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The Bray and von Storch 5th International Survey of Climate Scientists 2015/2016

(Helmholtz-Zentrum Geesthacht, Geesthacht, Germany)

D. Bray

H. von Storch

wissen schafft nutzen

Helmholtz-Zentrum Geesthacht
Zentrum für Material- und Küstenforschung

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Dennis Bray, Hans von Storch

142 pages with 119 figures and 6 tables

Abstract

This report presents the findings of a survey of climate scientists' perceptions of the global warming issue. The survey was conducted in 2015/16. The survey includes the following sections: demographics of participants, participants' assessment of climate science, the utility of models, extreme events, attribution of extreme events, climate and society, science and society.

Die Bray und von Storch Fünfte Internationale Umfrage des Klima-Wissenschaftler 2015/2016

Zusammenfassung

Dieser Report stellt die Ergebnisse einer Studie vor, welchen Klimawissenschaftler zu ihrer Sichtweise zum Thema globale Klimaerwaermung sind. Die Befragungen hierzu wurden 2015/16 durchgefuehrt.

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Contents

Introduction

In 1996, with the assistance of funding from the Thyssen Stiftung, we set out to explore the perceptions that climate scientists held regarding climate change and climate science. The methodology was quite simple. We began with a series of interviews (43 in number) with climate scientists in three countries (USA, Canada and German). A brief account of the qualitative findings can be found in Inside Science, A Preliminary Investigation of the Case of Global Warming, (Bray and von Storch, 1996: available on-line at

http://www.academia.edu/2369025/Inside_science_-
a_preliminary_investigation_of_the_case_of_global_warming.

After analyzing the interviews, questions were formulated addressing key issues that seemed to prevail. These questions were then pretested with climate scientists and revised accordingly. Satisfied with the survey questionnaire, 500 hard copies were distributed to scientists in Germany, Denmark, Canada and the USA, each survey translated into the national language. Subsequently, it was requested that the survey be repeated in Italy and Taiwan. The reception of the results of the 1996 survey was such that we were prompted to repeat the survey in 2003. In an effort to reach a larger sample of scientists we employed an on-line survey method. After the 2003 survey we decided perhaps it would be a good idea to repeat the survey to provide a view over time of how climate scientists felt about their science and the issue of global warming. To this extent, the survey was repeated again in 2008, 2013 and again at the end of 2015/beginning of 2016. While a set of core questions are maintained, each survey subsequent to 1996 contained sets of questions addressing different specific topics. Specific to the 2051/16 survey are sections on Climate Service Centers, Extreme Events, Attribution of Extreme Events, Climate and Society and Climate Science and Society.

Results from previous surveys

1996/2003 surveys

http://www.hzg.de/imperia/md/content/hzg/zentrale_einrichtungen/bibliothek/berichte/gkss_berichte_2007/gkss_2007_11.pdf

or complete with data set at

https://www.academia.edu/2365610/The_Bray_and_von_Storch-survey_of_the_perceptions_of_climate_scientists_2008_report_codebook_and_XLS_data

2008 survey

http://www.hzg.de/imperia/md/content/hzg/zentrale_einrichtungen/bibliothek/berichte/gkss_berichte_2010/gkss_2010_9_.pdf

or complete with data set at

https://www.academia.edu/2365610/The_Bray_and_von_Storch-survey_of_the_perceptions_of_climate_scientists_2008_report_codebook_and_XLS_data

2013 survey

http://www.hzg.de/imperia/md/content/hzg/zentrale_einrichtungen/bibliothek/berichte/hzg_reports_2014/hzg_report_2014_4.pdf

or complete with data set at

https://www.academia.edu/5211187/The_Bray_-_von_Storch_Surveys_A_survey_of_the_perceptions_of_climate_scientists_2013_report_codebook_and_XLS_data

Relevant publications 1996-2013 surveys

Bray, D. and H. von Storch, (1999). Climate Science and the transfer of knowledge to public and political realms. In: H. von Storch and G. Flöser: Anthropogenic Climate Change, Springer Verlag, ISBN 3-540-65033-4, 287-328

http://www.academia.edu/4718367/Climate_Science_and_the_Transfer_of_Knowledge_to_Public_and_Political_Realms

Bray, Dennis and Hans von Storch (1999). Climate Science: An empirical example of postnormal science Bulletin of the American Meteorological Society Vol. 80, No. 3, March 1999 439-455

http://www.academia.edu/3077349/Climate_Science_An_empirical_example_of_postnormal_science

Bray, D and Carsten Krück (2001). Some Patterns of Interaction Between Science and Policy:Germany and Climate Change. Climate Research, November Vol. 19: 69 – 90, 2001

Bray, Dennis and Hans von Storch (2008). The Role of Trans-Science in the Acceptance of the IPCC as an Expression of Consensus. Working paper 2008, Unpublished

www.academia.edu/4783953/The_Role_of_Trans-Science_in_the_Acceptance_of_the_IPCC_as_an_Expression_of_Consensus

Bray, Dennis and Hans von Storch (2009). "Prediction" or "Projection?": The Nomenclature of Climate Science. Science Communication 2009; 30; 534

http://www.academia.edu/3077388/_Prediction_or_Projection_The_Nomenclature_of_Climate_Science

Hans von Storch, Dennis Bray. (Published online: 24 September 2010) Against politicization of science. Comment on S. Keller: Scientization: putting global climate change on the scientific agenda since 1970 and the role of the IPCC. Poiesis Prax (2010) 7:211–219DOI 10.1007/s10202-010-0085-3

Bray, Dennis (2011). The Scientific Consensus of Climate Change Revisited.Environmental Science & Policy 13 (2010) 340-350, 2011

Note: This version differs slightly from the published version

http://www.academia.edu/3077313/The_Scientific_Consensus_of_Climate_Change_Revisited

Bray, Dennis and H. von Storch (2011). An Alternative Means of Assessing Climate Models.Journal of Environmental Science and Engineering, 5 (2011) 1053-1062

http://www.academia.edu/4929792/An_Alternative_Means_of_Assessing_Climate_Models

Bray, Dennis (2013). Decision Making: Truth to Power vs. Post-Normal Science. 2013 Unpublished Note

http://www.academia.edu/4706870/Decision_Making_Truth_to_Power_vs._Post-Normal_Science

Bray, D., & von Storch, H. (2014). The Normative Orientations of Climate Scientists. Science and Engineering Ethics. doi:10.1007/s11948-014-9605-1.

also available at

https://www.academia.edu/9313025/The_Normative_Orientations_of_Climate_Scientists

Sampling

The survey employed a non-probability convenience sample. Convenience sampling provides an inexpensive approximation of truth. Quite simply, the sample is selected because it is convenient. The respondents were 'preselected' in as much as they were included as they met specific criteria, i.e. had authored papers concerning climate change and published them in significant climate science journals, were currently employed in climate research institutes or have previously been used as respondents in published results concerning climate change consensus among scientists, or were on existing mailing lists of climate scientists.

In the 2008 climate survey of climate scientists, three lists were employed in constructing the sample. List one included a list of authors, affiliations and email addresses drawn from climate journals with the 10 highest ISI impact ratings for the last 10 years. These are authors of climate related papers in peer reviewed climate related journals. The second list was the list of authors who contributed to Oreskes' (2004) published conclusions concerning consensus in the climate change issue. A third list was drawn from readily available email lists on institute web sites (i.e. NCAR, MPI, AMS, etc.). Duplicates in the three lists were removed before distribution

In 2013 the survey used the same mailing list as in 2008 with the addition of the ClimList mailing list plus the IPCC list of contributors. After removing duplicates, this resulted in a list of 5947 email addresses. 1456 proved to be non-valid, making the total distribution 4491. Invitations to participate in the survey were distributed by email, providing a link to the on-line survey. Provisions were made so that should someone submit a duplicate form the form identifier resulted in the original being over written. Consequently, for each invitation it was only possible to have one completed survey written to the data set. There were 286 valid returns, for a return rate of approximately 7%. All responses were guaranteed anonymity.

In 2015, the survey used updated lists of those employed in 2013. In total, invitations to participate in the survey were sent to 3879 valid email addresses. The survey ran from mid-December 2015 until the end of January 2016. There were 651 returns (complete and partial) for a response rate of approximately 17%, exceeding the response rates of our previous online surveys. (For a discussion of response rates to online surveys, see Bray and von Storch, 2014. A Survey of the Perceptions of Climate Scientists, 2013. pp. 2-4.)

Questions

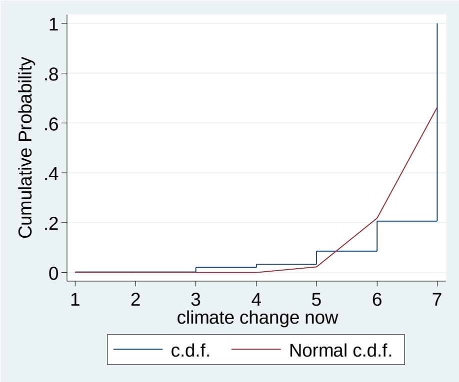
As with previous surveys, most questions were designed on a seven point rating scale. A set of statements was presented to which the respondent was asked to indicate his or her level of agreement or disagreement, for example, 1 = strongly agree, 7 = strongly disagree. The value of 4 can be considered as an expression of ambivalence or impartiality or, depending on the nature of the question posed, for example, in a question posed as a subjective rating such as "How much do you think climate scientists are aware of the information that policy makers incorporate into their decision making process?", a value of 4 is no longer a measure of ambivalence, but rather a metric. Questions were pretested and revised accordingly.

Presentation of Data

Data is presented as descriptive statistics, including histograms, cumulative distribution frequencies and box plots, where applicable. Descriptive statistics include number of observations, means and 95% confidence intervals.

Histograms are presented as percent of observations. Histograms simply allows us to see the patterns in the data instead of the detailed information we would get from what is basically a list of numbers. The shape of the distribution indicates the skew of the data.

The cumulative distribution function shows the probability of occurrence of the corresponding value on the x axis. The chart below indicates a probability of .6 that the value of 7 will occur.



Boxplots illustrate the median, spread and data values. The box plot (a.k.a. box and whisker diagram) is a standardized way of displaying the distribution of data.

A total of 5 boxplots are presented for each variable.

1. a boxplot representing the entire number of respondents to the survey.

2. a boxplot representing the respondents who claimed to work in climate science proper claiming the focus of their work to be directly in the production of knowledge concerning climate change, working in: atmospheric modelling, oceanic modelling, measurement and observation, down scaling, physical processes, and paleoclimatology and claiming to have been affiliated with the IPCC.

3. a boxplot representing the respondents who claimed to work in climate science proper claiming the focus of their work to be directly in the production of knowledge concerning climate change, working in: atmospheric modelling, oceanic modelling, measurement and observation, down scaling, physical processes, and paleoclimatology and claiming to *not* have been affiliated with the IPCC.

4. a boxplot representing the respondents who claimed to have worked in affiliated sciences, with the focus of their work as socio-economic impact assessment, ecological impact assessment, adaptation strategies, science policy administration and other – climate related activities and claiming to have been affiliated with the IPCC.

5. a boxplot representing the respondents who claimed to have worked in affiliated sciences, with the focus of their work as socio-economic impact assessment, ecological impact assessment, adaptation strategies, science policy administration and other – climate related activities and claiming to *not* have been affiliated with the IPCC.

The category of work ‘other –non-climate related’ is omitted from this part of the analysis (6 respondents).

In the box plot the central rectangle (box) spans the first quartile to the third quartile (the interquartile range or IQR). To obtain quartiles, responses are sorted by value; four equal sized groups are made from the ordered responses (25% of values for each group).The lines dividing the groups are called quartiles. The groups are referred to as quartile groups. As the values are ordered, the first quartile (25%) contains the lowest values. The inter-quartile range (IQR) – the box – contains the middle 50% of the scores. 75% of the scores fall below the upper quartile and 25% of scores fall below the lower quartile. The upper and lower whiskers represent scores outside of the middle 50%. A short box represents a high level of agreement. A long box suggests there are a number of opinions. If one box is much shorter or longer than another, this could suggest a difference between groups. The median is in the middle of the box only if the distribution is symmetric. If the median line is closer to the left of the box than to the right of the box the data are skewed in that direction. If the median is closer to the right of the box then tail of the distribution is towards those values.

Structure of Survey

The survey is divided into 8 sections:

1. Demographics of Sample
2. Climate Science
3. Climate Service Centers
4. The Utility of Climate Models
5. Defining Extreme Events
6. Attribution of Extreme Events
7. Climate and Society
8. Climate Science and Society

Please keep in mind that these results reflect the opinions of the respondents to the survey, not the opinions of the authors! In previous surveys we received criticism from both 'sceptics' and 'alarmists'. We draw no conclusions in this report and present only the data as collected.

Results of the 2015/2016 Survey of Climate Scientists

Section 1. Demographics

Responses were forthcoming from some 53 countries. The majority of respondents claimed to have worked in climate science for more than 10 years. Over 90% of the respondents were employed in academic degree granting institutes or publicly funded research non-degree granting institutes.

Table 1. The country in which you live is?

United States	152	23.31%		Romania	4	0.61%
Germany	92	14.11%		Russian	3	0.46%
United Kingdom	62	9.51%		South Africa	3	0.46%
Canada	33	5.06%		Burkina	2	0.31%
Italy	23	3.53%		Chile	2	0.31%
Australia	22	3.37%		Mexico	2	0.31%
France	21	3.22%		Nigeria	2	0.31%
Netherlands	17	2.61%		Pakistan	2	0.31%
India	16	2.45%		Portugal	2	0.31%
Spain	15	2.30%		Uruguay	2	0.31%
Switzerland	15	2.30%		Bangladesh	1	0.15%
Norway	13	1.99%		Benin	1	0.15%
China	12	1.84%		Czech	1	0.15%
Iran	12	1.84%		Iceland	1	0.15%
Sweden	11	1.69%		Indonesia	1	0.15%
Austria	9	1.38%		Ivory	1	0.15%
New Zealand	8	1.23%		Jamaica	1	0.15%
Finland	7	1.07%		Lithuania	1	0.15%
Poland	7	1.07%		Malaysia	1	0.15%
Brazil	6	0.92%		Nepal	1	0.15%
Ireland	6	0.92%		Serbia	1	0.15%
Japan	6	0.92%		Singapore	1	0.15%
Belgium	5	0.77%		Taiwan	1	0.15%
Croatia	5	0.77%		Tanzania	1	0.15%
Denmark	5	0.77%		Uganda	1	0.15%
Greece	5	0.77%				
Israel	5	0.77%		***Total***	***n = 633***	100%
Argentina	4	0.61%				

Table 2. The approximate number of years you have worked in science is?

Number of Years	Freq	Percent
0-5	79	12.27
6-10	156	24.22
11-15	118	18.32
More than 15	291	45.19
Total complete responses	644	100

Table 3. What best describes the institute in which you work?

Type of Institute	Freq	Percent
Academic degree granting	395	61.43
Privately funded research non-degree granting	9	1.40
Publicly funded research non-degree granting	193	30.02
NGO	5	0.78
Corporate	9	1.40
Other	32	4.98
Total complete responses	***643***	100

Table 4. The focus of most of your work is?

Focus of work	Freq	Percent
Atmospheric modelling	134	20.78
Oceanic modelling	29	4.50
Measurement and observation	101	15.66
Down-scaling	47	7.29
Physical processes	94	14.57
Paleoclimatology	64	9.92
Socio-economic impact assessment	15	2.33
Ecological impact assessment	19	2.95
Adaptation strategies	14	2.17
Science policy administration	5	0.78
Other – climate related	117	18.14
Other – non-climate related	6	0.93
Total complete responses	***645***	100

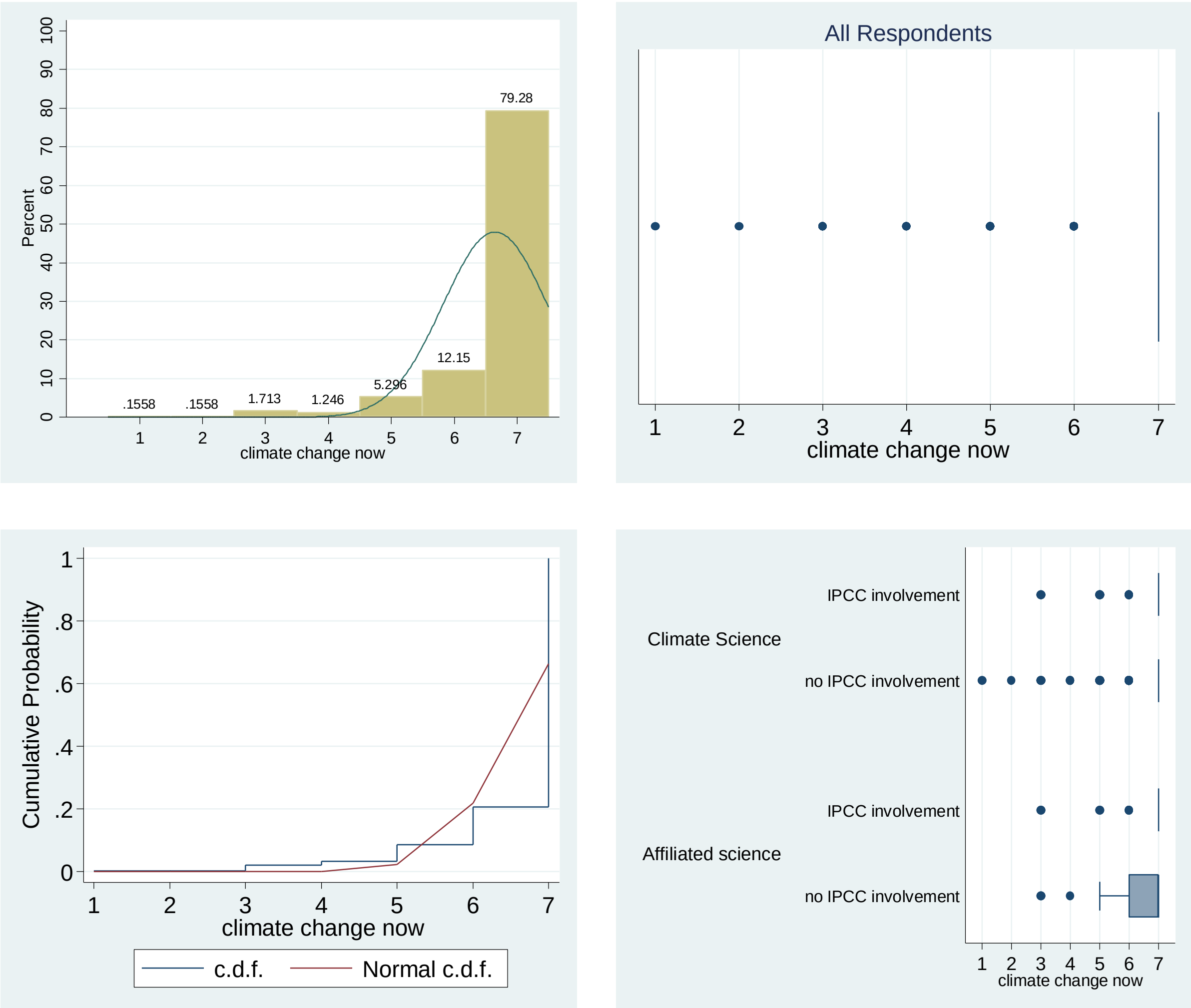
Table 5. Were you involved (author, reviewer, etc.) with the 2014 IPCC AR5 Report?

