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

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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		
contributing author		
reviewer		

7. The institute in which you work could best be described as

- academic/degree granting
- privately funded research institute/non-degree granting
- government/public funded research institute/non-degree granting
- NGO
- corporate
- other

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

- physics 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

- science administration
- other

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

10. To what degree do you think climate science has remained a value-neutral science?

not at all						a great degree
1	2	3	4	5	6	7
○	○	○	○	○	○	○

11. Concerning the current state of climate science:

	very inadequate 1	2	3	4	5	6	very adequate 7
Data availability for climate change analysis is	○	○	○	○	○	○	○
Data collection efforts are currently	○	○	○	○	○	○	○
The state of theoretical understanding of climate change phenomena is	○	○	○	○	○	○	○
Current theory development for climate change is	○	○	○	○	○	○	○

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 subjective appraisal based on your familiarity of the separate components of the

climate sciences.

12. How well do you think *atmospheric models* can deal with:

	very inadequate 1	2	3	4	5	6	very adequate 7
hydrodynamics	○	○	○	○	○	○	○
radiation	○	○	○	○	○	○	○
vapor in the atmosphere	○	○	○	○	○	○	○
the influence of clouds	○	○	○	○	○	○	○
precipitation	○	○	○	○	○	○	○
atmospheric convection	○	○	○	○	○	○	○

13. How well do you think *ocean models* can deal with:

	very inadequate 1	2	3	4	5	6	very adequate 7
hydrodynamics	○	○	○	○	○	○	○
heat transport in the ocean	○	○	○	○	○	○	○
oceanic convection	○	○	○	○	○	○	○

14. How adequate is the ability to couple atmospheric and ocean models?

very inadequate 1	2	3	4	5	6	very adequate 7
○	○	○	○	○	○	○

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

	strongly disagree 1	2	3	4	5	6	strongly agree 7
turbulence	○	○	○	○	○	○	○
surface albedo	○	○	○	○	○	○	○
land surface processes	○	○	○	○	○	○	○
sea ice	○	○	○	○	○	○	○
green-house gases emitted from anthropogenic sources	○	○	○	○	○	○	○

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	○	○	○	○	○	○	○
reproduce precipitation observations	○	○	○	○	○	○	○
model temperature values for the next 10 years	○	○	○	○	○	○	○
model temperature values for the next 50 years	○	○	○	○	○	○	○
model precipitation values for the next 10 years	○	○	○	○	○	○	○
model precipitation values for the next 50 years	○	○	○	○	○	○	○
model sea level rise for the next 10 years	○	○	○	○	○	○	○
model sea level rise for the next 50 years	○	○	○	○	○	○	○
model extreme events for the next 10 years	○	○	○	○	○	○	○
model extreme events for the next 50 years	○	○	○	○	○	○	○

17. How would you rate the ability of *regional* climate models to:

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

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

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

climate sensitivity	○	○	○	○	○	○	○
anthropogenic induced climate change	○	○	○	○	○	○	○

19. How would you rate the ability of paleo models to reproduce:

	very poor 1	2	3	4	5	6	very good 7
proxy temperature observations	○	○	○	○	○	○	○
proxy precipitation observations	○	○	○	○	○	○	○

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 at all 1	2	3	4	5	6	very much 7
○	○	○	○	○	○	○

21. How convinced are you that most of recent or near future climate change is, or will be, a result of anthropogenic causes?

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

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

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

23. How much are we beginning to experience the more gradual impacts of climate change, anthropogenic or otherwise?

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

24. With how much certainty can we attribute recent climate related disasters to climate change?

none						very much
1	2	3	4	5	6	7
○	○	○	○	○	○	○

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	○	○	○	○	○	○	○
in the next 50 years is	○	○	○	○	○	○	○

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	○	○	○	○	○	○	○
in the next 50 years is	○	○	○	○	○	○	○

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	○	○	○	○	○	○	○
other parts of the world is	○	○	○	○	○	○	○

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

	not at all						very much
	1	2	3	4	5	6	7
for eco-systems (i.e. species extinction, land degradation, etc.)	○	○	○	○	○	○	○
for humanity in terms of social and economic issues	○	○	○	○	○	○	○

