% (see Table 4). It seems necessary to explain that the round-the-clock use of air-conditioning in a vast majority of tourist facilities in the tropics is normal ...
 The reliance on air-conditioners should be reduced in tourist facilities. The desired climatic conditions are achievable with the support of passive means and it is only a matter of time before tourists learn about this.”

*This is all plausible but people wanting air conditioning 100% of the time differs from wanting it badly some of the time.*²³ *Certainly people visiting the tropics expect to be warm, but the message “warmer is just fine” appears again. I’ve been to Cairns, but spent most of the time outside.*

²³ I am all for minimizing air conditioning (our house in CA manages to be fine), but I visited Cairns in the late 1980s and there were times when air conditioning was rather welcome. Of course, much of Cairns is near sea level:
flood.firetree.net/?ll=-27.8390,138.1640&z=13&m=7

G -2 Michaels PJ*, Knappenberger PC, Balling RC Jr , Davis RE

www.int-res.com/articles/cr/14/c014p001.pdf

“Observed warming in cold anticyclones”

Warming only in North. IPCC wrong. Warming OK.

“On a seasonally weighted basis, a relatively small area (12.8%) contributed over half of the annual warming, and in the winter 26% of the area accounts for 78% of the warming. Our analysis demonstrates that this warming is almost exclusively confined to the dry, cold, anticyclones of Siberia and northwestern North America. The consequences of this type of regional warming are different than those associated with other regional warming scenarios. The spatial pattern of observed warming is not coincident with that projected by many of the leading general circulation models, including those featured in the 1996 Report of the Intergovernmental Panel on Climate Change.

Strong warming that is confined mainly to the Siberian and Canadian winter has a much different effect on society than a similarly large heating in mid-latitude urban and agricultural areas during the summer. ... Warming of this air mass type may, in fact, be benign or even beneficial, although the final valuation of global warming remains elusive.”

H -1 Balling RC Jr*, Hildebrandt M

www.int-res.com/articles/cr/16/c016p031.pdf

“Evaluation of the linkage between Schumann Resonance peak frequency values and global and regional temperatures”

Doubt on warming; Rhode Island agrees with satellites; data mining.

“One of the simplest yet most important questions in the global warming/greenhouse debate centers on whether or not the planetary temperature is currently rising, falling, or remaining unchanged. Some datasets suggest that the planet is currently warming while others have not been able to confirm such a warming trend over recent decades ... We found that daily and monthly satellite-based lower-tropospheric global temperature measurements were significantly and positively related to Schumann Resonance peak frequency values.”

I -3 Soon W*, Baliunas S, Idso SB, Kondratyev KY, Posmentier ES Rev.

www.int-res.com/articles/cr/18/c018p259.pdf

“Modeling climatic effects of anthropogenic carbon dioxide emissions: unknowns and uncertainties”

Warming estimates based on model; they are bad; warming may be OK.

“A likelihood of disastrous global environmental consequences has been surmised as a result of projected increases in anthropogenic greenhouse gas emissions. These estimates are based on computer climate modeling, a branch of science still in its infancy despite recent substantial strides in knowledge. Because the expected anthropogenic climate forcings are relatively small compared to other background and forcing factors (internal and external), the credibility of the modeled global and regional responses rests on the validity of the models. ... Our current lack of understanding of the Earth’s climate system does not allow us to determine reliably the magnitude of climate change that will be caused by anthropogenic CO₂ emissions, let alone whether this change will be for better or for worse.”

J -2 Knappenberger PC*, Michaels PJ, Davis RE

www.int-res.com/articles/cr/17/c017p045.pdf

“Nature of observed temperature changes across the United States during the 20th century”

UHI; warming does not seem to be causing more extremes.

“In interpreting our results, bear in mind that urbanization effects are likely present, and that they likely act to increase the trends in minimum temperatures over the levels that would be observed in the absence of urban influences. ... These findings add to the growing evidence (Balling et al. 1998, Michaels et al. 1998, Michaels et al. 2000) that the surface air temperature change that has occurred during the period of the greatest human influence on the climate is one in which increases of extremely low temperatures have dominated over those of high temperatures—a climate tending toward moderation rather than the extreme. Prognostications of dire consequences built upon model projections of a climate change dominated by increasing high temperatures should be reassessed based upon a growing body of evidence to the contrary.”

K ? Davis RE*, Knappenberger PC, Novicoff WM, **Michaels PJ** (Ed: Comrie)
www.int-res.com/articles/cr2002/22/c022p175.pdf

“Decadal changes in heat-related human mortality in the eastern United States”

Deaths from hot days do not rise, especially with more air-conditioning.