IPCC Involvement	Freq	Percent
Yes	208	32
No	442	68
Total complete responses	***650***	100

Section 2. Climate Science

Figure 1. (v006) How convinced are you that climate change, whether natural or anthropogenic, is occurring now?

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



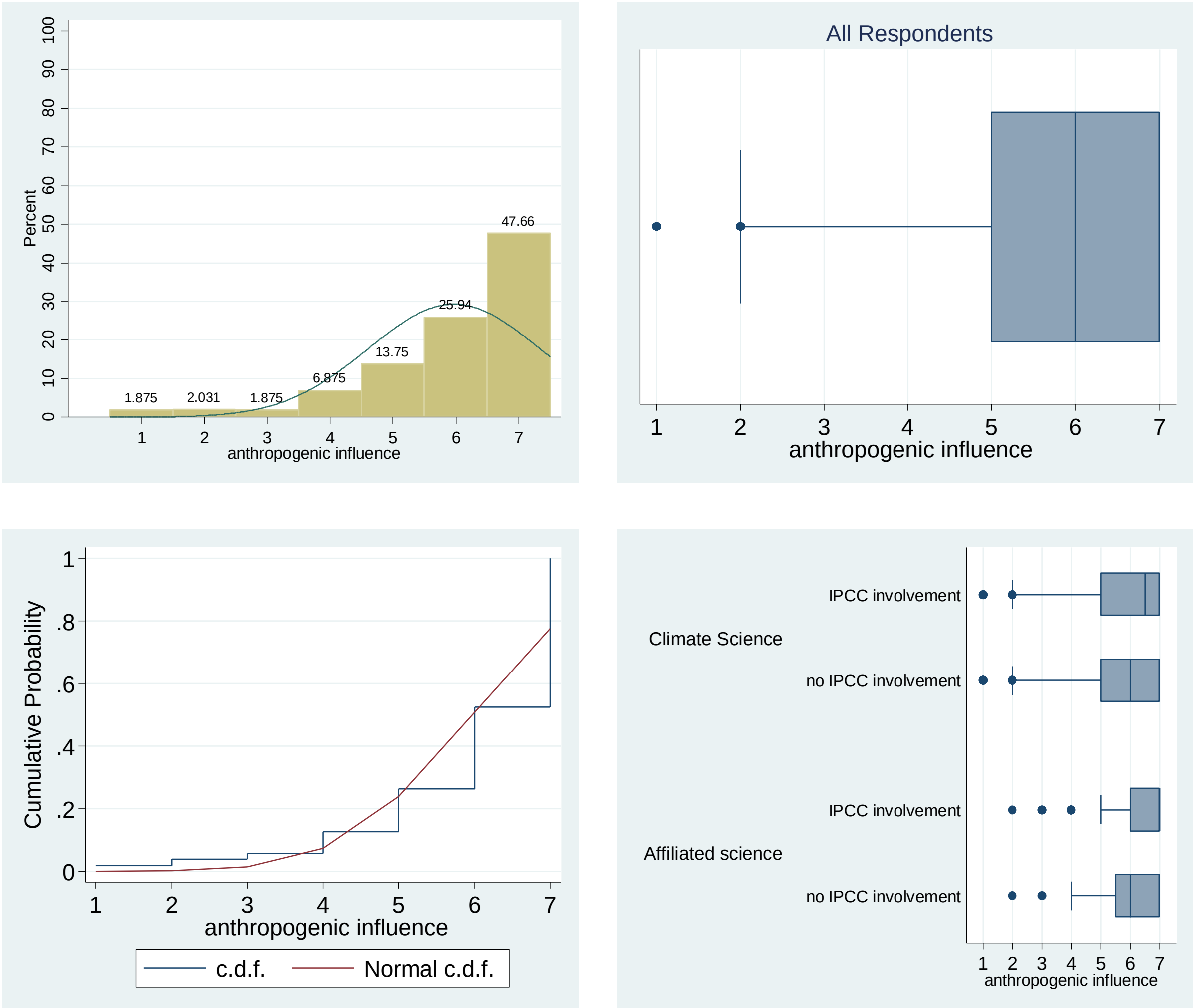
Mean estimation Number of obs = 642

```
-------------------------------------------------------------
             |      Mean   Std. Err.     [95% Conf. Interval]
-------------+-----------------------------------------------
        v006 |  6.649533   .0328523      6.585022    6.714044
-------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=152
	No IPCC Involvement	n=312
Affiliated Science	IPCC Involvement	n=55
	No IPCC Involvement	n=113

Figure 2. (v007) How convinced are you that most of recent or near future climate change is, or will be, the result of anthropogenic causes?

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



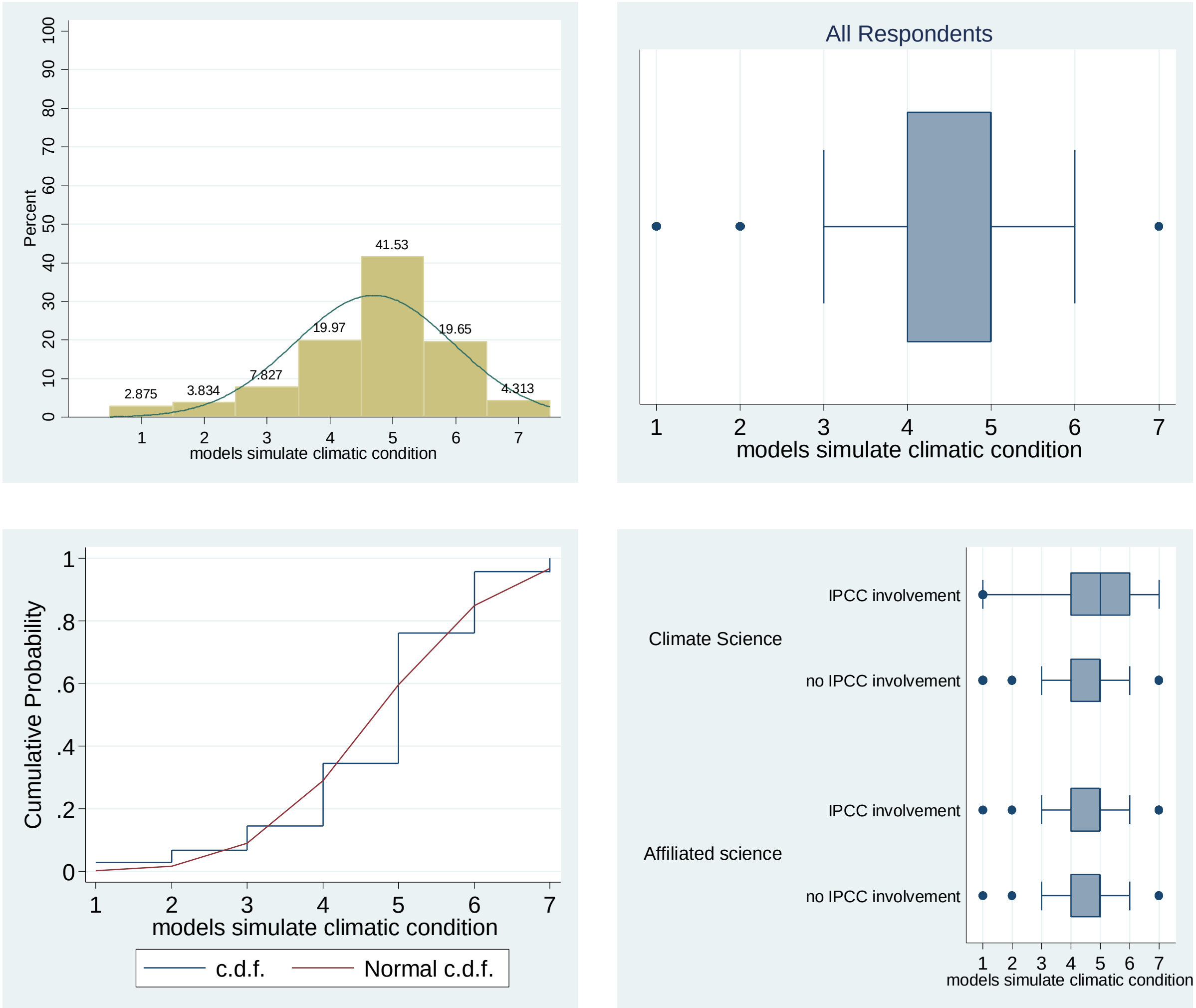
Mean estimation Number of obs = 640

	Mean	Std. Err.	[95% Conf. Interval]	
v007	5.970313	.0538165	5.864634	6.075991

Climate Science	IPCC Involvement	n=152
	No IPCC Involvement	n=312
Affiliated Science	IPCC Involvement	n=54
	No IPCC Involvement	n=112

Figure 3. (v008) Climate models accurately simulate the climatic conditions for which they are calibrated.

strongly disagree 1   2   3   4   5   6   7 strongly agree



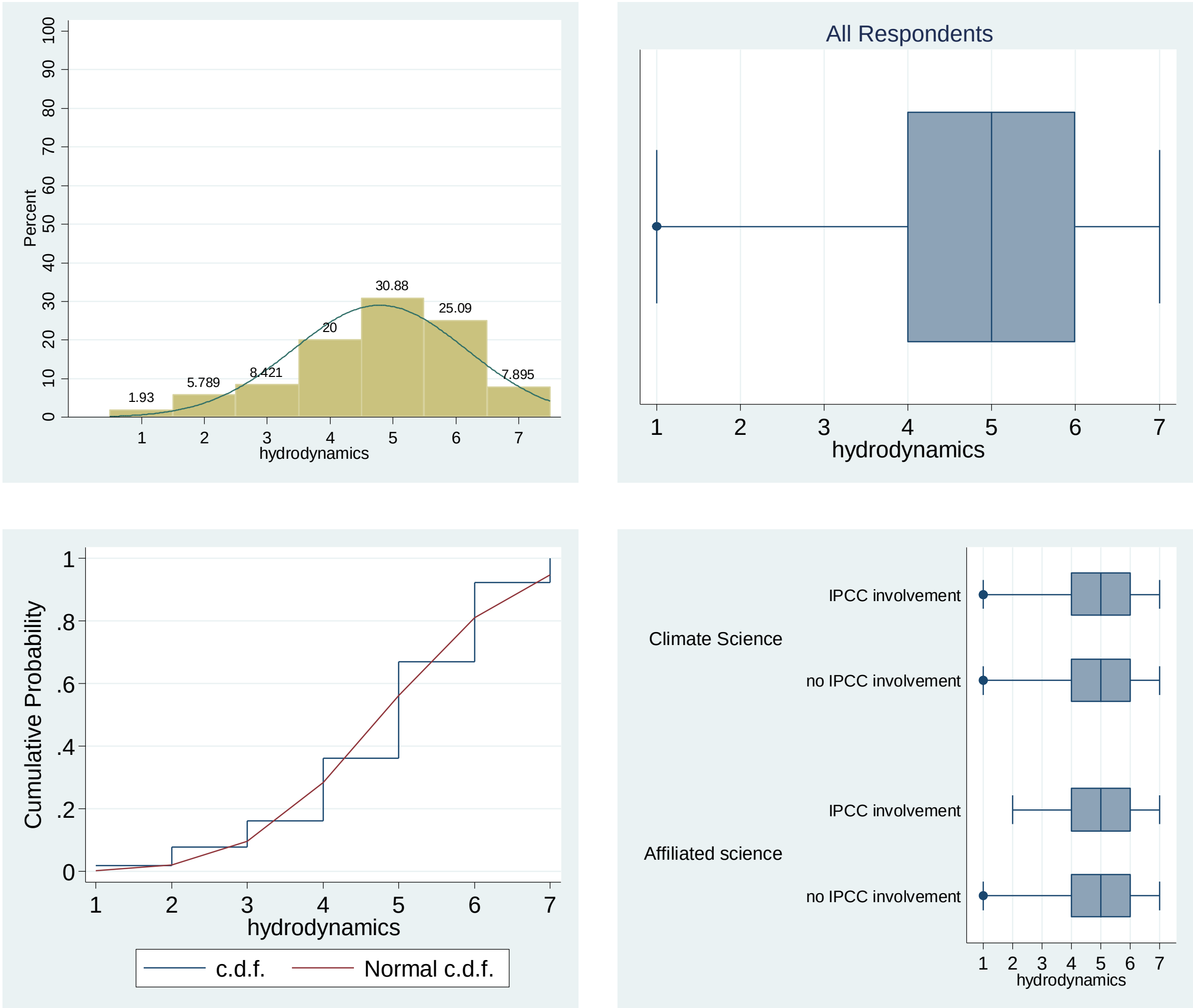
Mean estimation   Number of obs = 626

	Mean	Std. Err.	[95% Conf. Interval]	
v008	4.696486	.0505138	4.597288	4.795683

Climate Science	IPCC Involvement	n=147
	No IPCC Involvement	n=306
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=112

Figure 4. (v009a) How well do you think *atmospheric models* can deal with *hydrodynamics*?

very inadequate 1 2 3 4 5 6 7 very adequate



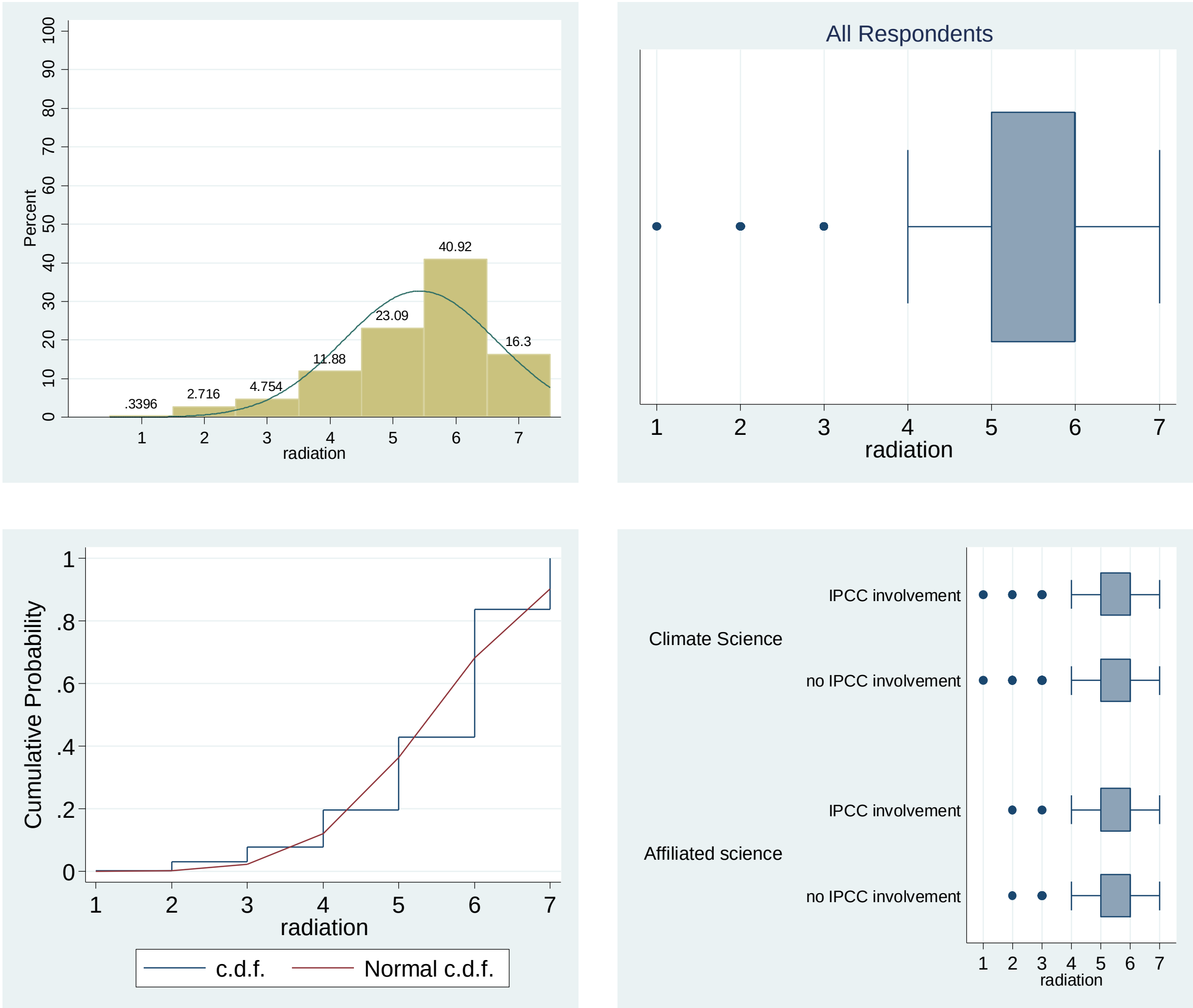
Mean estimation Number of obs = 570

```
--------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
       v009a |   4.789474   .0576184      4.676303    4.902644
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=139
	No IPCC Involvement	n=281
Affiliated Science	IPCC Involvement	n=47
	No IPCC Involvement	n=94

Figure 5. (v009b) How well do you think *atmospheric models* can deal with *radiation*?

