CliSci2008 A Survey of the Perspectives of Climate Scientists Concerning Climate Science and Climate Change

Conducted by:

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Instructions to Respondent

In this section we would like to get a general idea of your involvement with the climate sciences.

1. The country in which you conduct most of your work is

~	• •
2.	Gender

male female

3. The approximate number of years that you have worked in climate science is

- 0 to 5 years
- 6 to 10 years

11 to 15 years

more than 15

4. In about how many *peer reviewed* scholarly articles on climate change related issues have you been listed as an author?

0 to 5 6 to 10 11 to 20 more than 20

5. In about how many *non-peer reviewed* reports on climate change related issues have you been listed as an author?

0 to 5 6 to 10 11 to 20 more than 20

6. Have you ever been an IPCC		
	yes	no
lead author	\bigcirc	\bigcirc
contributing author	\bigcirc	\bigcirc
reviewer	\bigcirc	\bigcirc

7	7. The institute in which you work could best be described as
	Oacademic/degree granting
	privately funded research institute/non-degree granting
	◯ government/public funded research institute/non-degree granting
	ONGO
	Ocorporate
	Oother

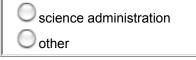
8. The nature of your work is best described as being concerned with

Uphysics of the climate system (modelling, model development, data acquisition, theory development, etc.)

impacts of climate change (ecological, economic, social, etc.)

Climate change policy analysis

- Climate change and health
- Climate change communication



The State of Climate Science

In this section we would like to determine if there are areas in climate science that you perceive to be especially in need of increased research support and/or efforts.

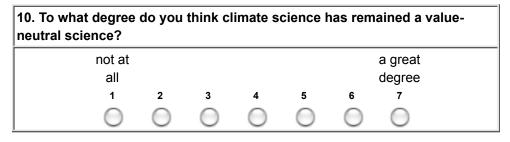
'Climate change', unless otherwise specified, refers to recent, on going and possible future change (1850-2100) of climatic conditions, irrespective of cause.

9. How much do you think the direction of research in the climate change sciences has been influenced by external politics in the last 10 years?

 very
 not at much

 1
 2
 3
 4
 5
 6
 7

 0
 0
 0
 0
 0
 0
 0
 0



11. Concerning the current state of climate	e scie	ence:						
	ver	y inade	equate	ve	very adequate			
	1	2	3	4	5	6	7	
Data availability for climate change analysis is	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Data collection efforts are currently	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
The state of theoretical understanding of climate change phenomena is	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Current theory development for climate change is	\bigcirc	\bigcirc	\bigcirc	0	\bigcirc	\bigcirc	\bigcirc	

We would now like to ask you some questions about components of climate science. We realize that not all scientists work in all areas and that we list a number of distinct areas of expertise which might or might not reflect the main focus of your research. Nonetheless, we ask you to make a <u>subjective</u> <u>appraisal</u> based on your familiarity of the separate components of the

climate sciences.

12. How well do you think <i>atmospheric models</i> can deal with:								
	ver	y inade	equate	V	very adequate			
	1	2	3	4	5	6	7	
hydrodynamics	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
radiation	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
vapor in the atmosphere	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
the influence of clouds	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
precipitation	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
atmospheric convection	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

13. How well do you think ocean models can deal with:								
	very	y inade	very adequate					
	1	2	3	4	5	6	7	
hydrodynamics	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
heat transport in the ocean	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
oceanic convection	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

14. How adequate is t	he abil	ity to c	ouple a	tmospł	neric ar	nd ocean r	nodels?		
very						very			
inadequate					adequate				
1	2	3	4	5	6	7			
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc			
	-	-	-	-	-				

15. The current state of scientific knowledge is developed well enough to allow for a reasonable assessment of the effects of:

	stro	ongly d	isagre	strongly agree				
	1	2	3	4	5	6	7	
turbulence	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
surface albedo	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
land surface processes	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
sea ice	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
green-house gases emitted from anthropogenic sources	0	0	0	0	0	0	0	

16. How would you rate the ability of *global* climate models to:

	very poor					very	/ good
	1	2	3	4	5	6	7
reproduce temperature observations	\bigcirc						
reproduce precipitation observations	\bigcirc						
model temperature values for the next 10 years	\bigcirc						
model temperature values for the next 50 years	\bigcirc						
model precipitation values for the next 10 years	\bigcirc						
model precipitation values for the next 50 years	\bigcirc						
model sea level rise for the next 10 years	\bigcirc						
model sea level rise for the next 50 years	\bigcirc						
model extreme events for the next 10 years	\bigcirc						
model extreme events for the next 50 years	\bigcirc						