“One hypothesized impact of climate warming is higher human mortality rates in the warm season, due to increasingly hot and/or humid conditions. ... These statistically significant reductions in hot-weather mortality rates suggest that the populace in cities that were weather-sensitive in the 1960s and 1970s have become less impacted by extreme conditions over time because of improved medical care, increased access to air conditioning, and biophysical and infrastructural adaptations. This analysis counters the paradigm of increased heat-related mortality rates in the eastern US predicted to result from future climate warming. ... In conclusion, based upon this research, concerns about increasing heat-related mortality rates in the eastern US arising from human-induced climate change appear to be unfounded.”

L -3 Soon W*, Baliunas S

www.int-res.com/articles/cr2003/23/c023p089.pdf

“Proxy climatic and environmental changes of the past 1000 years”

Submitted: April 11, 2002; Accepted: August 29, 2002

This finally caused the blowup – bad methodology and analysis, strongly and quickly refuted. De Freitas was reviewing this at the same time Soon was reviewing his paper for CSPG. (See A.2).

“Across the world, many records reveal that the 20th century is probably not the warmest nor a uniquely extreme climatic period of the last millennium. ... The picture emerges from many localities that both the Little Ice Age and Medieval Warm epoch are widespread and near-synchronous phenomena, ... Past researchers implied that unusual 20th century warming means a global human impact. However, the proxies show that the 20th century is not unusually warm or extreme. ...

Acknowledgements. This work was supported by funds from the American Petroleum Institute (01-0000-4579), the Air Force Office of Scientific Research (Grant AF49620-02-1- 0194) and the National Aeronautics and Space Administration (Grant NAG5-7635). ... We thank **John Daly**²⁴, Diane

²⁴ Daly was a Tasmania-based and very prolific climate contrarian, www.john-daly.com, but not a climate scientist. He died in 2004. I followed his webpage for practice in understanding cherry-picking of data.

Douglas-Dalziel, **Craig and Keith Idso** for their unselfish contributions to the references. We also thank the Editor, Chris de Freitas, for very helpful editorial changes that improved the manuscript.

A strong refutation appeared quickly in *Eos* in July 2003, authored by 13 scientists.²⁵

M -2 Michaels PJ*, Knappenberger PC, Frauenfeld OW, **Davis RE**

www.int-res.com/articles/cr2003/23/c023p001.pdf

“Revised 21st century temperature projections”

Expect 21st century warming to be at low end of IPCC TAR projections.

“The constancy of these somewhat independent results encourages us to conclude that 21st century warming will be modest and near the low end of the IPCC TAR projections. ... our warming projections derived from the assumption of a continued linear buildup of the atmospheric CO2 burden should appear as the upper end of the likely range of warming during this century.”

N ? Douglass DH*, Clader BD, Christy JR, Michaels PJ, Belsley DA

www.int-res.com/articles/cr2003/24/c024p015.pdf

“Test for harmful collinearity among predictor variables used in modeling global temperature”

The Christy-Spencer satellite analysis had serious errors, shown in 2005.

“Lower tropospheric temperature anomalies from the global satellite MSU that have been available since 1979 are unique and play a significant role in the continuing climate debate. ... A number of investigators have analyzed the MSU data using regression analysis to remove the geophysical effects of volcanoes, El Niño/Southern Oscillation, and solar irradiance in an effort to determine any underlying trend line. In a recent paper Santer et al. (2001; J Geophys Res 106:28033– 28059) questioned the validity of such studies, noting that large El Niño events have occurred at the same time as 2 major volcanoes.”

²⁵ Mann, M.E., Ammann, C.M., Bradley, R.S., Briffa, K.R., Crowley, T.J., Jones, P.D., Oppenheimer, M., Osborn, T.J., Overpeck, J.T., Rutherford, S., Trenberth, K.E., Wigley, T.M.L. “On Past Temperatures and Anomalous late-20th Century Warmth,” *Eos*, Vol. 84, No. 27, July 2003.
coast.gkss.de/staff/storch/pdf/Soon.EosForum20032.pdf
en.wikipedia.org/wiki/Soon_and_Baliunas_controversy

Q 1 Adam J. Kalkstein*, **Robert C. Balling Jr** (Ed: Davis)
www.int-res.com/articles/cr2004/26/c026p001.pdf

“Impact of unusually clear weather on United States daily temperature range following 9/11/2001”

This seems a straightforward research paper.

Several investigators have suggested that the airline shutdown following the 9/11 terrorist attacks led to a reduction of jet contrails and an increase in the diurnal temperature range (DTR) across the US. Here, we use an air-mass approach to control for weather conditions across the country following 9/11 in order to more accurately assess the observed patterns in the temperature range. We indeed find a higher-than-average DTR shortly after the attacks, but we find that the unusually clear weather across the US more than accounts for the observed DTR.