very inadequate 1 2 3 4 5 6 7 very adequate



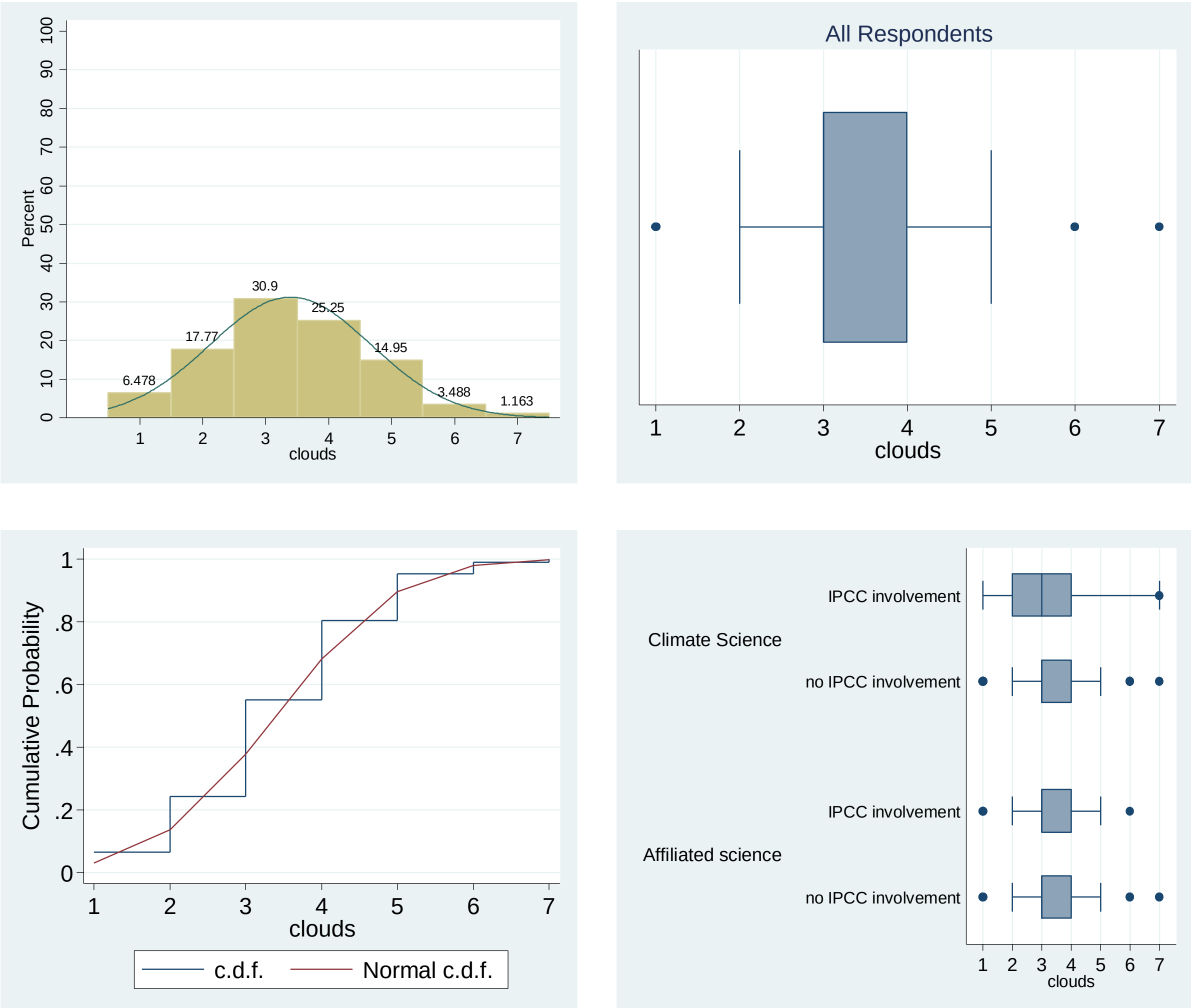
Mean estimation Number of obs = 589

```
--------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
       v009b |   5.426146   .0502939      5.327369    5.524923
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=148
	No IPCC Involvement	n=287
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=95

Figure 6. (v009c) How well do you think *atmospheric models* can deal with the influence of *clouds*?

very inadequate 1   2   3   4   5   6   7 very adequate



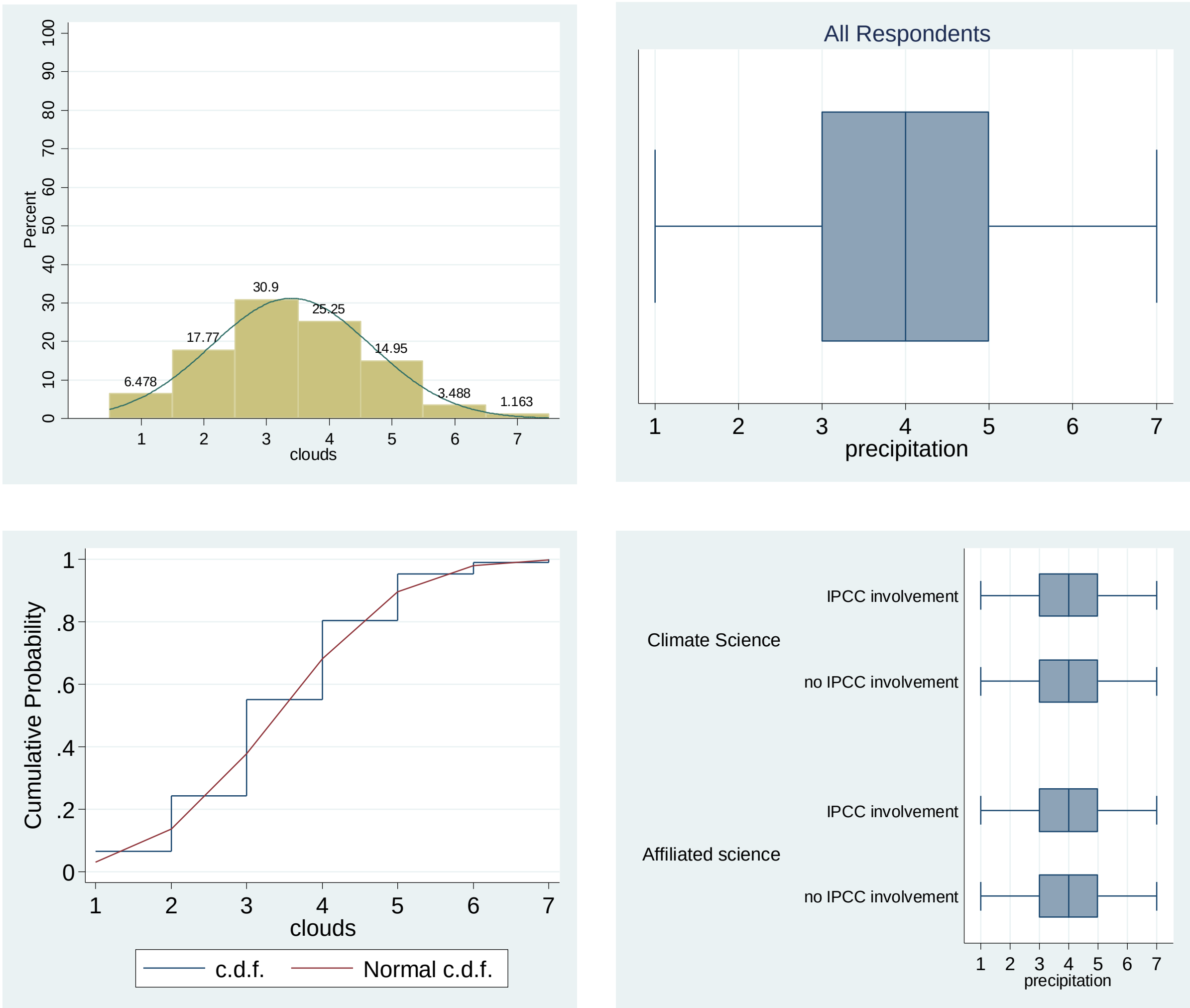
Mean estimation   Number of obs = 602

```
--------------------------------------------------------------
        |     Mean   Std. Err.    [95% Conf. Interval]
-------------+------------------------------------------------
  v009c |  3.395349  .0520954     3.293038    3.49766
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=151
	No IPCC Involvement	n=294
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=98

Figure 7. (v009d) How well do you think *atmospheric models* can deal with *precipitation*?

very inadequate 1 2 3 4 5 6 7 very adequate



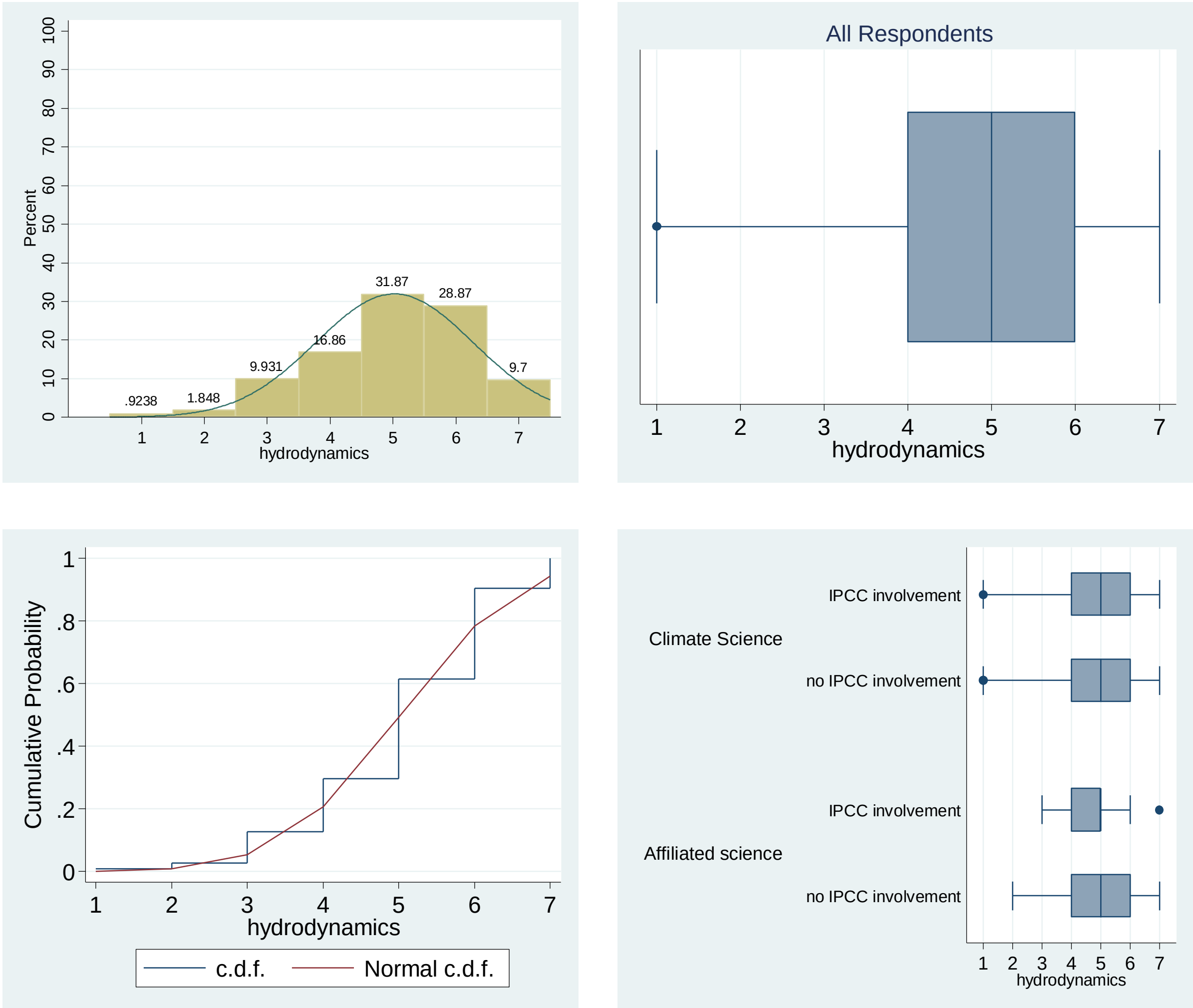
Mean estimation Number of obs = 602

	Mean	Std. Err.	[95% Conf. Interval]	
v009d	3.775748	.0563473	3.665086	3.886409

Climate Science	IPCC Involvement	n=147
	No IPCC Involvement	n=296
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=98

Figure 8. (v010a)How well do you think *ocean models* can deal with *hydrodynamics*?

very inadequate 1   2   3   4   5   6   7 very adequate



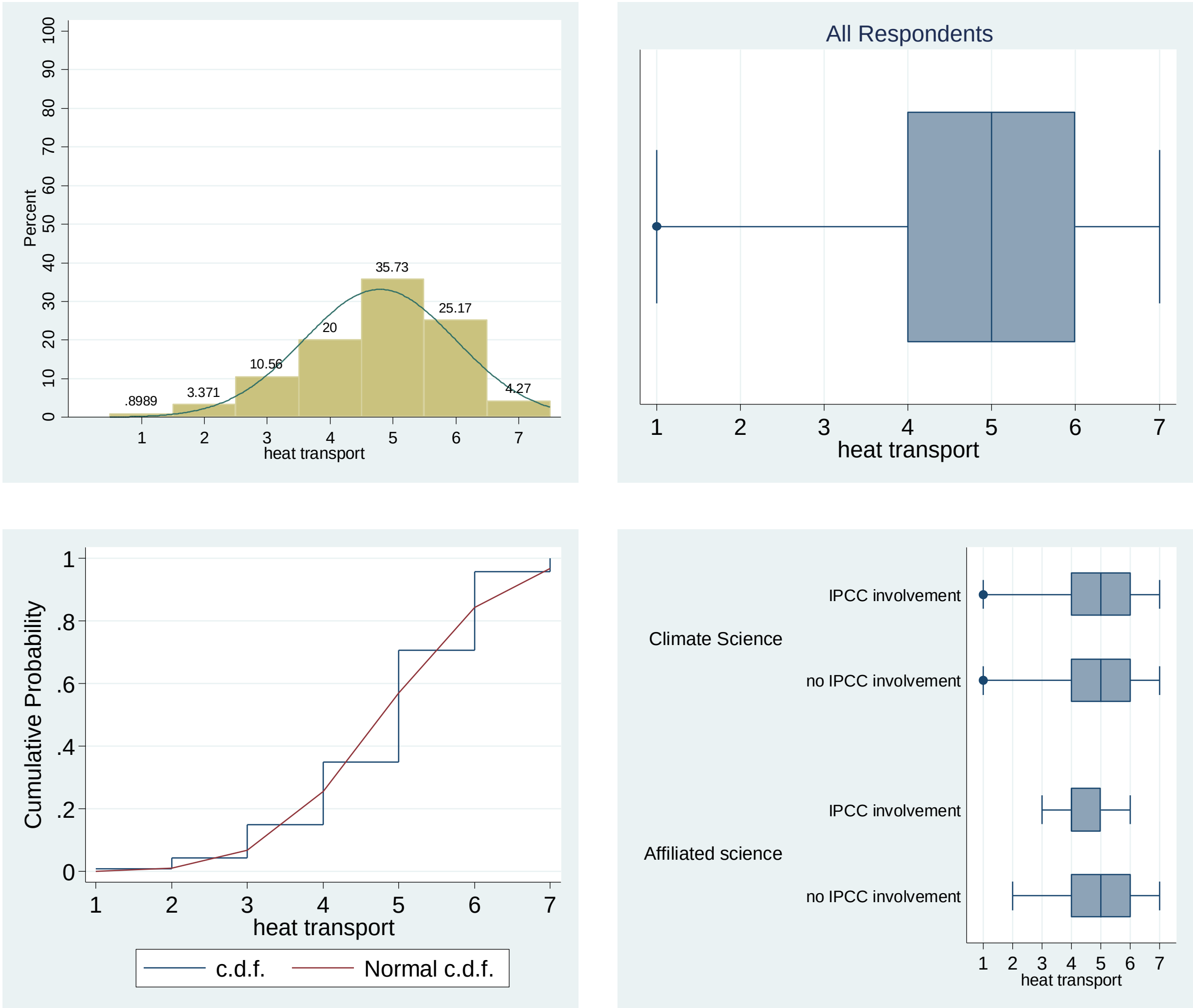
Mean estimation   Number of obs = 433

	Mean	Std. Err.	[95% Conf. Interval]	
v010a	5.023095	.0600164	4.905134	5.141055

Climate Science	IPCC Involvement	n=113
	No IPCC Involvement	n=208
Affiliated Science	IPCC Involvement	n=40
	No IPCC Involvement	n=66

Figure. 9. (v010b) How well do you think *ocean models* can deal with *heat transport* in the ocean?