17. How would you rate the ability of <i>regional</i> climate models to:								
	ver	y poor	very	y good				
	1 2 3 4 5					6	7	
reproduce temperature observations	\bigcirc							
reproduce precipitation observations	\bigcirc							
model temperature values for the next 10 years	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	0	
model temperature values for the next 50 years	\bigcirc							
model precipitation values for the next 10 years	\bigcirc							
model precipitation values for the next 50 years	\bigcirc							
model sea level rise for the next 10 years	\bigcirc							
model sea level rise for the next 50 years	\bigcirc							
model extreme events for the next 10 years	\bigcirc							
model extreme events for the next 50 years	\bigcirc							

18. How relevant is the study of paleoclimatology to the understanding of:

not	at all				very	much
1	2	3	4	5	6	7

anthropogenic induced climate change	_	ŏ	_	-	_	_	_
climate sensitivity	\odot	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	С

19. How would you rate the ability of paleo models to reproduce:									
	very poor	very good							
	1 2 3 4 5	67							
proxy temperature observations	000000								
proxy precipitation observations	0 0 0 0 0 0	\bigcirc							

Climate Change Impacts

In this section we would like to ask some questions concerning the impacts of climate change.

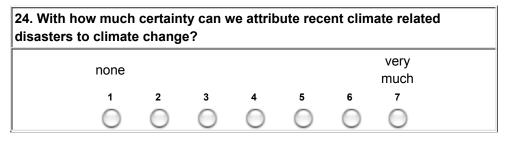
20. How convinced are you that climate change, whether natural or anthropogenic, is occurring now?										
not al	t					very much				
1	2	3	4	5	6	7				
\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc				

not at	verv	
all	much	
1 2 3 4 5 6	7	
$\bigcirc \bigcirc $	\bigcirc	

22. How convinced are you that climate change poses a very serious and dangerous threat to humanity?

not at all						very much	
1	2	3	4	5	6	7	
\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

23. How much are we beginning to experience the more gradual impacts of climate change, anthropogenic or otherwise? not at very all much 1 7 2 3 4 5 6 \cap



25. If we do not do anything towards adaptation or mitigation, the potential for catastrophe resulting from climate change for *the country in which you live* :

	very low					very high		
	1	2	3	4	5	6	7	
in the next 10 years is	\bigcirc							
in the next 50 years is	\bigcirc							

26. If we do not do anything towards adaptation or mitigation, the potential for catastrophe resulting from climate change for *other parts of the world* :

	very low					very high		
	1	2	3	4	5	6	7	
in the next 10 years is	\bigcirc							
in the next 50 years is	\bigcirc							

27. The potential that climate change might have some positive effects for										
	very low						very high			
	1	2	3	4	5	6	7			
the country in which you live is	\bigcirc									
other parts of the world is	\bigcirc									

 28. How much do you think the potential impact of global climate change is one of the leading problems

 not at all
 very much

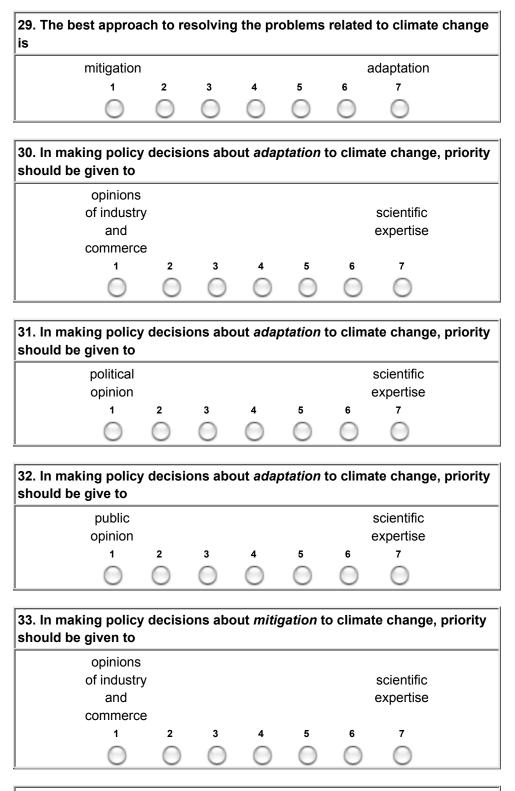
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 4
 5
 6
 7

 for eco-systems (i.e. species extinction, land degradation, etc.)

 for humanity in terms of social and economic issues
 Image: Colspan="6">Image: Colspan="6">Omega Colspan="6">Very much

Adaptation and Mitigation

In this section we would like to ask you about your perspective concerning aspects of adaptation and mitigation. <u>*The selection of the central value of 4 assigns equal weight to both choices.*</u>