P 1 Roy SS, Goodrich GB, **Balling Jr RC**
www.int-res.com/articles/cr2003/25/c025p171.pdf

This seems a straightforward research paper, cited by 1 (Goodrich).

“Influence of El Niño/southern oscillation, Pacific decadal oscillation, and local sea-surface temperature anomalies on peak season monsoon precipitation in India”

“Many modeling and empirical studies have revealed that summer monsoon precipitation in India is significantly affected by El Niño/Southern Oscillation (ENSO) as well as by seasurface temperatures (SSTs) in the Arabian Sea, Bay of Bengal, and Indian Ocean.”

Q ? Davis RE, Knappenberger PC, Michaels PJ, Novicoff WM
 (Ed: Comrie)

www.int-res.com/articles/cr2004/26/c026p061.pdf

“Seasonality of climate–human mortality relationships in US cities and impacts of climate change”

This seems reasonable, although minimizes likely problem.

“Human mortality in US cities is highest on extremely hot, humid summer days, but in general, winter-mortality rates are significantly higher than summer rates. The observed winterdominant warming pattern, which has been linked to increasing greenhouse-gas concentrations, has led some researchers to propose future mortality decreases, while others contend that increasing heat-related mortality in summer will more than offset any winter-mortality reductions. ... Future mortality could be reduced with a winter-dominant warming but increase with pronounced summer warming. In each case, however, net future climate-related mortality rates are very low relative to the

baseline death rate, indicating that climate change will have little impact in defining future mortality patterns in US cities.”

Although the studies may not be comparable, Sheridan, Kalkstein, Kalkstein (2009), conclude:

“The number of oppressive days has stayed the same or increased at most metropolitan areas. With US homes near saturation in terms of air-conditioning availability, an aging population is still significantly vulnerable to heat events.”

www.springerlink.com/content/45g3711qw462231w

R -3 McKittrick R*, Michaels PJ “X”

www.int-res.com/articles/cr2004/27/c027p175.pdf

“A test of corrections for extraneous signals in gridded surface temperature data”

Bad statistics, silly results, confused degrees and radians, cherry-picked land data, cited by 41, many by Khandekar, McKittrick, Goklany (CATO), Michaels, Singer, Singer, V Gray, McKittrick, (E&E), V Gray, McKittrick, (Fraser), (Icecap), McKittrick, McKittrick, Khandekar (in SEPP), McKittrick, Singer. Thus, pals and friends cited it approvingly. This was the last pals paper handled by de Freitas, received shortly before von Storch resigned.

“Monthly surface temperature records from 1979 to 2000 were obtained from 218 individual stations in 93 countries and a linear trend coefficient determined for each site. This vector of trends was regressed on measures of local climate, as well as indicators of local economic activity (income, gross domestic product [GDP] growth rates, coal use) and data quality. The spatial pattern of trends is shown to be significantly correlated with non-climatic factors, including economic activity and sociopolitical characteristics of the region. The analysis is then repeated on the corresponding Intergovernmental Panel on Climate Change (IPCC) gridded data, and very similar correlations appear, despite previous attempts to remove non-climatic effects. The socioeconomic effects in the data are shown to add up to a net warming bias, although more precise estimation of its magnitude will require further research. ...

Acknowledgements. B. O’Rae, N. Clayton and C. Knappenberger provided helpful research assistance. For comments and suggestions we thank, without implicating, M. Khandekar, ...”

Lambert(2004), scienceblogs.com/deltoid/2004/08/mckittrick6.php

Benestad (2004), www.realclimate.org/index.php/archives/2004/12/are-temperature-trends-affected-by-economic-activity

Comment: R2, www.int-res.com/articles/cr2004/27/c027p171.pdf

Reply: R3, www.int-res.com/articles/cr2004/27/c027p175.pdf
 Schmidt (2009), onlinelibrary.wiley.com/doi/10.1002/joc.1831/abstract
 See commentary at:
www.realclimate.org/index.php/archives/2005/01/peer-review-a-necessary-but-not-sufficient-condition

j 0 Scott D, McBoyle G, Schwartzentruber M
www.int-res.com/articles/cr2004/27/c027p105.pdf
 “Climate change and the distribution of climatic resources for tourism in North America”
*This is not a **pals** paper, and its analysis may be fine, but it concludes that warmer temperatures are better for tourism, which may be true. It omits issues like: if sea-level rise eliminates beaches, tourism will not be helped. They are likely right that a warmer climate helps Canada. Cited by 59.*
 “Less comfortable conditions and increased heat stress in many of the large urban centres in the USA (USNAT 2000) may increase the ‘sunbird’ tourism market, with much of southern Canada providing climatically suitable destinations. ... With additional cities gaining climates suitable for winter sun vacations, there will be increased destination choice and competition for the short-term winter sun holiday and the seasonal ‘snowbird’ market. This would present new opportunities in some regions (e.g. Georgia and South Carolina), while potentially reducing the market share of leading current destinations such as southern Florida, Arizona and particularly Mexico.”
With all due respect to the U of Waterloo²⁶ researchers who wrote this, not everyone would be pleased to replace Disneyworld with Manitoba or Ontario. De Freitas has written often on tourism: warmth is good, ignoring any problems.