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



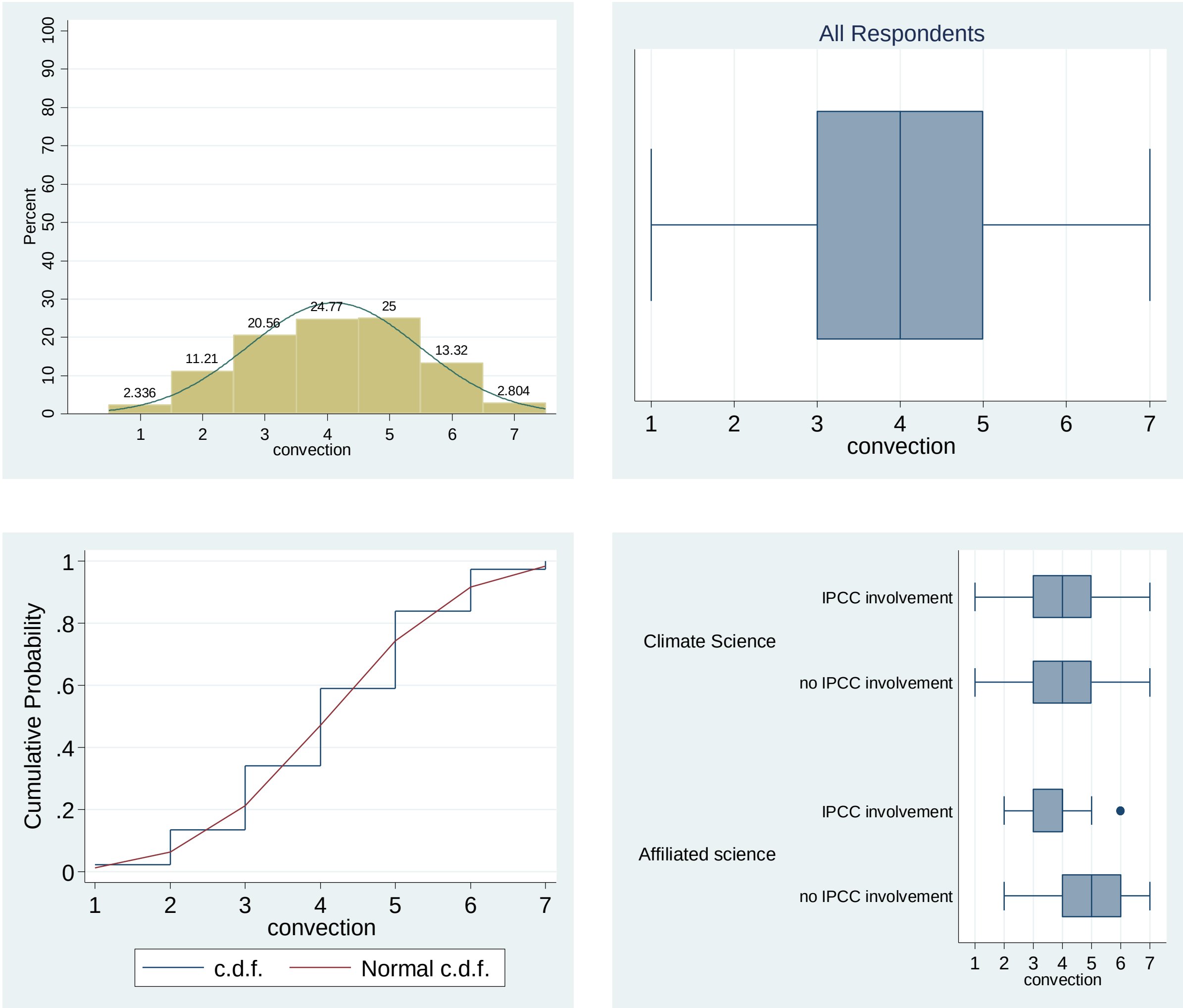
Mean estimation Number of obs = 445

```
-------------------------------------------------------------
             |     Mean   Std. Err.   [95% Conf. Interval]
-------------+-----------------------------------------------
       v010b |  4.788764  .0570979    4.676548    4.90098
-------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=120
	No IPCC Involvement	n=211
Affiliated Science	IPCC Involvement	n=41
	No IPCC Involvement	n=67

Figure 10. (v010c) How well do you think *ocean models* can deal with oceanic *convection*?

very inadequate 1   2   3   4   5   6   7 very adequate



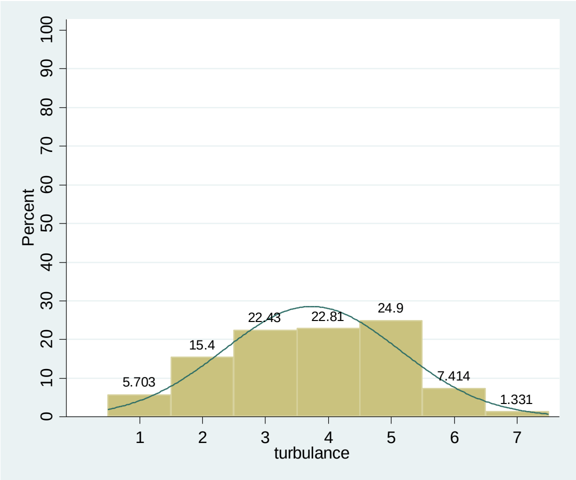
Mean estimation   Number of obs = 428

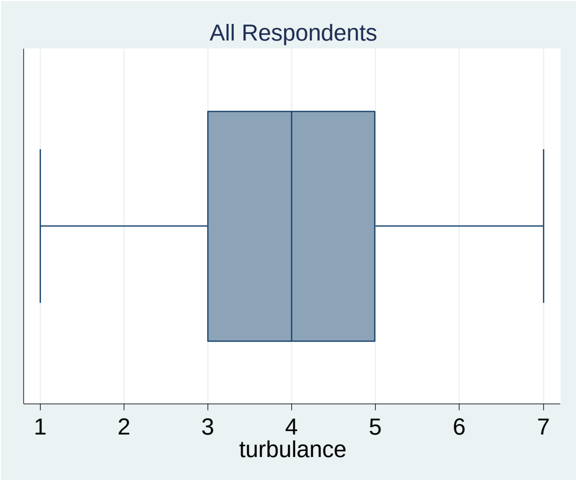
	Mean	Std. Err.	[95% Conf. Interval]	
v010c	4.100467	.06652	3.96972	4.231215

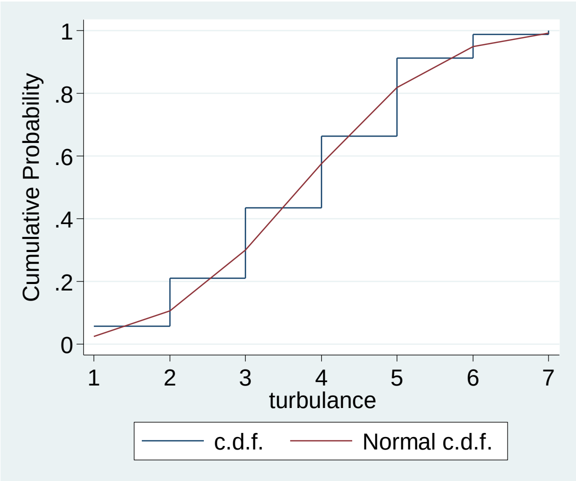
Climate Science	IPCC Involvement	n=110
	No IPCC Involvement	n=206
Affiliated Science	IPCC Involvement	n=41
	No IPCC Involvement	n=65

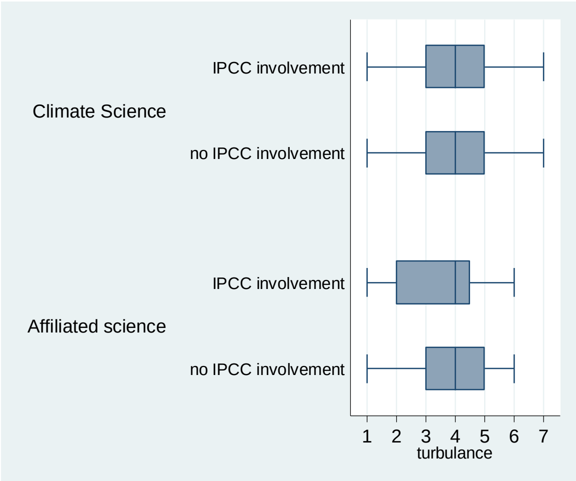
Figure 11. (v011a) The current state of scientific knowledge is developed well enough to allow for a reasonable estimate of the effects of *turbulence* on climate?

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









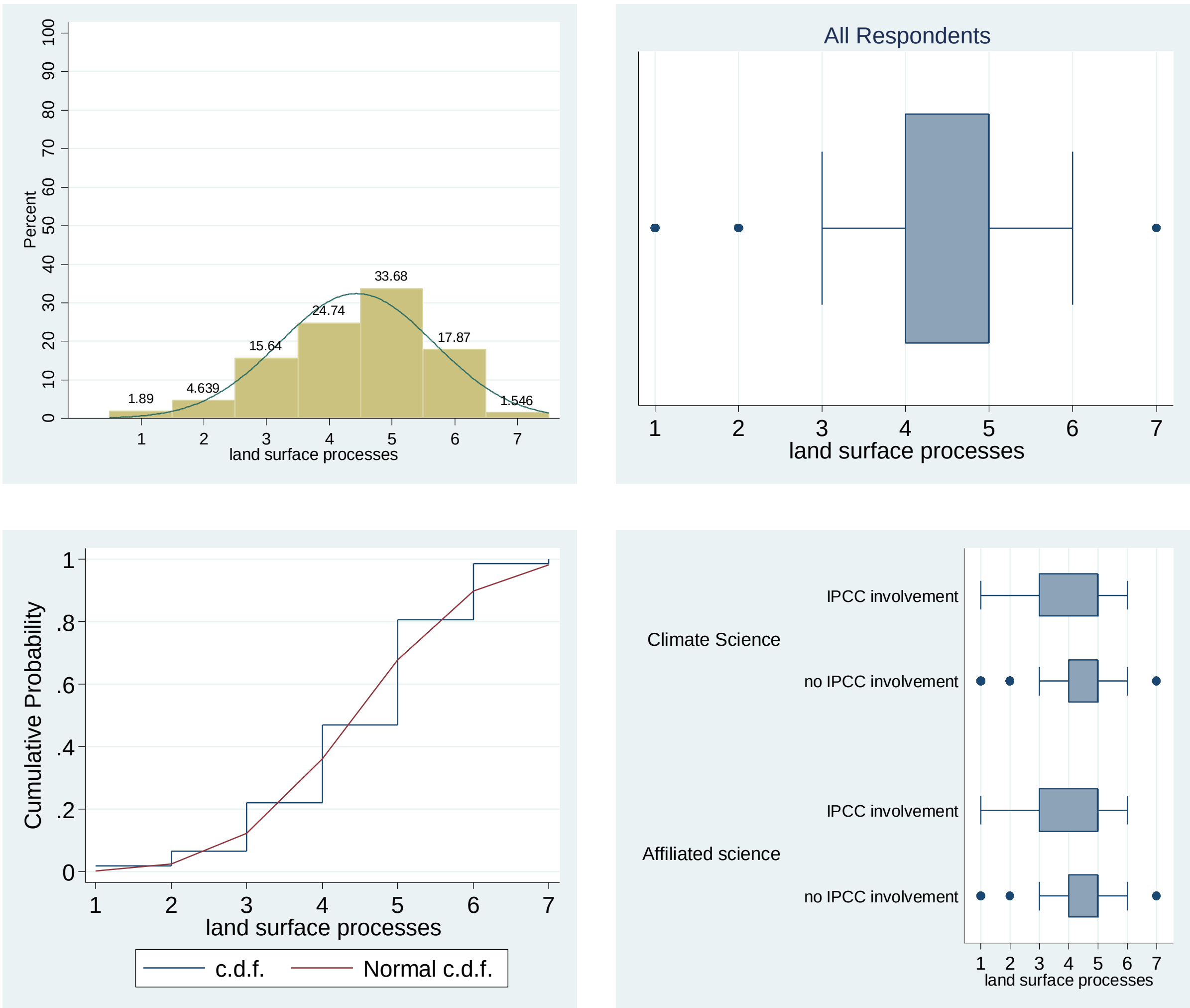
Mean estimation Number of obs = 526

	Mean	Std. Err.	[95% Conf. Interval]	
v011a	3.73384	.0609163	3.614171	3.85351

Climate Science	IPCC Involvement	n=136
	No IPCC Involvement	n=253
Affiliated Science	IPCC Involvement	n=44
	No IPCC Involvement	n=86

Figure 12. (v011b) The current state of scientific knowledge is developed well enough to allow for a reasonable estimate of the effects of *land surface processes* on climate?

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



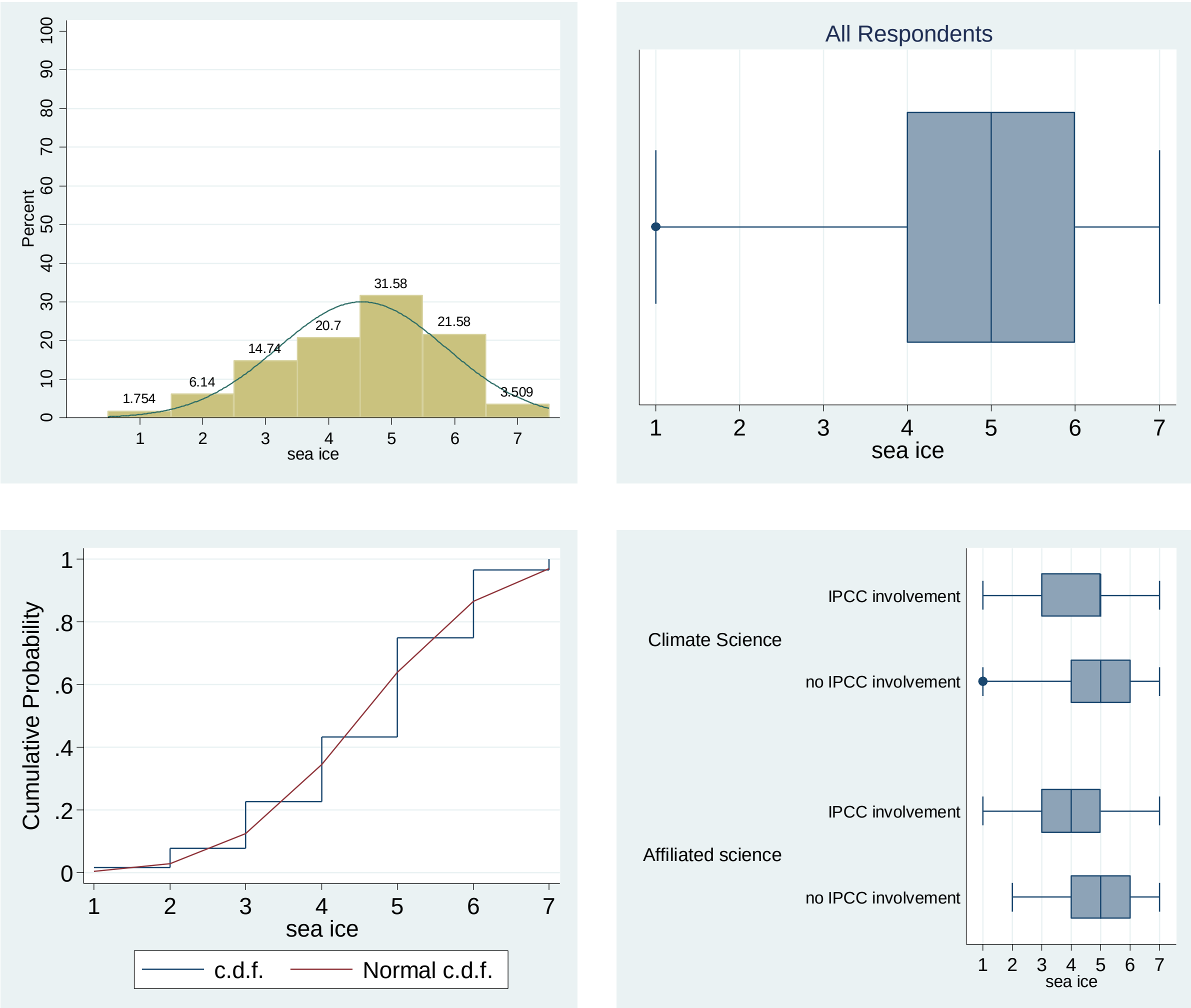
Mean estimation Number of obs = 582

	Mean	Std. Err.	[95% Conf. Interval]	
v011b	4.434708	.0510438	4.334455	4.534961

Climate Science	IPCC Involvement	n=142
	No IPCC Involvement	n=278
Affiliated Science	IPCC Involvement	n=50
	No IPCC Involvement	n=102

Figure 13. (v011c) The current state of scientific knowledge is developed well enough to allow for a reasonable estimate of the effects of *sea ice* on climate?

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



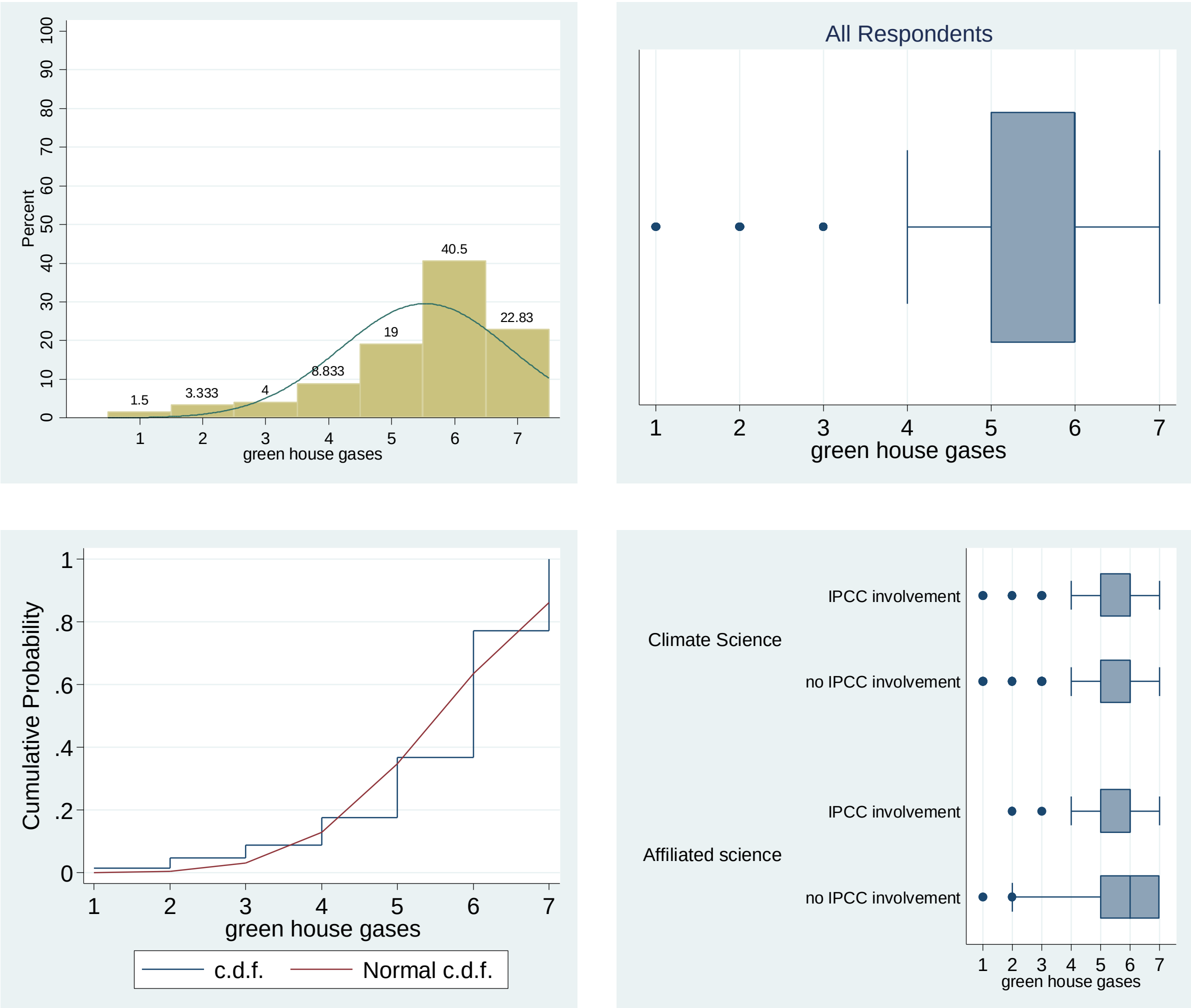
Mean estimation Number of obs = 570

	Mean	Std. Err.	[95% Conf. Interval]	
v011c	4.529825	.0556934	4.420435	4.639214

Climate Science	IPCC Involvement	n=146
	No IPCC Involvement	n=273
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=93

Figure 14. (v011d) The current state of scientific knowledge is developed well enough to allow for a reasonable estimate of the effects of *greenhouse gases* from anthropogenic sources on climate?

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



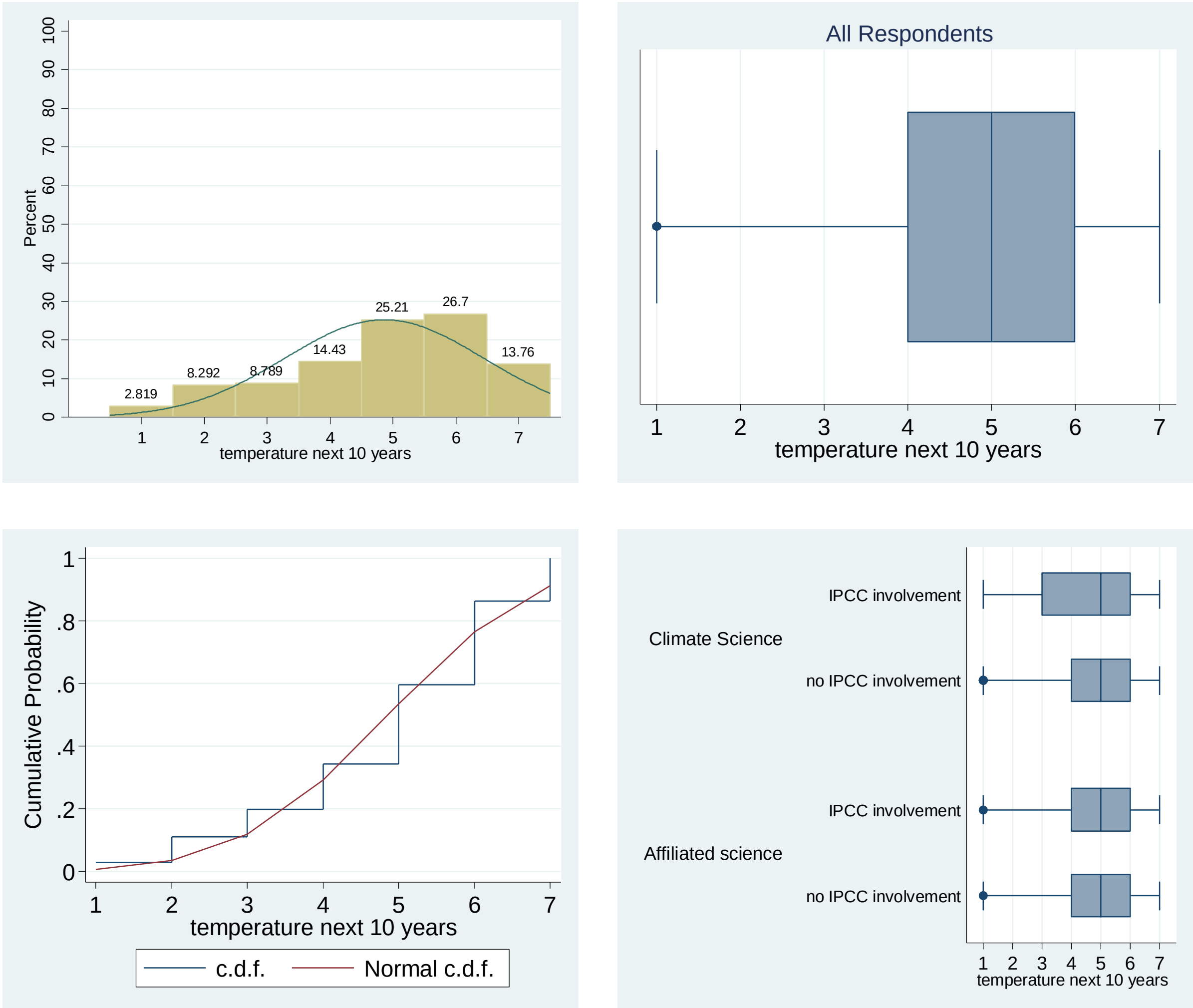