34. In making policy decisions about mitigation to climate change, priority

should be	given to							
	political opinion						scientific expertise	
	1	2	3	4	5	6	7	
	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
2								
35. In mai should be	king policy e given to	/ decis	ions ab	out <i>miti</i>	<i>gation</i> t	o clima	te chango	e, priority
	• • •	/ decis	ions ab	out <i>miti</i>	gation t		te change scientific	e, priority
	e given to	/ decis	ions ab	out <i>miti</i>	gation t			e, priority
	given to	/ decis	ions ab	out <i>miti</i>	gation t		scientific	e, priority

36. The best approach to the mitigation of anthropogenic climate change would be based on										
voluntary actions						enforced regulations				
1	2	3	4	5	6	7				
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc				

37. Given our current state on knowledge, climate change is now mostly a											
political					:	scientific	;				
issue					issue						
1	2	3	4	5	6	7					
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc					

The IPCC

In this section we would like to ask your opinion concerning aspects of the IPCC.

38. The IPCC reports are of great use to the advancement of climate science.										
	trongly isagree						strongly agree			
	1	2	3	4	5	6	7			
	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc			

39. The IPCC reports tend to under estimate, accurately reflect (a value of4) or over estimate the magnitude of the impacts resulting from changes in:

un	der est	imate	ov	ver esti	imates	
1	2	3	4	5	6	7

| temperature | \bigcirc |
|----------------|------------|------------|------------|------------|------------|------------|------------|
| precipitation | \bigcirc |
| sea level rise | \bigcirc |
| extreme events | \bigcirc |

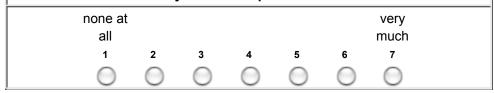
40. The IPCC reports accurately reflect the consensus of scientific thought pertaining to

	stro	ongly d	lisagre	strongly agree			
	1	2	3	4	5	6	7
temperature	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
precipitation	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
sea level rise	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
extreme events	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc

41. The IPCC reports tend to under estimate, accurately reflect (a value of4) or over estimate the magnitude of future changes to:

	unc	ler esti	imates		over estimates			
	1	2	3	4	5	6	7	
temperature	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
precipitation	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
sea level rise	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
extreme events	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

42. How much influence do you think the IPCC has over what areas come to be considered as worthy research topics?



43. How satisfied are you with the process by which the IPCC Summary For Policy Makers reports are produced? not at very all satisfied 1 2 3 4 5 6 7 44. How satisfied are you with the IPCC review process?

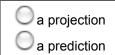
not at all						very satisfied	
1	2	3	4	5	6	7	
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

The Communication of Climate Science

In this section we would like to ask you about the communication of the findings of climate science to the audience extending beyond climate scientists.

Often in the interpretation of scientific knowledge by a non-scientific audience there is the potential for the misunderstanding of terms. This has been the case with the use of the terms projection and prediction. For the sake of clarification:

45. A description of the most probable outcome best defines



other

46. A description of a possible outcome best defines a

- projection
 - prediction

Other

47. From the output of *global* climate models, climate scientists are more inclined to make

- projections
- predictions
- Oother

48. From the output of *regional* climate models, climate scientists are more inclined to make

- projections
- Opredictions
- Oother

49. For you, in daily use, the term climate change would typically be understood as referring to

recent and future changes caused mostly by anthropogenic factors

recent and future changes without reference to a specific cause

changes in climate at any time for whatever reason

Other

50. Approximately how often are you contacted by the *media* for information pertaining to climate change?

Cabout once per month

about once or twice every three months

about once or twice per year

less than once or twice per year

never

 \sim

51. Approximately how often are you contacted by those people who make *policy* decisions for information pertaining to climate change?

	\cup	about	once	per	weeł
--	--------	-------	------	-----	------

about once per month

about once or twice every three months

🔍 about once or twice per year

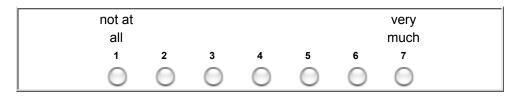
less than once or twice per year

never

52. Some scientists present extreme accounts of catastrophic impacts related to climate change in a popular format with the claim that it is their task to alert the public. How much do you agree with this practice?

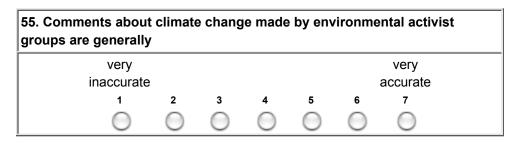
not at all						very much	
1	2	3	4	5	6	7	
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

53. How much do you think climate scientists should be directly involved in alerting the general public to the possible *human* consequences arising from changes in the climate?