S 1 Ellis AW*, Brommer DM, **Balling RC Jr** (Ed: Davis)
www.int-res.com/articles/cr2005/30/c030p113.pdf
 “Climatic conditions linked to high PM10 concentration in a bi-national airshed: Nogales (Arizona, USA, and Sonora, Mexico)”
This seems a straightforward paper.
 “Traditional particulate matter (PM) studies focus on atmospheric transport and source identification. Focusing on a problematic airshed in southwestern North America, we analyzed atmospheric characteristics and hydroclimatic conditions leading to high concentrations of PM most representative of dust (PM10).”
T? Ellis AW, Hawkins TW, **Balling RC Jr**, Gober P (Ed: unknown)
www.int-res.com/abstracts/cr/v35/n3
 “Estimating future runoff levels for a semi-arid fluvial system in central Arizona, USA”
Although editor is unknown I guess that it is straightforward article.
U -2 Scott D, Gössling S, **de Freitas CR** (ED: unknown)
www.int-res.com/abstracts/cr/v38/n1
 “Preferred climates for tourism: case studies from Canada, New Zealand and Sweden”
This probably says that warmer is better (a common de Freitas theme), but unknown.

²⁶ I have several times visited and lectured at Waterloo, a fine school, but a warmer climate there would be welcome. Disclosure: I often ski in B.C., Canada, where a warmer winter climate would not be welcome.

A.2 –Chris de Freitas, Papers and Other Activities

en.wikipedia.org/wiki/Friends_of_Science is a Canadian climate anti-science entity, whose advisors include Khandekar, de Freitas and Baliunas. Chris' brother Tim is a petroleum geologist in Canada.²⁷

De Freitas and Soon were simultaneously reviewing each other's papers in 2002.²⁸ Since his editor-in-chief brother Tim de Freitas had recused himself, De Freitas (2002) was being reviewed by Willie Soon and Sonja Boehmer-Christiansen (*Energy and Environment* editor), during same time as de Freitas was reviewing Soon and Baliunas (2003), **L** here. Of course, de Freitas had already accepted other Soon and Baliunas papers **F** (1999) and **I** (2001), so they certainly were acquainted. De Freitas has long had a clear viewpoint visible from the titles of the articles from his CV, and accessible articles are certainly consistent. To bracket the period relevant to CR (1990-2007), these articles were extracted 06/19/11.²⁹

Applied Climatology

Many of these fall into "tourism climate," i.e., warmer is better.

Environmental Change

de Freitas, C.R., 2007. Perspectives on global warming science. *Proceedings of the Annual Conference of the Australian Environment Foundation*, 8-9 September 2007, Rydges Conference Centre, Carlton, Melbourne, Australia. www.aefweb.info/data/DeFreitas.pdf

Carter, R.M., de Freitas, C.R., Goklany, I.M., Holland, D. and Lindzen, R.S., 2007. Climate Science and the Stern Review. *World Economics*, 8 (2), 161-182. ISSN 1468-1838. members.iinet.net.au/%7Egllrnc/WE%20Riposte%20to%20Critique.pdf

de Freitas, C.R., 2006. Climate of dissent. *Environment and Nature in New Zealand*, Vol. 1, No. 3, 4-6.

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²⁷ deepclimate.org/2009/12/02/in-the-beginning-friends-of-science-talisman-energy-and-the-de-freitas-brothers

²⁸ MAS2010 pp.37, 117-118

²⁹ web.env.auckland.ac.nz/people_profiles/defreitas_c

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de Freitas, C.R., 1992. Climate change bandwagon. *National Business Review*, 8/5, Vol 23, No. 16, 47.

de Freitas, C.R., 1990. Global warming: blight or blessing. *The New Zealand Herald, Weekend Magazine*, 15/12.

A.3 –Pat Michaels - Publications

This 2009 profile³⁰ was OCR'd and relevant sections extracted, footnotes mine, with little editing.