```
Mean estimation                Number of obs   =     600

    --------------------------------------------------------------
           |     Mean   Std. Err.    [95% Conf. Interval]
    -------------+------------------------------------------------
  v011d |  5.533333  .0551553     5.425012    5.641655
    --------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=151
	No IPCC Involvement	n=290
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=98

Figure 15. (v012a) How would you rate the ability of global climate models to simulate a global mean value for temperature values for the *next 10 years*?

very poor 1 2 3 4 5 6 7 very good



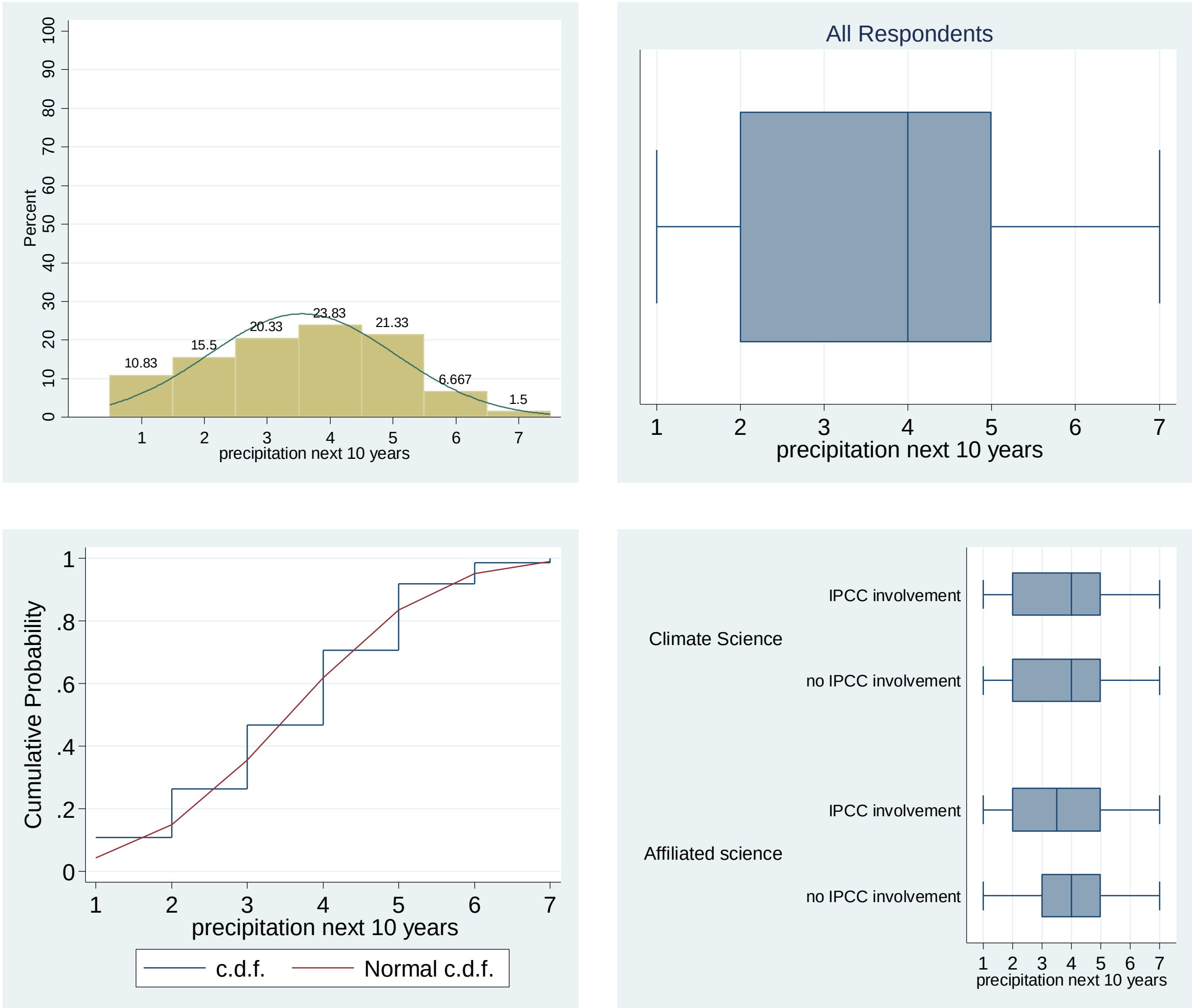
Mean estimation Number of obs = 603

```
------------------------------------------------------------
       |    Mean   Std. Err.   [95% Conf. Interval]
-------------+----------------------------------------------
v012a |  4.860697  .0643311    4.734356   4.987037
------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=148
	No IPCC Involvement	n=288
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=105

Figure 16. (v012b) How would you rate the ability of global climate models to simulate a global mean value for precipitation values for the *next 10 years*?

very poor 1 2 3 4 5 6 7 very good



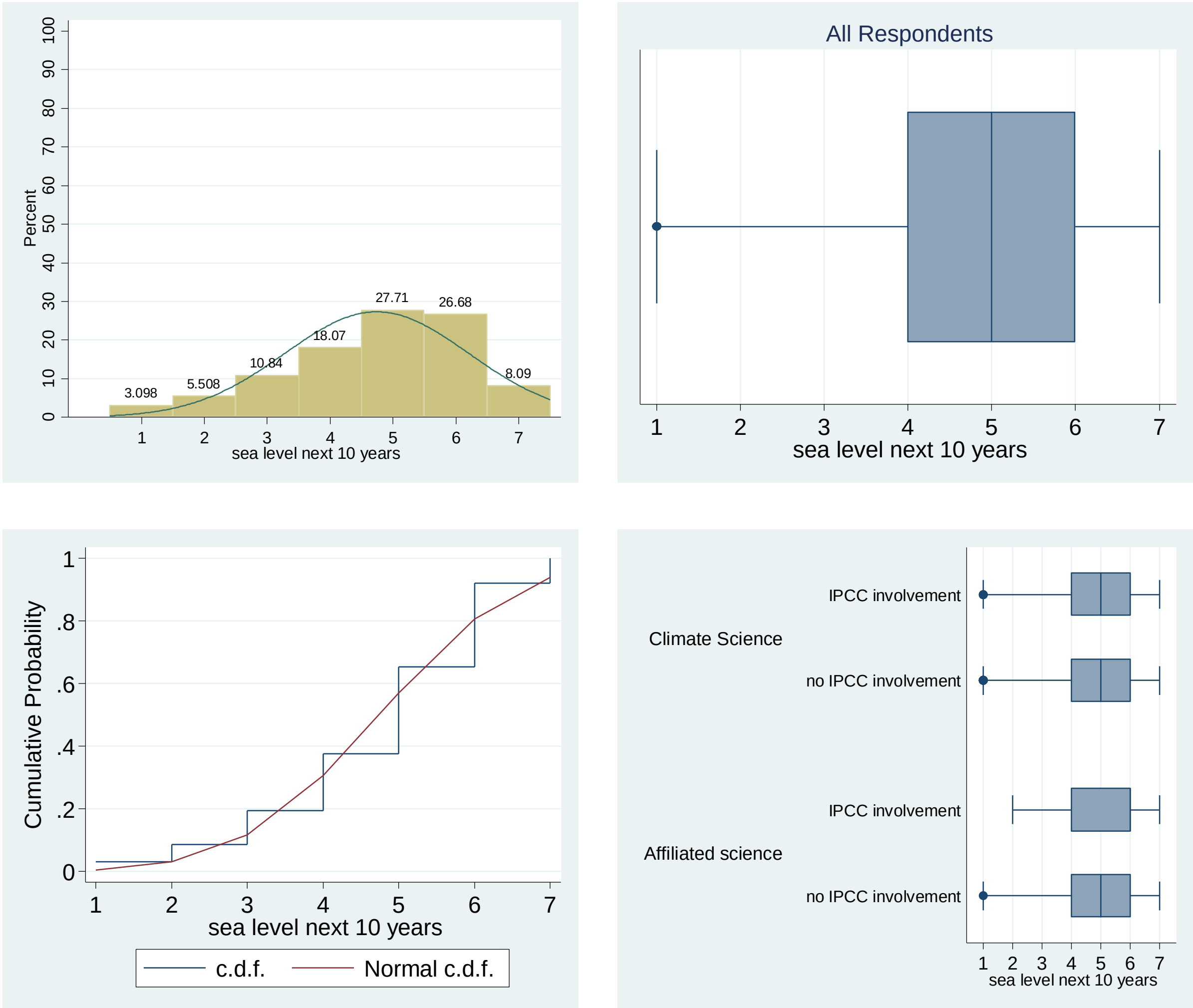
Mean estimation Number of obs = 600

	Mean	Std. Err.	[95% Conf. Interval]	
v012b	3.553333	.0607936	3.433939	3.672728

Climate Science	IPCC Involvement	n=144
	No IPCC Involvement	n=289
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=105

Figure 17. (v012c) How would you rate the ability of global climate models to simulate a global mean value for sea *level rise* for the *next 10 years*?

very poor 1 2 3 4 5 6 7 very good



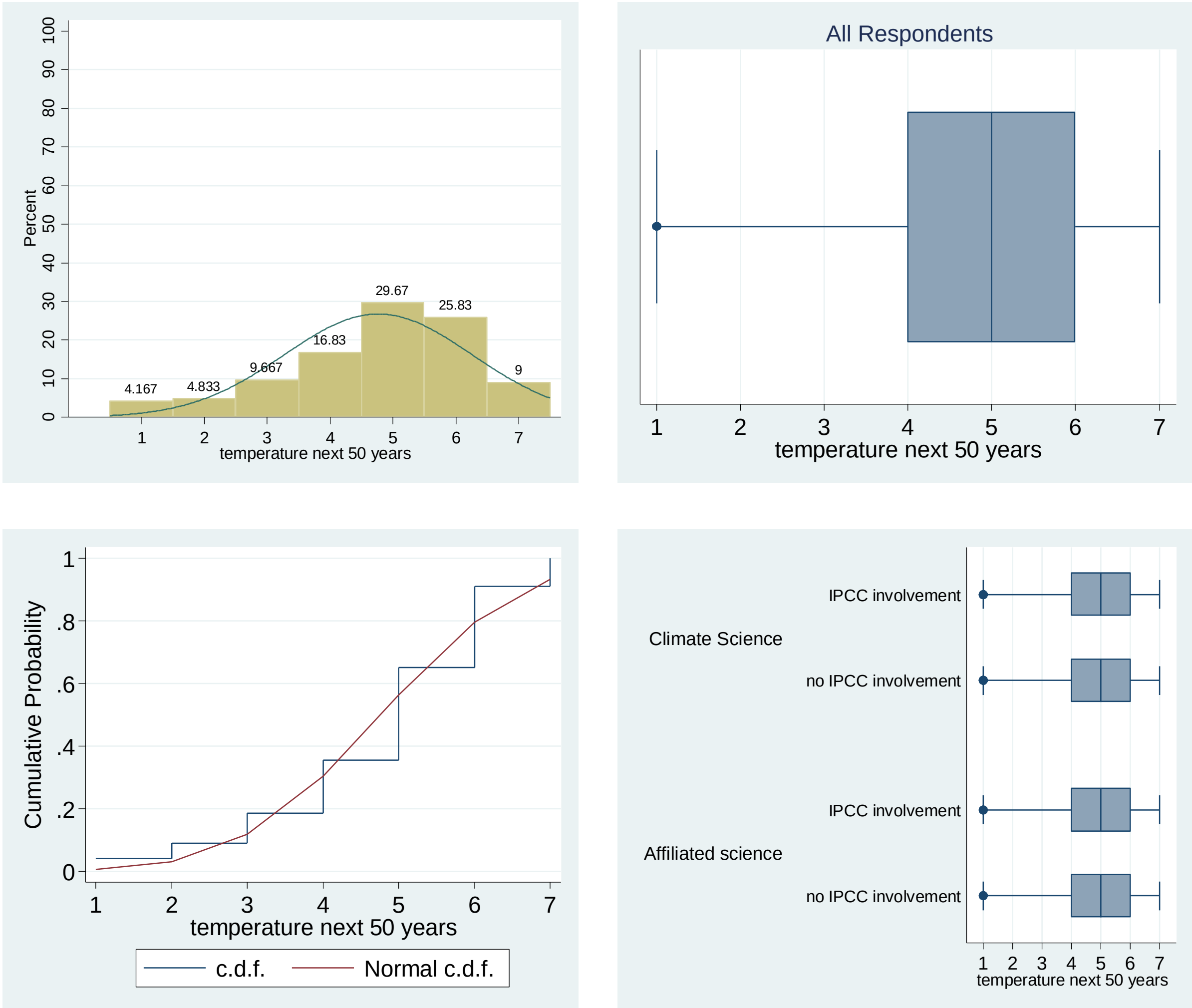
Mean estimation Number of obs = 581

```
-------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+-----------------------------------------------
       v012c |   4.741824   .0605942      4.622814    4.860835
-------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=144
	No IPCC Involvement	n=277
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=100

Figure 18. (v012d) How would you rate the ability of global climate models to simulate a global mean value for temperature values for the *next 50 years*?