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>

29. The best approach to resolving the problems related to climate change is

mitigation						adaptation
1	2	3	4	5	6	7

30. In making policy decisions about *adaptation* to climate change, priority should be given to

opinions of industry and commerce						scientific expertise
1	2	3	4	5	6	7

31. In making policy decisions about *adaptation* to climate change, priority should be given to

political opinion						scientific expertise
1	2	3	4	5	6	7

32. In making policy decisions about *adaptation* to climate change, priority should be give to

public opinion						scientific expertise
1	2	3	4	5	6	7

33. In making policy decisions about *mitigation* to climate change, priority should be given to

opinions of industry and commerce						scientific expertise
1	2	3	4	5	6	7

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
○	○	○	○	○	○	○

35. In making policy decisions about *mitigation* to climate change, priority should be given to

public opinion						scientific expertise
1	2	3	4	5	6	7
○	○	○	○	○	○	○

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
○	○	○	○	○	○	○

37. Given our current state on knowledge, climate change is now mostly a

political issue						scientific issue
1	2	3	4	5	6	7
○	○	○	○	○	○	○

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.

strongly disagree						strongly agree
1	2	3	4	5	6	7
○	○	○	○	○	○	○

39. The IPCC reports tend to under estimate, accurately reflect (a value of 4) or over estimate the magnitude of the impacts resulting from changes in:

	under estimate					over estimates
	1	2	3	4	5	6	7

temperature	○	○	○	○	○	○	○
precipitation	○	○	○	○	○	○	○
sea level rise	○	○	○	○	○	○	○
extreme events	○	○	○	○	○	○	○

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

	strongly disagree						strongly agree
	1	2	3	4	5	6	7
temperature	○	○	○	○	○	○	○
precipitation	○	○	○	○	○	○	○
sea level rise	○	○	○	○	○	○	○
extreme events	○	○	○	○	○	○	○

41. The IPCC reports tend to under estimate, accurately reflect (a value of 4) or over estimate the magnitude of future changes to:

	under estimates						over estimates
	1	2	3	4	5	6	7
temperature	○	○	○	○	○	○	○
precipitation	○	○	○	○	○	○	○
sea level rise	○	○	○	○	○	○	○
extreme events	○	○	○	○	○	○	○

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

none at all						very much
1	2	3	4	5	6	7
○	○	○	○	○	○	○

43. How satisfied are you with the process by which the IPCC Summary For Policy Makers reports are produced?

not at all						very 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
○	○	○	○	○	○	○

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

- ○ a projection
- ○ a prediction
- ○ 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
- ○ other

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

- ○ projections
- ○ predictions
- ○ other

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?

- ○ about once per week
- ○ 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

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

- ○ about once per week
- ○ 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
○	○	○	○	○	○	○

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?

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

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 all						very much
1	2	3	4	5	6	7
○	○	○	○	○	○	○

55. Comments about climate change made by environmental activist groups are generally

very inaccurate						very accurate
1	2	3	4	5	6	7
○	○	○	○	○	○	○

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?

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

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 at all						very much
1	2	3	4	5	6	7
○	○	○	○	○	○	○

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 all						very much
1	2	3	4	5	6	7

○	○	○	○	○	○	○

59. To what extent are those scientists claiming that climate change is a hoax the people most likely to be sought out by *journalist*?

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

60. Over the issue of climate change, the general public should be told to be

unconcerned						very worried
1	2	3	4	5	6	7
○	○	○	○	○	○	○

61. Making discussions of climate science open to potentially everyone through the use of blogs on the w.w.w is

a very bad idea						a very good idea
1	2	3	4	5	6	7
○	○	○	○	○	○	○

62. On blogs on the w.w.w., the quality of the scientific discussion of climate change is

very poor						very good
1	2	3	4	5	6	7
○	○	○	○	○	○	○

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
○	○	○	○	○	○	○

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
○	○	○	○	○	○	○

65. In general, the current peer review process in climate journals could be described as

value oriented						value neutral
1	2	3	4	5	6	7
○	○	○	○	○	○	○

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?

- ○ conclusions reached
- ○ scientific rigor
- ○ other

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

strongly disagree						strongly agree
1	2	3	4	5	6	7
○	○	○	○	○	○	○

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

- ○ to falsify existing hypothesis
- ○ to verify existing conditions
- ○ other

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

- unquestioned prejudice
- unruly opinion
- other

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						very involved activist
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?

not very concerned						very concerned
1	2	3	4	5	6	7

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

not very concerned						very concerned
1	2	3	4	5	6	7

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