“Department of Environmental Sciences

University of Virginia

Assistant Professor, 1980-1986

Associate Professor, 1986-1995

Professor, 1996-present

Virginia State Climatologist 1980-2007

Senior Fellow in Environmental Studies, **Cato Institute**, 1992-Present³¹

Visiting Scientist, **Marshall Institute**, 1996-Present”

“ACADEMIC COMMITTEE SERVICE (Completed or Current Major Professor Only)

Paul J. Knappenberger, MS 1990”

“PUBLICATIONS

Senior Author unless otherwise noted

*Refereed Serial Publication, Book, or Book Chapter

**Conference Proceeding with Prescreened Review

***Technical Report”

³⁰ democrats.energycommerce.house.gov/sites/default/files/documents/MICHAEL_S.CV_2009.02.12.pdf

³¹ CATO, heavily funded by the Koch brothers (MAS2010 p.94), has also long worked with cigarette companies, who stay in business only by addicting children while their brains are still developing. Addiction becomes harder to set later. legacy.library.ucsf.edu/action/search/basic?fd=0&q=cato+institute legacy.library.ucsf.edu/tid/qwi82c00/pdf Philip Morris alone, 1997 payments: CATO: \$175K. legacy.library.ucsf.edu/tid/eyn18c00/pdf The Importance of Younger Adults, ~1984. RJR.

“Younger adults are the only source of replacement smokers . Repeated government studies (Appendix B) have shown that :

- Less than one-third of smokers (31%) start after age 18 .
- Only 5% of smokers start after age 24”

www.washingtonpost.com/wp-srv/national/longterm/tobacco/stories/memos.htm about 1970s memos, tobacco companies have known for a long time.

Compared to addicting children, confusing people about climate is child's play.

Following are papers from 1991-2004, to cover the de Freitas *CR* era and the leadup. Of those in 1998-2004 period, claimed to be refereed (*):

7 CR papers via de Freitas (red)

2 CR papers via other editors (red)

6 Papers plausibly refereed in relevant journals (blue)

These may or may not be good papers, but are at least plausible.

9 Unlikely or absurd claims to refereed status (~~purple, strikethrough~~)

Others are ambiguous, and obviously some of these are judgment calls, *but it seems fair to say that ~half of Michaels' peer-reviewed work (7+2+6 = 15) during this time went through de Freitas at CR.* That does not mean any particular paper is bad or wrong, but it certainly looks like *pal review*..

“1991. Global Warming and Coal: The New Synthesis. J. Coal Qual., 10, 1-11.*

1991. Global Warming: The Data Driven Consensus. Proceedings, 7th Conf. on Appl. Clim., Amer. Meteor. Soc., Salt Lake City, J15-J22.**

1991. The Political Science of Global Warming. Proceedings, Conference on Environmental Issues, Cato Institute, Washington DC. 16pp.***

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1991. Global Warming: The New National Academy of Sciences Report. Regulation 14, 20-23.*

1991. Global Pollution's Silver Lining. New Scientist 132, 40-45.*

1991. Cluster Analysis of Southeastern U. S. Climate Stations. Theor. Appl. Clim. 44, 143-150. (D. E. Stooksbury, Senior Author) *

1992. Apocalypse Not Now: Science, Politics, and Global Warming (Part1) .Jour. Regulation and Social Costs, 2, 77-98.*

1992. The Failure of the Popular Vision of Global Warming. Ariz. Jour. of Int. and Compo Law 9, 53-82.**

1992. Apocalypse Not Now: Science, Politics, and Global Warming (Part 2). Jour. Regulation and Social Costs, 2, 5-32.*

1992. Global Warming: A Reduced Threat? Bull. Amer. Met. Soc.73, 1563-1577.*

1992. Climatic Change in Mixed Layer Trajectories over Large Regions. Theor. Appl. Clim. 45, 167-175. (P.J. Stenger, Senior Author) *

1992 Sound and Fury: The Science and Politics of Global Warming, Cato, Washington DC, 196pp.*

1992. Cyclone Tracks and Wintertime Climate in the Midatlantic Region of the U.S.A. Int. Jour Clim. 13, 509-531. (P.C. Knappenberger, Senior Author)