very poor 1 2 3 4 5 6 7 very good



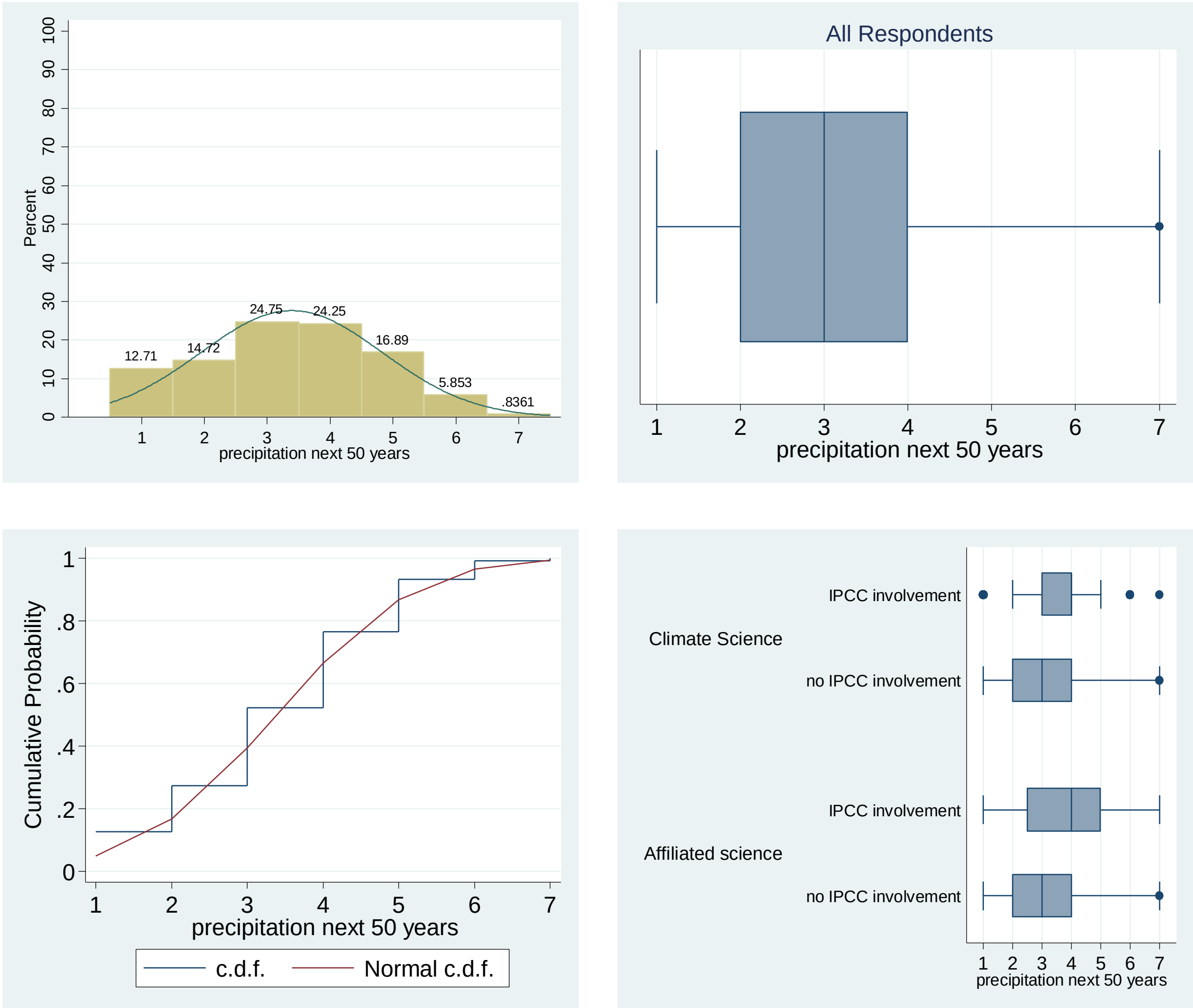
Mean estimation Number of obs = 600

```
--------------------------------------------------------------
             |   Mean   Std. Err.   [95% Conf. Interval]
-------------+------------------------------------------------
v012d|    4.765  .0608753    4.645445   4.884555
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=148
	No IPCC Involvement	n=286
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=104

Figure 19. (v012e) How would you rate the ability of global climate models to simulate a global mean value for precipitation values for the *next 50 years*?

very poor 1 2 3 4 5 6 7 very good



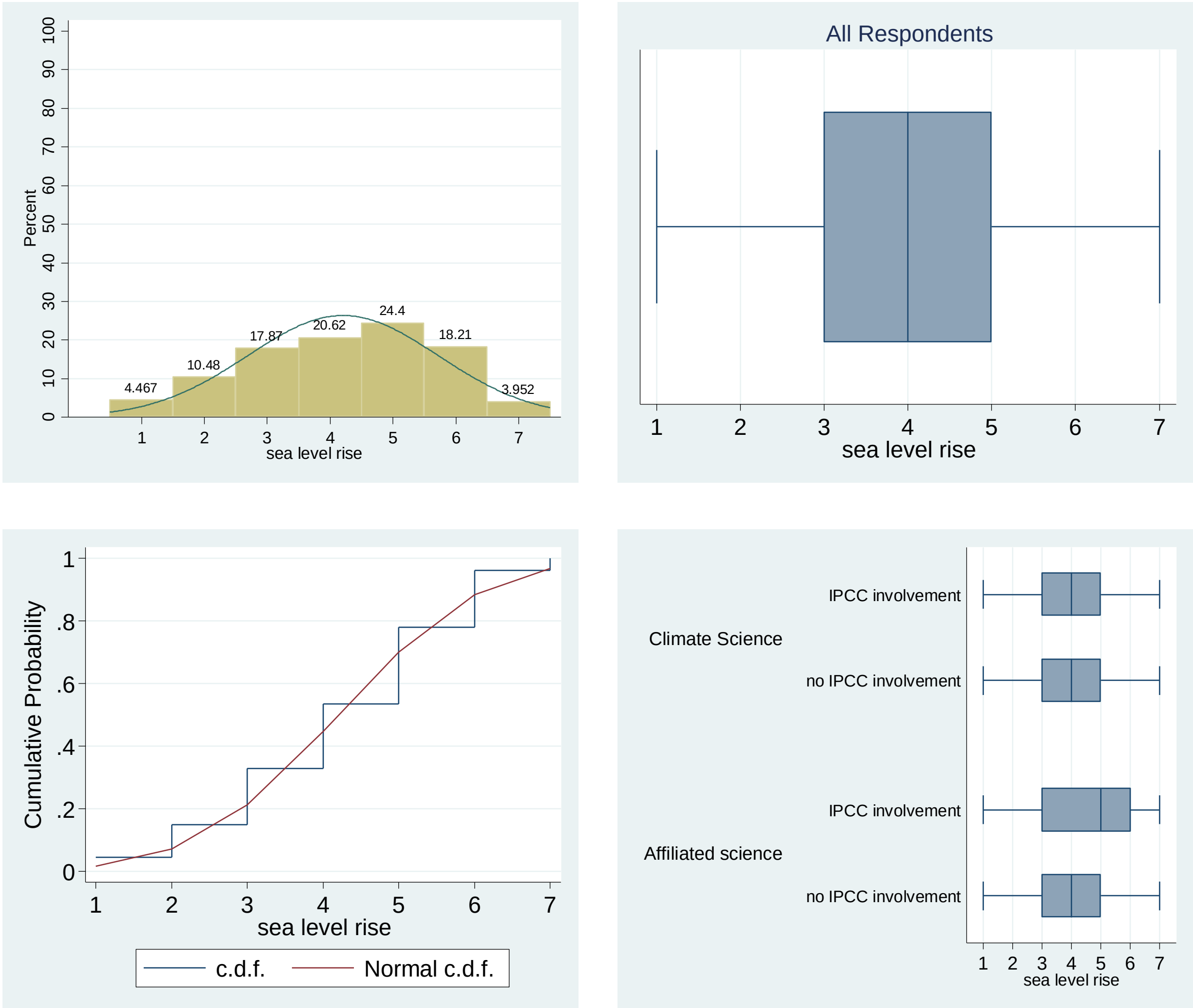
Mean estimation Number of obs = 598

	Mean	Std. Err.	[95% Conf. Interval]	
v012e	3.38796	.0590772	3.271935	3.503984

Climate Science	IPCC Involvement	n=145
	No IPCC Involvement	n=287
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=104

Figure 20. (v012f) How would you rate the ability of global climate models to simulate a global mean value for sea *level rise* for the *next 50 years*?

very poor 1 2 3 4 5 6 7 very good



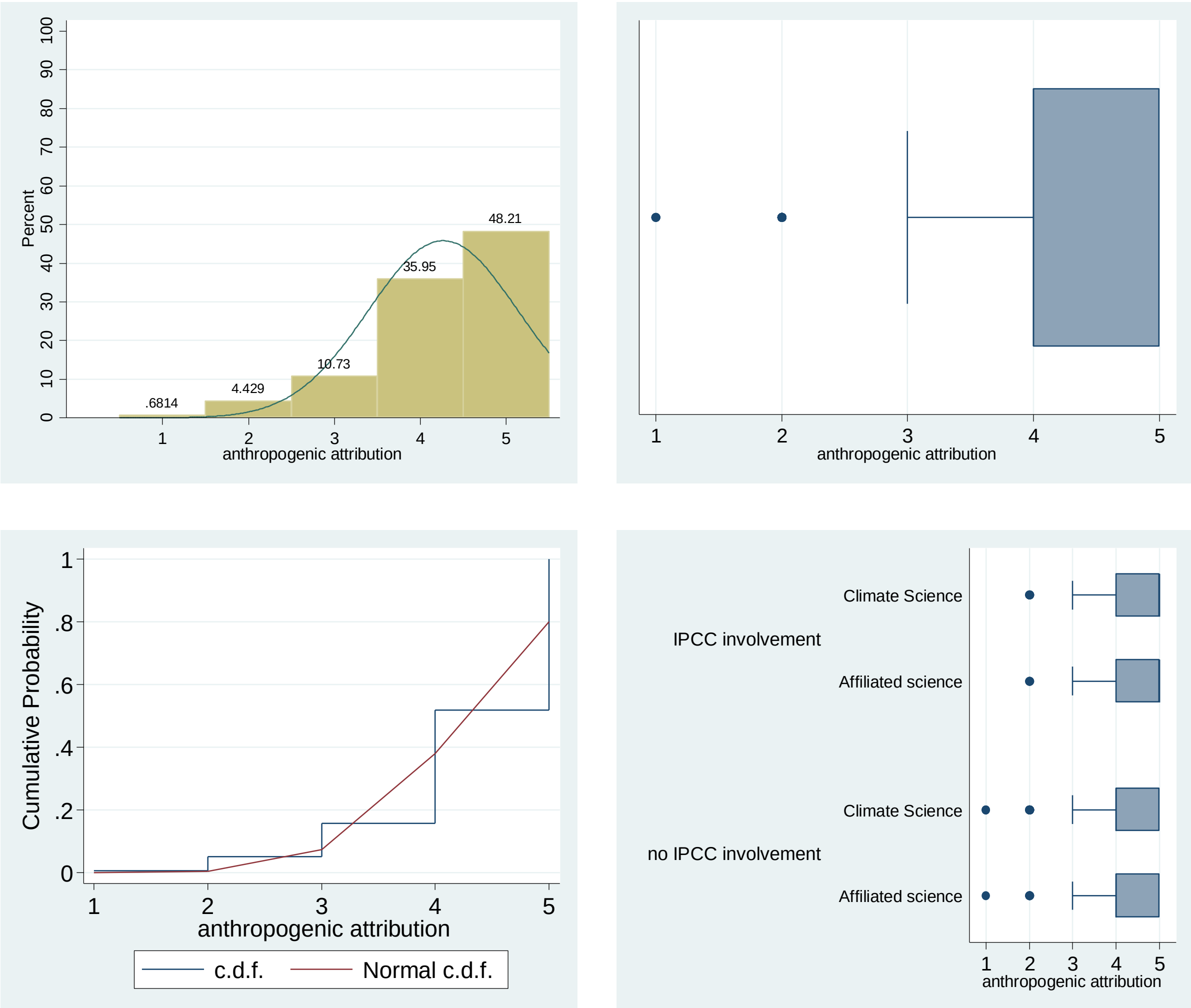
Mean estimation Number of obs = 582

	Mean	Std. Err.	[95% Conf. Interval]	
v012f	4.204467	.0627315	4.081259	4.327675

Climate Science	IPCC Involvement	n=144
	No IPCC Involvement	n=277
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=100

Figure 21. (v013) Since 1850, it is estimated that the world has warmed by 0.5 - 0.7 degrees C. Approximately what percent would you attribute to human causes?

1 = 0% 2 = 1%-25% 3 = 26%-50% 4 = 51%-75% 5 = 76-100%



Mean estimation   Number of obs = 587

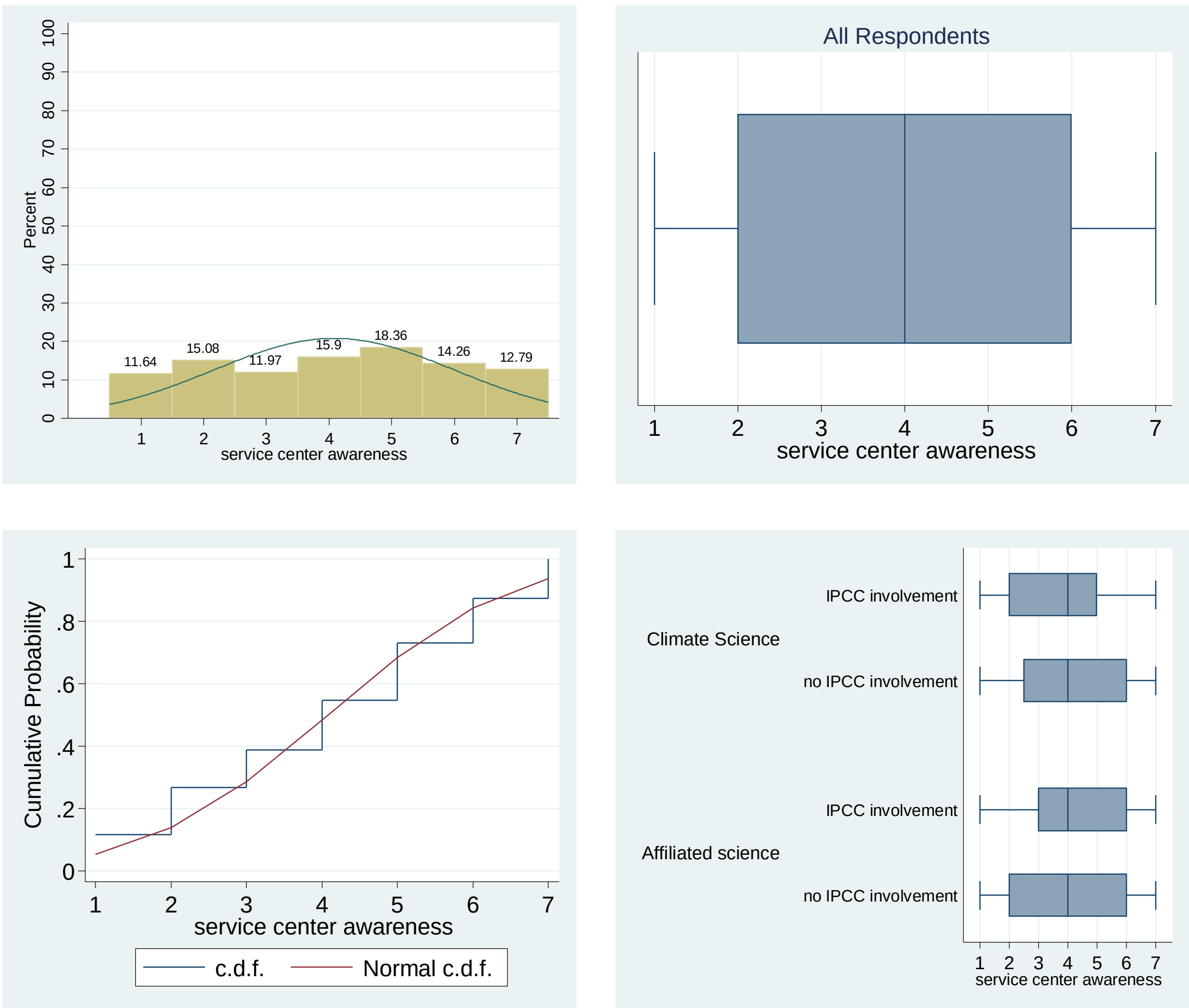
	Mean	Std. Err.	[95% Conf. Interval]	
v013	4.265758	.0359491	4.195153	4.336363

Climate Science	IPCC Involvement	n=143
	No IPCC Involvement	n=282
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=102

Section 3 Climate Service Centers

Figure 22. (v014) Climate service centers have become a somewhat recent addition to climate research. How aware are you of the services offered by climate service centers?

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



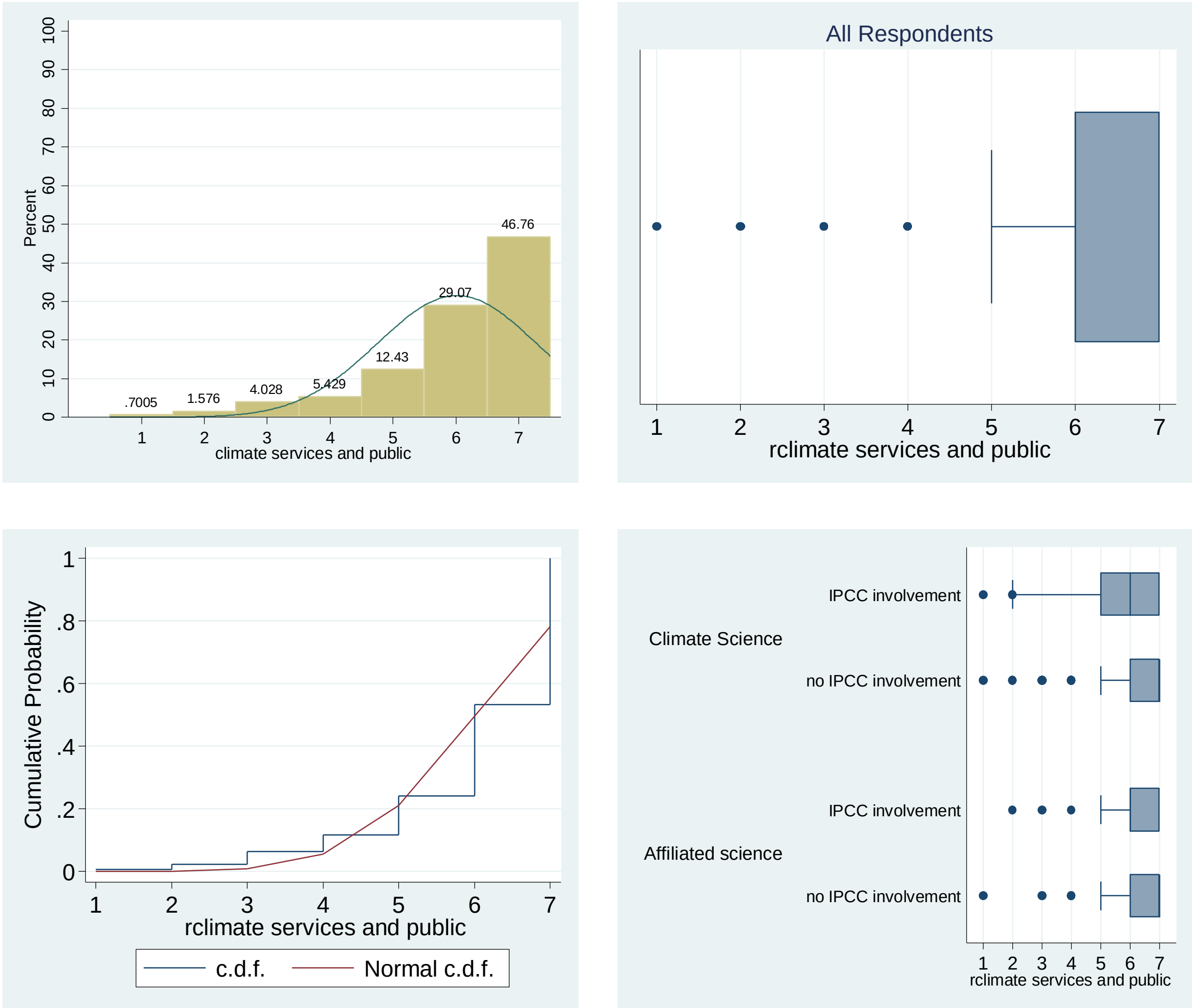
Mean estimation Number of obs = 610

	Mean	Std. Err.	[95% Conf. Interval]	
v014	4.081967	.0776152	3.929541	4.234393

Climate Science	IPCC Involvement	n=150
	No IPCC Involvement	n=288
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=110

Figure 23. (v015a) As a scientist, would you expect the role of climate service centers to be to present the results of scientific research to the public in an understandable way?

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



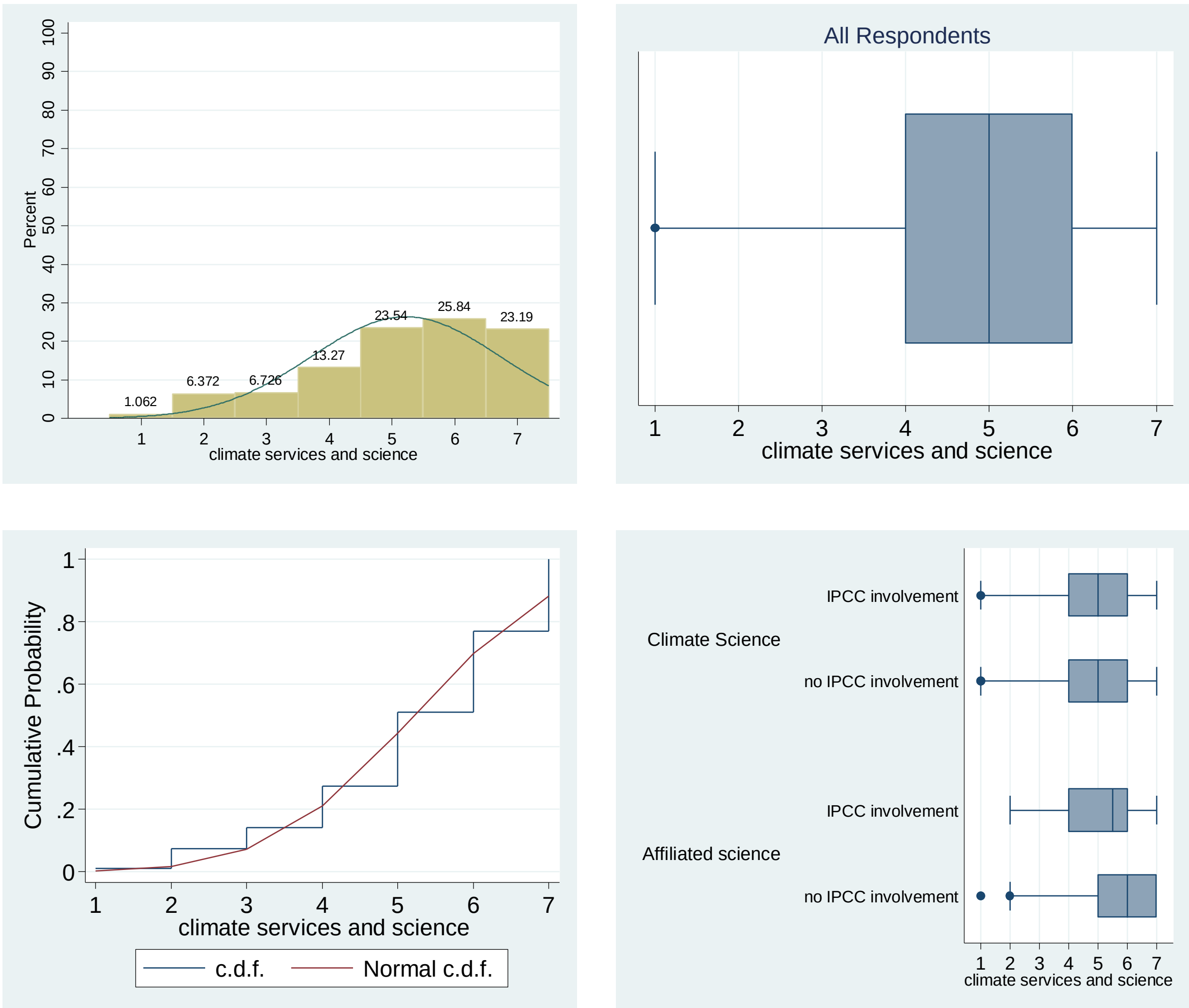
Mean estimation Number of obs = 571

	Mean	Std. Err.	[95% Conf. Interval]	
v015a	6.015762	.0529598	5.911742	6.119782

Climate Science	IPCC Involvement	n=136
	No IPCC Involvement	n=272
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=106

Figure 24. (v015b) As a scientist, would you expect the role of climate service centers to be to present to scientists new applied research questions resulting from public engagement?

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



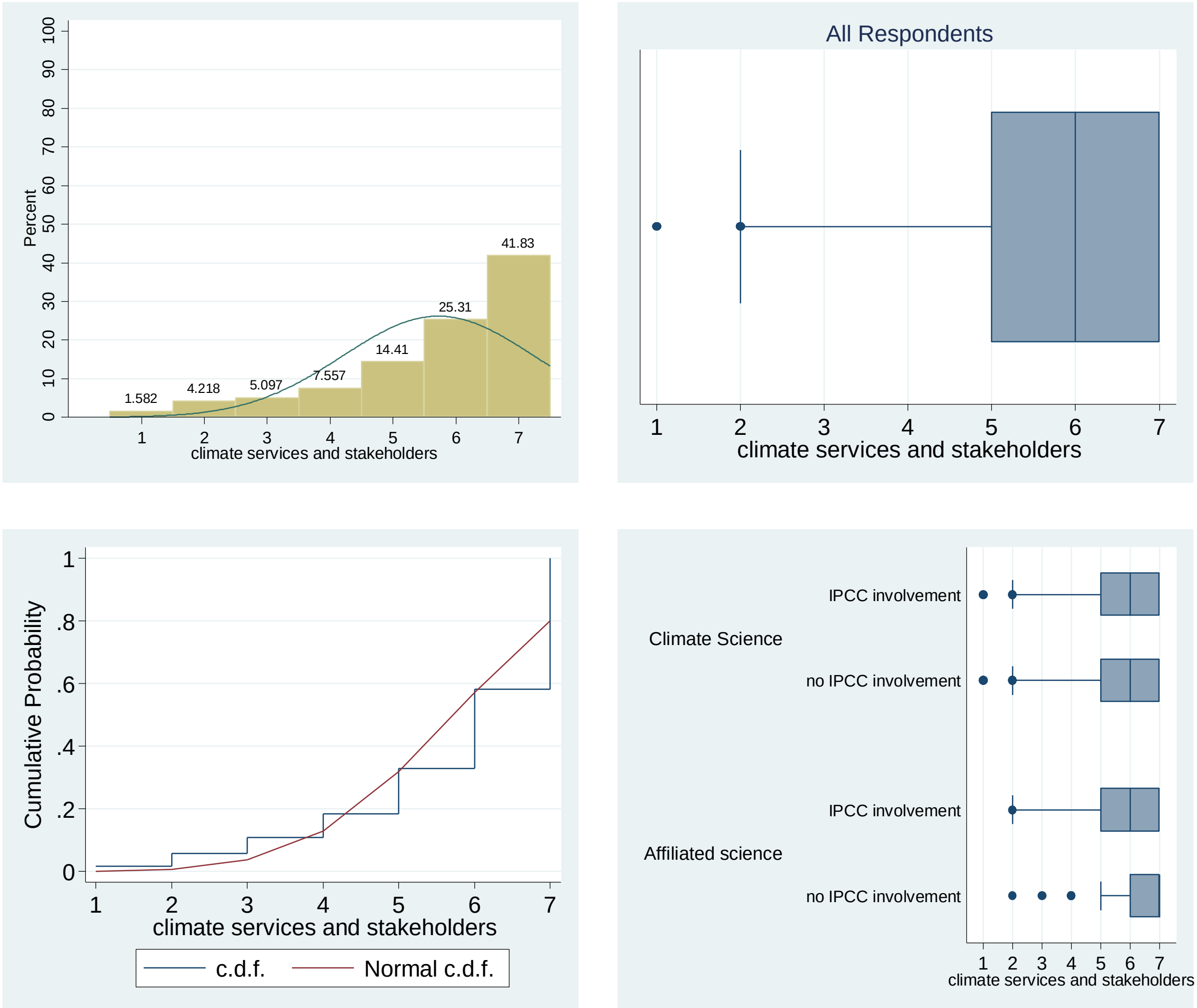