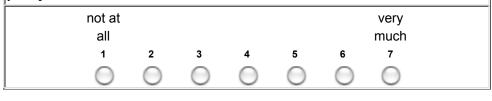


54. How much do you think climate scientists should be directly involved in the provision of climate change information to the public about the impacts to the *natural world* by climate?

not at						very much	
all						much	
1	2	3	4	5	6	7	
\bigcirc							



56. To what extent are those scientists claiming that climate change is a hoax the people most likely to be listened to by those involved in making *policy* decisions?

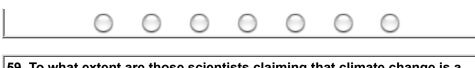


57. To what extent are those scientists who present the extreme accounts of catastrophic impacts and worst case scenarios related to climate change the people most likely to be listened to by those people involved in *policy* making?

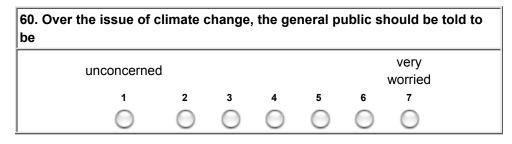
not a all	L					very much	
1	2	3	4	5	6	7	
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

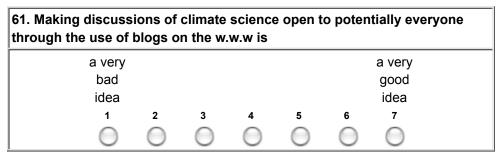
58. To what extent are those scientists who present the extreme accounts of catastrophic impacts and worst case scenarios related to climate change the people most likely to be by *journalists*?

		•					
not at						very	
all						much	
1	2	3	4	5	6	7	



hoax the people most likely to be sought out by <i>journalist</i> ?										
not at all						very much				
1	2	3	4	5	6	7				
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc				



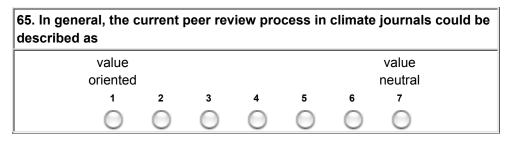


62. On blogs on the w.w.w., the quality of the scientific discussion of climate change is										
v	rery						very			
р р	oor						good			
	1	2	3	4	5	6	7			
(\bigcirc									

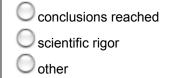
63. In general, the quality of the material on blogs, in comparison to peer reviewed articles in journals, could be described as being mostly										
value oriented				value neutral						
1	2	3	4	5	6	7				
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc				

64. Over the years, the scientific quality of published peer reviewed papers in climate science has generally

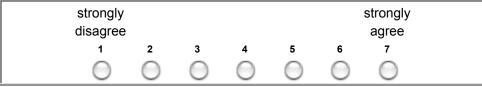
deteriorated					improved				
1	2	3	4	5	6	7			
0	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc			



66. In your opinion, in determining what currently gets accepted in peer reviewed climate science publications, what plays the most significant role in the selection procedure?



67. There is a great need for immediate policy decisions for immediate action to mitigate climate change.



68. Concerning what science is in general, what would you say is its main activity?

- to falsify existing hypothesis
- to verify existing conditions
- Oother

69. Concerning science in general, the role of science tends towards

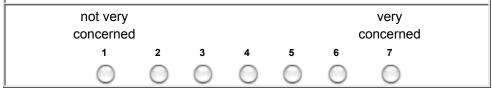
- deligitimization of existing 'facts'
- legitimization of existing 'facts'
- Other

70. The opposite of science is

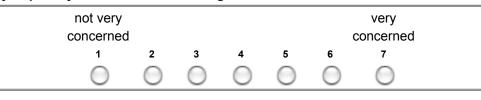


71. If you were to rate yourself in terms of being an environmental activist, where would you place yourself on the following scale? non-activist 1 2 3 4 5 6 7 1 2 3 4 5 6 7

72. If you were to rate yourself in terms of being concerned about general environmental conditions, including climate change, *where you live*, where would you place yourself on the following scale?



73. If you were to rate yourself in terms of being concerned about general *global* environmental conditions, including climate change, where would you place yourself on the following scale



74. What people perceive to be the most pressing issue of the time is often shaped by current events. We would like to ask you what you think is the most pressing issue facing humanity today.

75. If you could ask the collective body of climate scientists one particular question, what would it be?

76. General comments concerning the survey of climate scientists

Click here to finish