1993. Global Warming: Beyond the Popular Vision. In Majumdar, S. K., et al., Eds: Global Climate Change: Implications, Challenges, and Mitigation Measures, Penn. Acad. of Sci. , 100-116.*
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1993. Global Warming: Popular Vision vs. Scientific Fact, Electric Perspectives, 17, 32-41.***
1993. Enhancement of Large-Area Corn Yields by Anthropogenerated Climate Change. 8th Conf. on Applied Climatology, American Meteorological Society, Anaheim CA, 38-40 (D. E Stooksbury, Senior Author).**
1993. Regional and Seasonal Analyses of Ground-Based and Satellite Sensed Temperatures: Where's the Warming? 8th Conf. on Applied Climatology, American Meteorological Society, Anaheim CA, 147-152.**
1993. Climate History during the Recent Greenhouse Enhancement. In Geyer, R. Editor: A Global Warming Forum: Scientific, Economic, and Legal Overview, 297-315. *
1993. Benign Greenhouse. Research and Exploration 15, 222-233*
1993. The Receding Threat from Global Warming. Global Change Research Forum, U.S. Geological Survey, March, 1991, 43-50.***
- 1993 Review of: Greenhouse-Gas-Induced Climate Change: A Critical Appraisal of Simulations and Observations. Bull. Amer. Met. Soc. 74, 856-857.*
1993. Reply to Comment on BAMS article. Bull. Amer. Met. Soc. 74, 856-857.*
1993. Global Warming: Failed Forecasts and Politicized Science. Proceedings, 17th Biennial Low-Rank Fuels Symposium, University of North Dakota, 53-73. (Not same as Environmental Engineer, below)**
- 1993 (published in 1994) Predicted and Observed Long Night and Day Temperature Trends. In Kukla, G., et al., eds. Asymmetric Change of Daily Temperature Range. U.S. Dept. of Energy, College Park MD, 399-413. **
1993. Testimony to the Foreign Affairs Committee, U.S. House of Representatives.
1994. Global Warming: Environmental Engineer Failed Forecasts and Politicized Science. 30, 11-22. *
1994. Increasing U.S. Streamflow Linked to Greenhouse Forcing. EOS, Transactions, American Geophysical Union 75, 281-285. (H. Lins, Senior Author) *
- 1994 in Press. Science, Environment, and the Law. A Roundtable Discussion. Ecology Law Quarterly 21.*
1994. Increasing Ultraviolet-B Radiation: Is there a Trend? Science 264, 1341-1342.*
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1994. Global Warming: Management 14, 89-95; publication.* Failed Forecasts and Politicized Science. Waste Reprint of Environmental Engineer (1994)
1994. General Circulation Models: Testing the Forecast. Technology: Journal of the Franklin Institute 331A, 123-133.*
1994. Climate Variations and the Greenhouse Effect. Proceedings, Air and Waste Management Association, Phoenix, Arizona
1995. Predicted and Observed Long Night and Day Temperature Trends. Atmospheric Research, 37, 257-266.
1995. Night Warming, Sulfate Aerosols, and GCM Forecasts. Preprints, 9th Conference on Applied Climatology, American Meteorological Society, Dallas TX, 196-201.**
1995. The Greenhouse Effect and Global Change: Review and Reappraisal. In Simon, J., Editor, The State of Humanity, Blackwell, Oxford 544-564. *
1995. The Climate-Change Debacle: The Perils of Politicizing Science. In Cromartie, M., (ed). Creation at Risk: Religion, Science, and the New Environmentalism Edrmans, Cambridge, 37-54.*
1995. The Satanic Gases: Political Science of the Greenhouse Effect. Economic Affairs 16, 19-27.*
1995. Essay on Sustainable Development and Environmental Regulation. Our Planet 7 (3). United Nations Environment Program, Nairobi.
1995. Questionable Policy Based on Uncertain Science: Global Warming and the Rio Climate Treaty. The State Factor 21, (6), American Legislative Exchange Council, Washington DC. 20pp.***
1996. The United Nations Intergovernmental Panel on Climate change and the Scientific "Consensus" on Global Warming. In: Emsley, J., Editor, The Global Warming Debate, Bourne Press, Bournemouth, 158-178.*
1996. Observed Changes in the Diurnal Temperature and Dewpoint Cycles across the United States. Geophysical Research Letters 23, 2637-2640. (P.C. Knappenberger, Senior Author) *
1996. Human Influence on Global Climate? Nature 384, 522-523.
1996. A Closer Look at the Greenhouse "Fingerprint". American Geophys. Union. Fall 1996 meeting, paper U22C-02.**