```
Mean estimation                Number of obs   =     565

--------------------------------------------------------------
             |      Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
       v015b |  5.221239   .0636093      5.096299    5.346179
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=136
	No IPCC Involvement	n=269
Affiliated Science	IPCC Involvement	n=48
	No IPCC Involvement	n=104

Figure 25. (v015c) As a scientist, would you expect the role of climate service centers to be to operate in parallel with climate research to develop relevant knowledge for decision making?

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



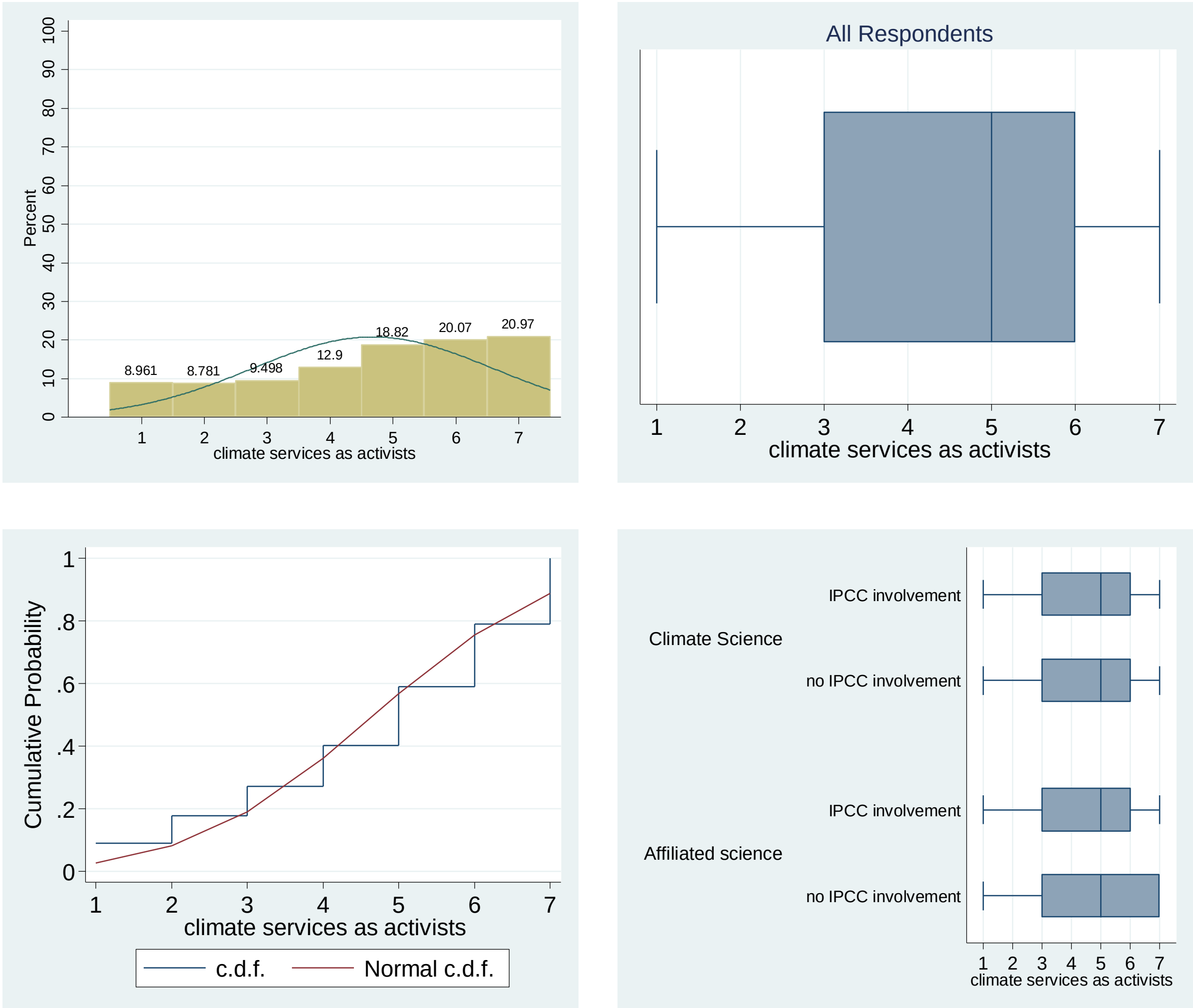
Mean estimation Number of obs = 569

	Mean	Std. Err.	[95% Conf. Interval]	
v015c	5.72232	.0638628	5.596884	5.847756

Climate Science	IPCC Involvement	n=136
	No IPCC Involvement	n=270
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=106

Figure 26. (v015d) As a scientist, would you expect the role of climate service centers to be to initiate public/political reactions to the issue of climate change?

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



Mean estimation Number of obs = 558

	Mean	Std. Err.	[95% Conf. Interval]	
v015d	4.679211	.0811663	4.519782	4.838641

Climate Science	IPCC Involvement	n=134
	No IPCC Involvement	n=266
Affiliated Science	IPCC Involvement	n=47
	No IPCC Involvement	n=103

Table 6. (v016) Do you think climate service centers are a source of funding for scientific research projects?

yes – 168 (%25.85)

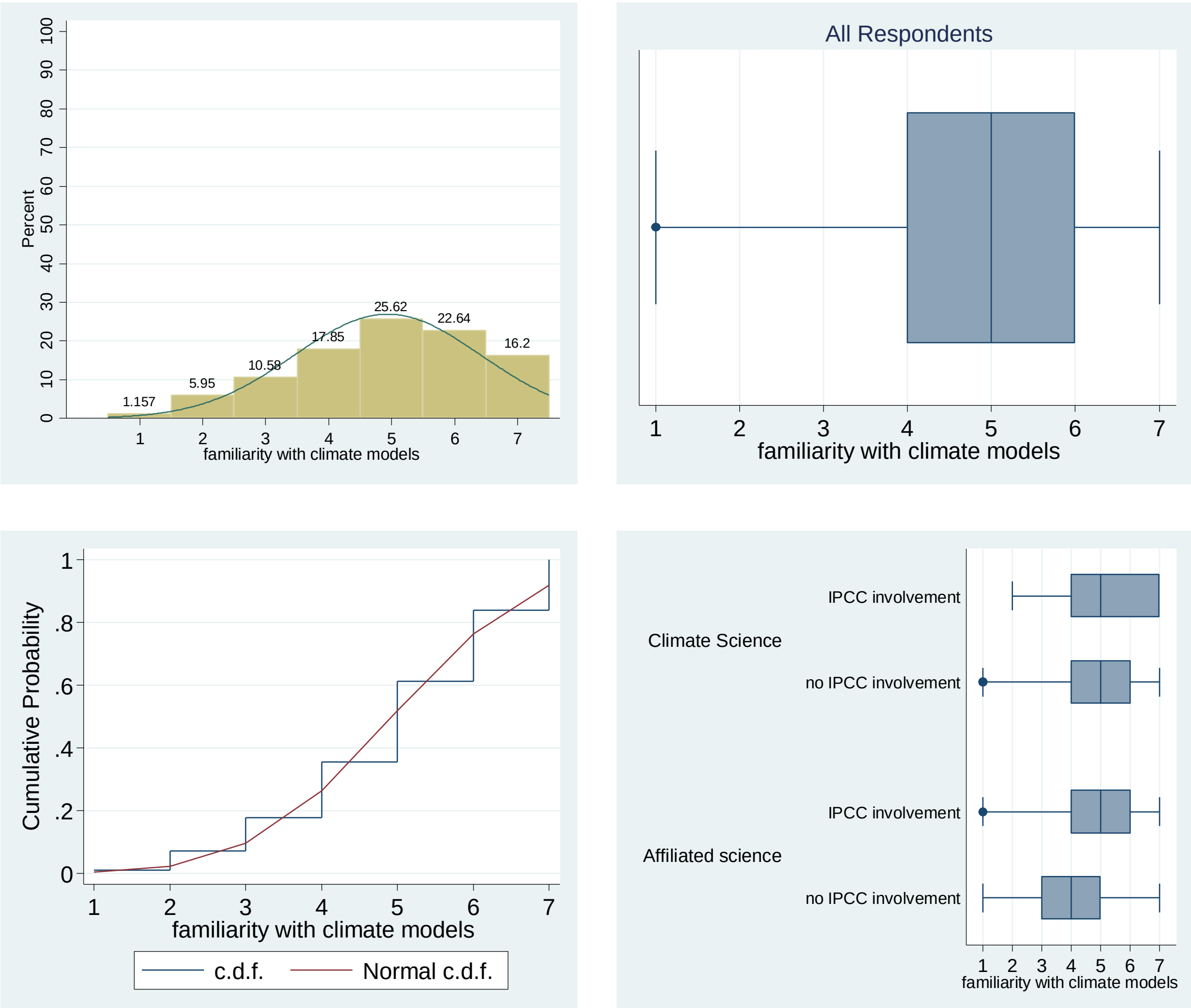
no – 482 (%74.15)

Section 4. The Utility of Models

We refer to dynamical process based models, not statistical models. Such climate models describe the dynamics of the atmosphere, the ocean and the cryosphere (and possibly more components) and their interactions. Such models calculate the change of state variables, such as temperature at a given time and location, and the sum of influences of various processes such as advection, conversion of energy or fluxes across boundaries, etc.