1996. The United Nations Intergovernmental Panel on Climate Change and the Scientific "Consensus" on Global Warming. *Energy & Environment* 7, 333-348. Reprint of 1996 Book Chapter cited above.*
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1997. Science under Siege. *Environment* 39, 3-4*
1997. Testimony to the Subcommittee on International Economic Policy, Export and Trade Promotion, of the Foreign Relations Committee, United States Senate, 6/97.
1997. The Search for an Explanation of the Apparent Lack of Dramatic and Damaging Global Warming. Countdown to Kyoto, Monash University, Canberra, Australia.**
- 1997.------(text changed from previous citation), 10th Conf. on Applied Climatology, American Meteorological Society, Reno NV, 244-247**.
1997. Testimony to the Subcommittee on Energy and Environment, Committee on Science, U.S. House of Representatives, 11/97. **==de Freitas CR era ==1998. The Decline and Fall of Global Warming. Jobs and Capital 6, 6-13.*³²**
1998. Analysis of Winter and Summer Warming Rates in Gridded Temperature Time Series. *Climate Research*, 9, 175-181. (R.C. Balling, Senior Author) * -A
1998. Teaching About Climate Change. *Energy Exchange*, Spring issue, 28--37.***
1998. Analysis of Trends in the Variability of Daily and Monthly Historical Temperatures. *Climate Research*, 10, 27-33.* -B
1998. Observed Changes in the Diurnal Dewpoint Cycles across North America. *Geophys. Res. Lett.* 25, 2265-2268 (P. D. Schwartzman, Senior Author)* 1998.
- ~~1998. Global Warming: The Political Science of Exaggeration. Prometheus 1, 63-70. Invited for premier issue of journal.*³³~~
1999. Greenhouse Warming in Cold Anticyclones. 15th Intl. Congo on Biometeorology, Sydney, Australia. pp. Forthcoming.**
1999. Decadal Changes in Weather/Human Mortality Relationships in U.S. Cities. 15th. Intl. Congo on Biometeorology, Sydney, Australia. pp. Forthcoming.**
2000. Overview of Extratropical Cyclones. In Pielke, R.A., Sr. and Jr., eds, Storms. Routledge, 401-426. (R.E. Davis, Senior Author) *
2000. **Observed Warming in Cold Anticyclones. *Climate Research* 14, 1-6.*-G**
- ~~2000. The Satanice Gases. Cato Books, Washington DC. 234pp.*³⁴~~
2000. Anticyclonic Warming. 12th Conf. On Applied Climatology, Amer. Met. Soc., Asheville NC, 119-122.**
2000. Decadal Changes in Summer Mortality in the United States. 12th Conf. On Applied Climatology, Amer. Met. Soc., Asheville, NC, 184-187.**
- ~~2000. The Way of Warming. Regulation 23 (3), 10-16.*³⁵~~
2000. Global Warming: An Issue Whose Time is Past. ENO Transportation Forum, Washington DC, 15pp.***
2000. Climate Change and Atmospheric Circulation in the Pacific. 81st Ann. Mtg., AAAS Pacific Division, Ashland OR (R.E. Davis, Sr Author) .**
2000. Natural Signals in the MSU Lower Tropospheric Temperature Record. *Geophysical Research Letters* 27, 2905-2908.*
- ~~2000. AARST Science Policy Forum, New York. Social Epistemology 14, 133-186. (J.E. Hansen, Senior Author). *³⁶~~
2001. Assessment of Uncertainties of predicted global climate change modelling: Panel 1. Technology 7, 231-256. (R.Balling, Sr Author) *³⁷
2000. Decadal Shifts in Summer Weather/Mortality Relationships in the United States by Region, Demography, and Cause of Death. 14th Conf. On Biometeorology and Aerobiology, American Meteorological Society, Davis CA, 250-251.**
- 2001 Development of a Discriminant Analysis Mixed Precipitation (DAMP) Forecast Model for Mid-Atlantic Winter Storms. *Weather and Forecasting* 16, 248-259. (J. D. Hux, Senior Author) *
- 2001 A Spatial Comparison of Decadal Trends in Weather-Human Mortality Relationships across the Continental United States. Invited Paper, 97th Annual Meeting of the Assoc of American Geographers, New York. **
- 2001 **The Nature of Observed Climate Changes across the United States during the 20th Century. *Climate Research* 17, 45-53.* -J**
- 2001 Integrated Projections of Future Warming based upon Observed Climate During the Greenhouse Enhancement. 1st Intl. Conf on Global Warming and The Next Ice Age, American Meteorological Society, Halifax NS, 162-167**

³⁴ Koch-funded CATO is an unlikely source of refereed material.

³⁵ Not a climate journal.

³⁶ This was actually a debate between Michaels and James Hansen.

³⁷ I was unable to find this, seems an odd publication for this.

³² This does not look like a climate journal.

³³ I am not sure what this is (the name is common), but not a climate journal.

- 2001 Global Warming Converge Melts Down. *World and I* 16, 68-73.***
~~2001 Global Warming: An Objective Overview. In Eaton, D.J., Ed., Global Warming and the Kyoto Accord. Lyndon Johnson School of Public Affairs, University of Texas Austin, 17-26.*³⁸~~
2002. On Seasonal Differences in weather-related mortality trends in the United States. 13th Conf. On Applied Climatology, American Meteorological Society, Portland OR, 326-330.** (R.E. Davis, Senior Author)
- 2002 Rational Analysis of Trends in Extreme Temperature and Precipitation. 13th Conf. On Applied Climatology, American Meteorological Society, Portland OR, 153-158**
2002. Changes in Heat-related Human Mortality in the Eastern United States. *Climate Research* 22, 175-184.* (R.E. Davis, Senior Author) -~~K~~
2002. Revised 21 st Century Temperature Predictions. *Climate Research* 23, 1-9*. -M
- 2002 Abrupt Climate Noise. *Energy and Environment* 13, 19-20.*³⁹
- 2002 Development of a Discriminant Analysis Mixed Precipitation (DAMP) Forecast Model for mid-Atlantic Winter Storms. 13th Conf. On Applied Climatology, American Meteorological Society, Portland OR, 106-111** (J.D. Hux, Senior Author)
- 2002 Climate Change Adaptations: Trends in Human Mortality Responses to Summer Heat in the United States. 15th conf on Biometeorology, Aerobiology, Kansas City, Paper 9B1.** (R.E. Davis, Senior Author).
- 2002 Spatial Pattern of Human Mortality Seasonality in U.S. Cities since 1964. 15th Conf. Of Biometeorology, Aerobiology, Kansas City, Paper 2B2** (R.E. Davis, Senior Author) .
- ~~2003 Do Facts Matter Anymore? *Energy and Environment* 14, 323-326.*⁴⁰~~
- ~~2003 Science or Political Science? An Assessment of the U.S. National Assessment of the Potential Consequences of Climate Variability and Change. In Gough, M., Ed., *Politicizing Science: The Alchemy of Policymaking*. Hoover, Palo Alto. 313pp.*⁴¹~~
- 2003 Das logische Paradigma einer gemaisigen gblalen Erwarming. VDI-Gesellschaft Energietechnik, Koln, Germany, 1-38.**
- 2003 Test for harmful collinearity among predictor variables used in modeling global temperature. *Climate Research* 24, 15-18.* (D.H. Douglass, Senior Author) -N
- 2003 Decadal changes in summer mortality in U.S. cities. *Inter. Jour Biomet.* 47, 166-175* (R. E. Davis, Senior Author).
- 2003 Changing heat-related mortality in the United States. *Envir. Health Perspectives* 111, 1712-1718.* (R.E. Davis, Senior Author) *Climate Science "Paper of the Year, Association of American Geographers.*
- 2003 Winter mortality, climate, and climate change in U.S. Cities. 37 th Canadian Met. And Ocean. Soc. Cong., Ottawa, Ontario, Canada.*** (R.E. Davis, senior author)
- 2004 Trends in Precipitation on the Wettest Days of the Year across the Contiguous United States. *Int. J. Climatology* 24, 1873-1882.*
- ~~2004 Meltdown: The Predictable Distortion of Global Warming by Scientists, Politicians and the Media. Cato Books, Washington DC.* 272pp + illustrations.⁴²~~
- 2004 Economic Signals in Global Temperature Histories. 14th Conf. on Applied Climatology, American Meteorological Society, Seattle WA. Paper no. J1.1.
- 2004 A Test for Corrections for Extraneous Signals in Gridded Surface Temperature Data.* (R. McKittrick, Senior Author) *Climate Research* 26, 159-174. -R
- 2004 Changing Heat wave Mortality in U.S. Cities.** (R.E. Davis, Senior Author) 14th Conf. on Applied Climatology, American Meteorological Society, Seattle WA. Paper no J8.4.
- 2004 Seasonality of Climate-human Mortality Relationships in U.S. Cities and Impacts of Climate Change.* (R.E. Davis, Senior Author) *Climate Research* 26, 61-76. -Q
- 2004 Heat Wave Mortality in Large U.S. Cities.** (R.E. Davis, Senior Author) 16th Conf. on Biometeorology and Aerobiology, American Meteorological Society, Vancouver BC. Paper no A6.3.
- 2004 Disparity of Tropospheric and Surface Temperature Trends: New Evidence. (D.H. Douglass, Senior Author) *Geophysical Res. Lett.* 31 doi: 10.1029/2004GL0212**
- ===effective end of de Freitas CR era ===
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- ³⁸ This is the proceedings of a conference, Global Warming: The Political Science of Exaggeration March 7, 2000. www.worldcat.org/title/global-warming-and-the-kyoto-accord-what-is-to-be-done-proceedings-of-a-conference-march-7-2000/oclc/48259721
- ³⁹ E&E is quite familiar to those who study climate anti-science, MAS2010 p.58.
- ⁴⁰ E&E appears again.
- ⁴¹ Hoover Institute. seems unlikely to do strong refereeing of science.
-
- ⁴² CATO Institute is very unlikely to do refereeing of science.