Figure 27. (v017) Your level of familiarity with such models is

none 1 2 3 4 5 6 7 very good



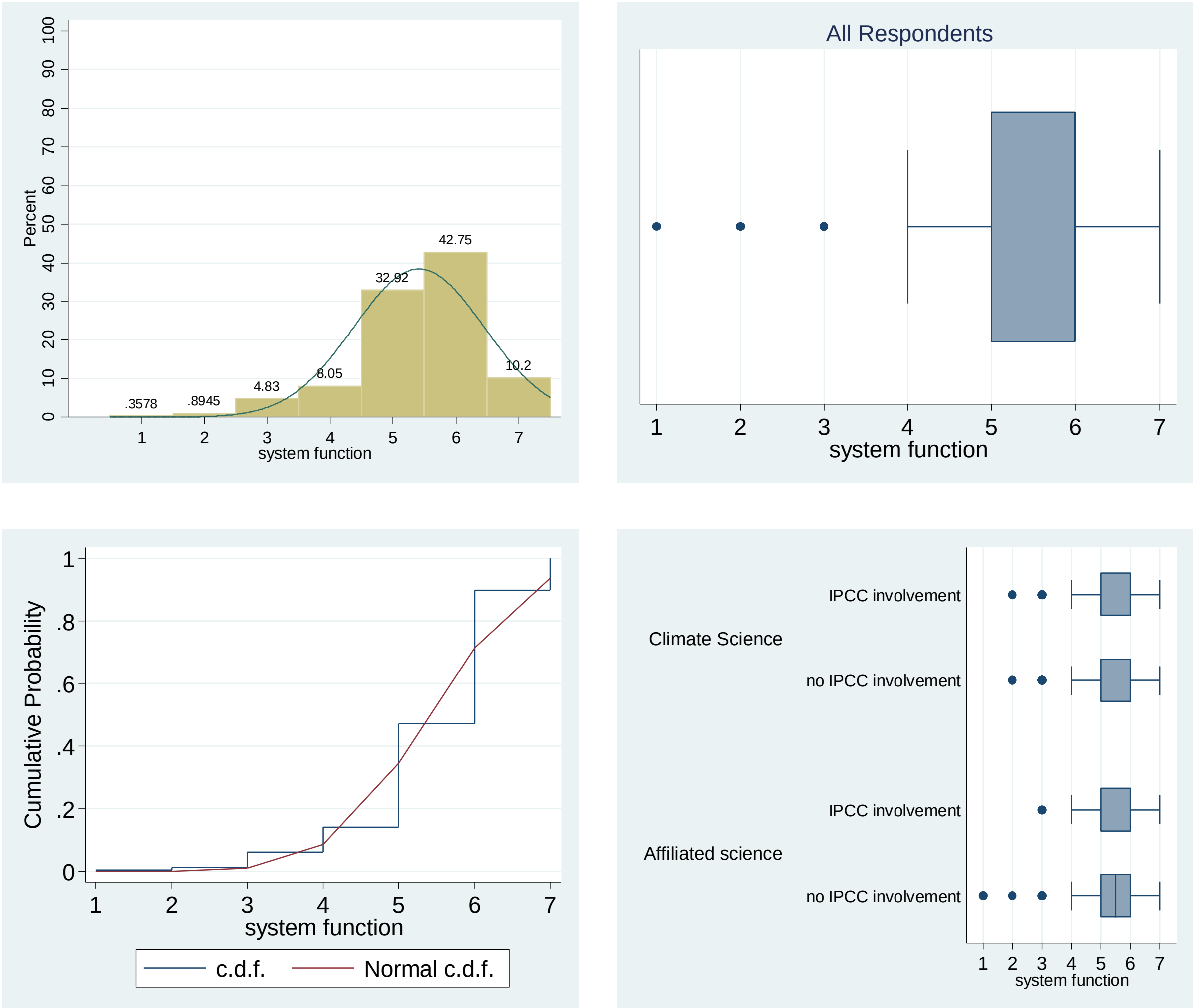

```
Mean estimation                Number of obs   =     605

     --------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
     -------------+------------------------------------------------
        v017 |   4.935537   .0602497      4.817213    5.053862
     --------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=149
	No IPCC Involvement	n=289
Affiliated Science	IPCC Involvement	n=54
	No IPCC Involvement	n=103

Figure 28. (v018a) Such models are able to generate what level of knowledge about the functioning of the climate system and its components?

none 1 2 3 4 5 6 7 a very high level



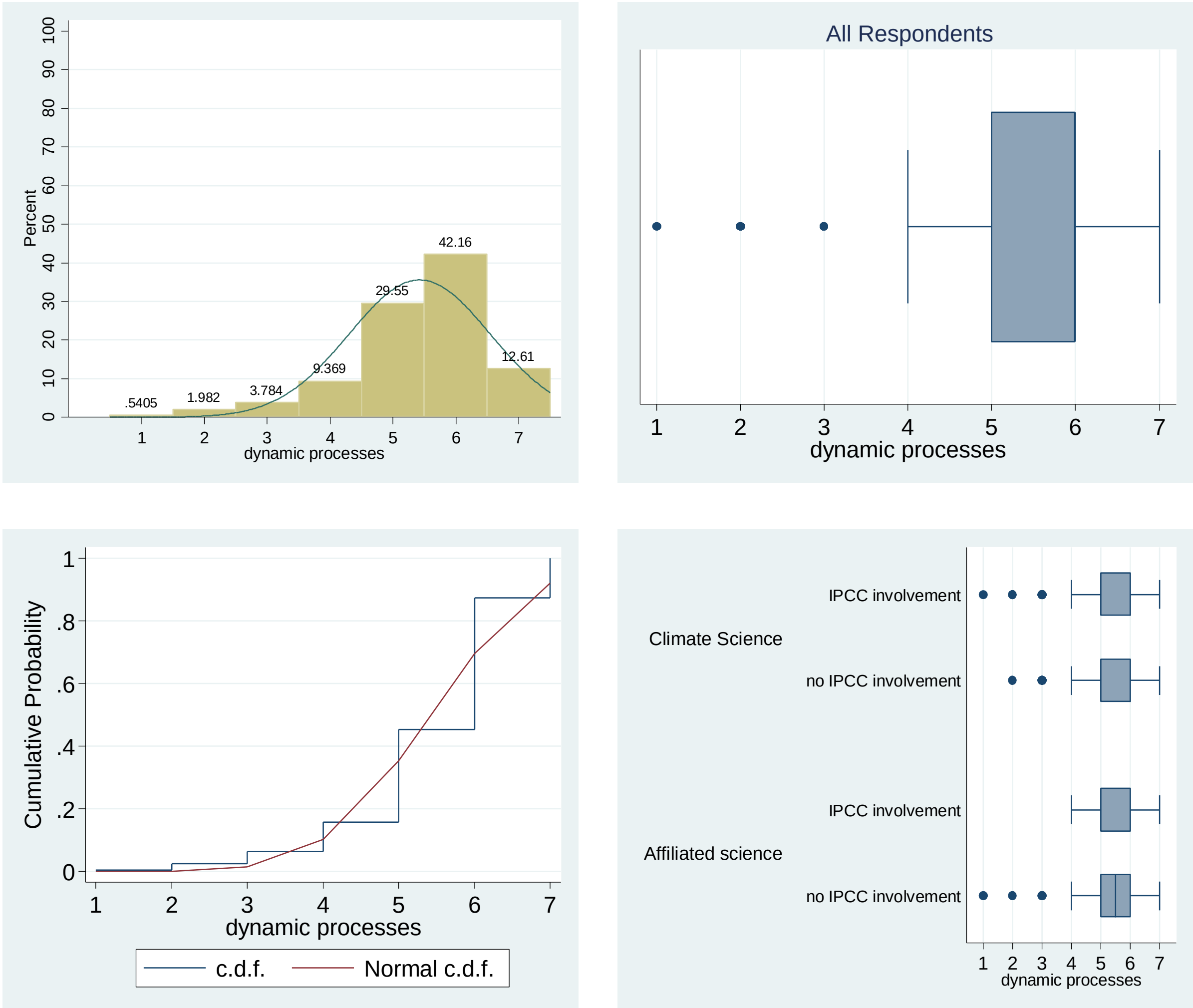
Mean estimation Number of obs = 559

	Mean	Std. Err.	[95% Conf. Interval]	
v018a	5.413238	.0439147	5.32698	5.499496

Climate Science	IPCC Involvement	n=146
	No IPCC Involvement	n=269
Affiliated Science	IPCC Involvement	n=50
	No IPCC Involvement	n=84

Figure 29. (v018b) Such models are able to generate what level of knowledge about the relevance of specific dynamical processes for the climate system?

none 1 2 3 4 5 6 7 a very high level



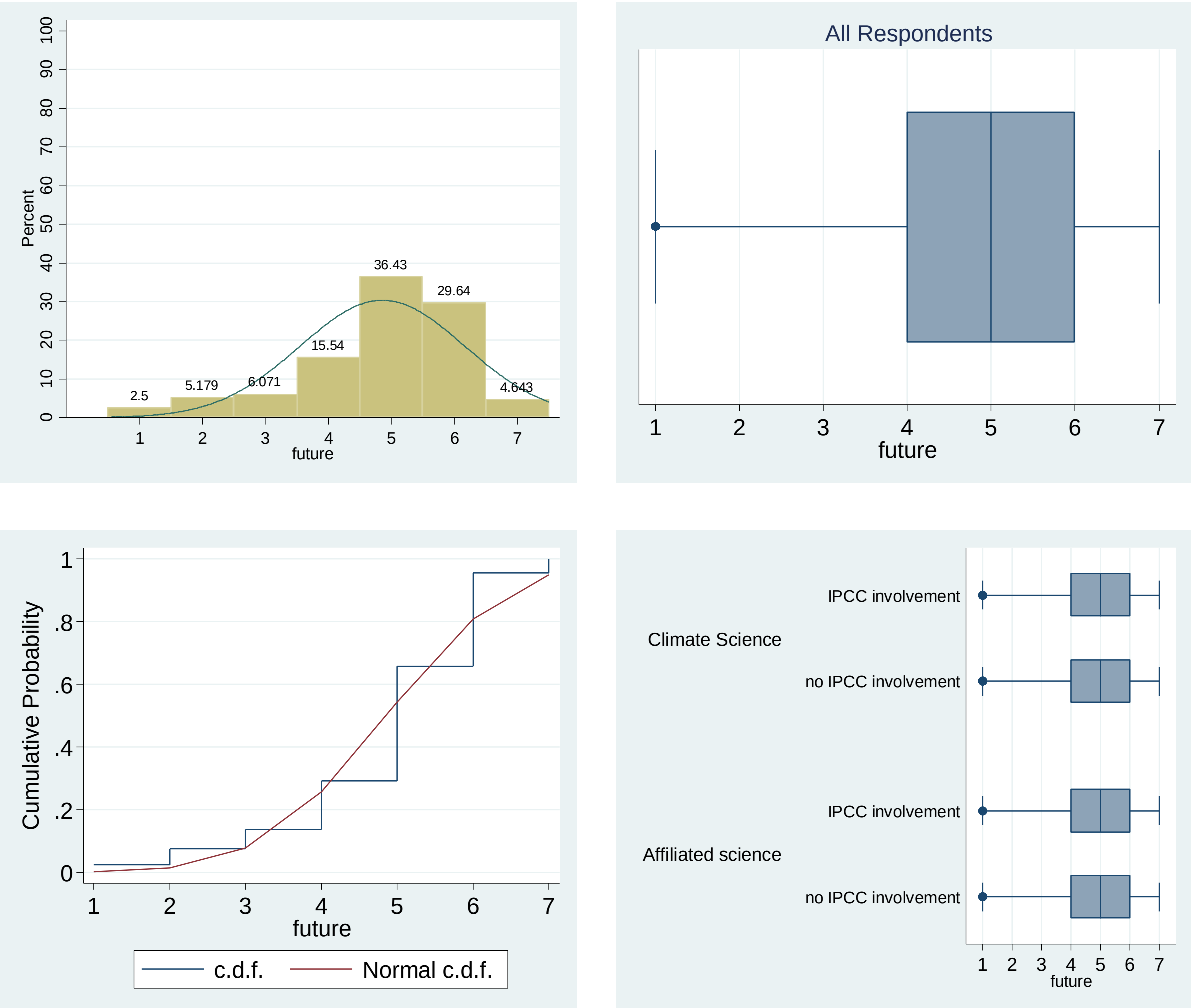
Mean estimation Number of obs = 555

```
--------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
       v018b |   5.423423   .0476288      5.329868    5.516978
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=145
	No IPCC Involvement	n=269
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=82

Figure 30. (v018c) Such models are able to generate what level of knowledge about the future of the climate system?

none 1 2 3 4 5 6 7 a very high level



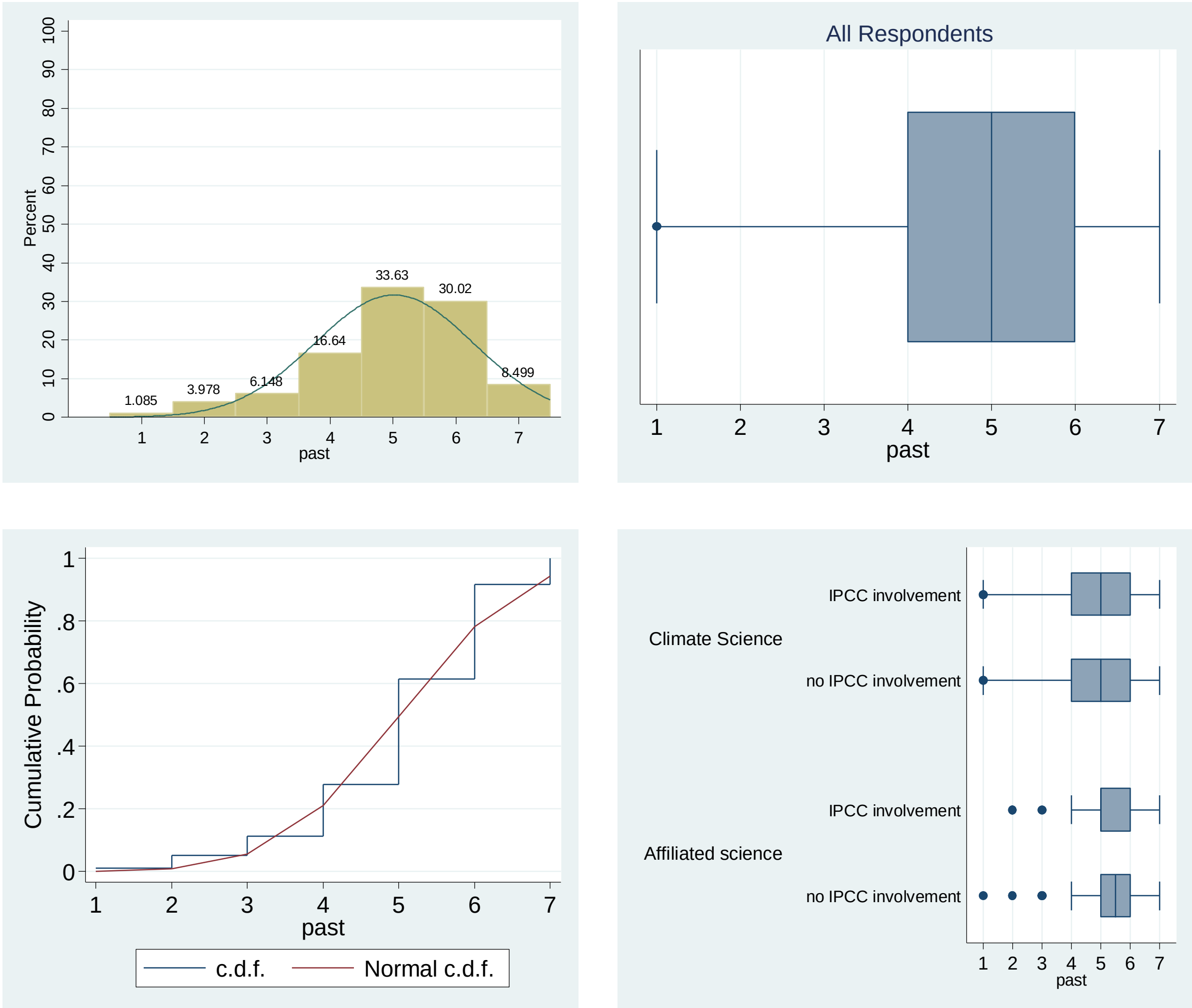

```
Mean estimation                 Number of obs   =     560

 -------------------------------------------------------------
              |     Mean   Std. Err.     [95% Conf. Interval]
 -------------+-----------------------------------------------
        v018c |  4.857143   .055567      4.747997    4.966289
 -------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=146
	No IPCC Involvement	n=267
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=86

Figure 31. (v018d) Such models are able to generate what level of knowledge about the past of the climate system?

none 1 2 3 4 5 6 7 a very high level



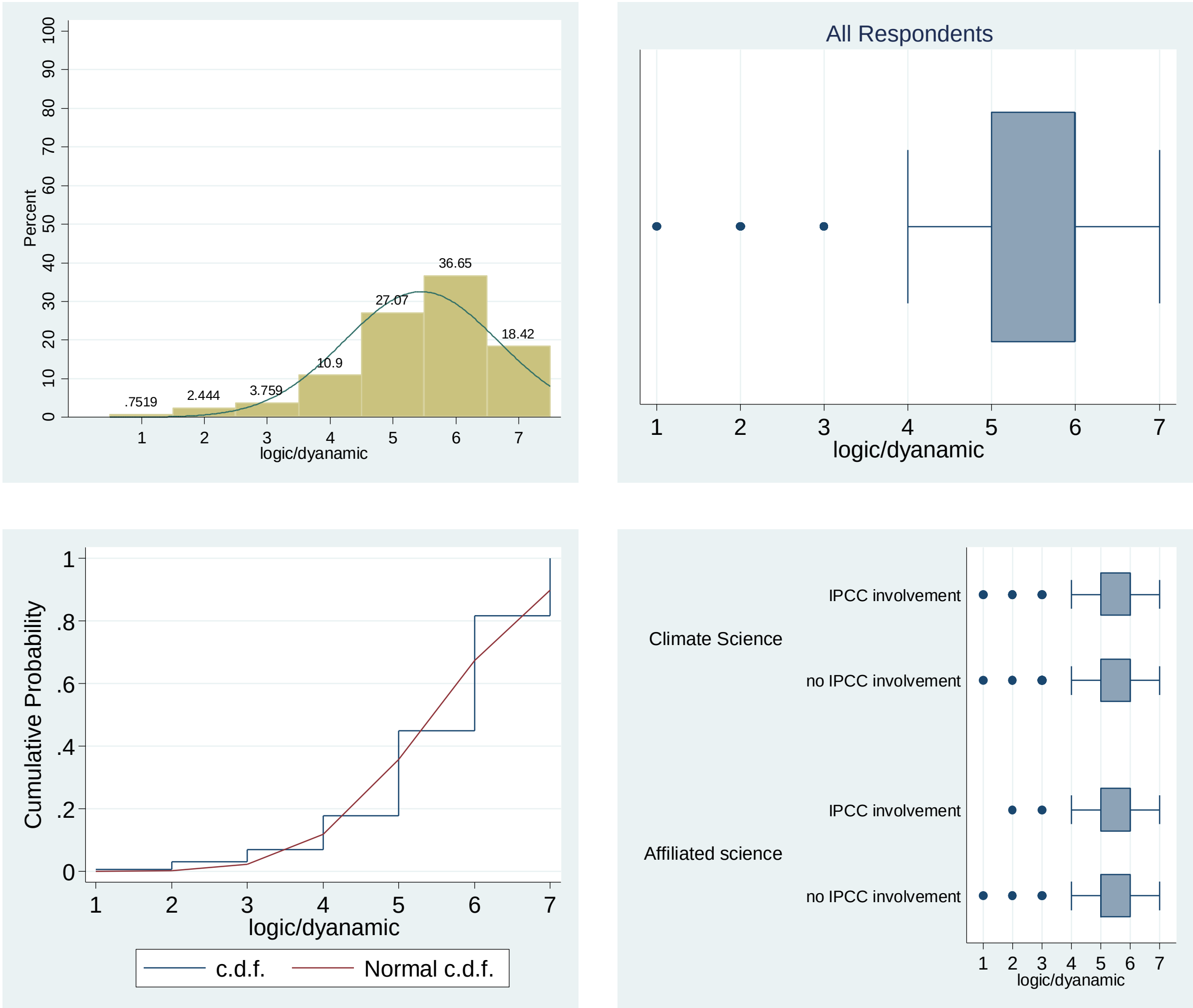
Mean estimation Number of obs = 553

	Mean	Std. Err.	[95% Conf. Interval]	
v018d	5.018083	.0535643	4.912868	5.123298

Climate Science	I IPCC Involvement	n=145
	No IPCC Involvement	n=265
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=84

Figure 32. (v019a) How much do you agree that the skill of climate models in describing possible future conditions can be derived from the physical logic/dynamics built into the model?

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



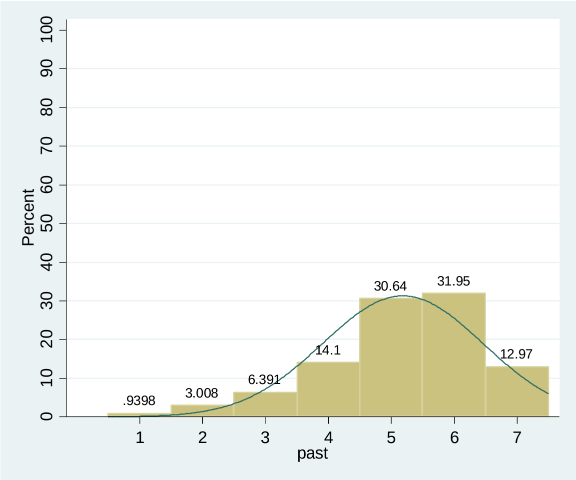
Mean estimation   Number of obs = 532

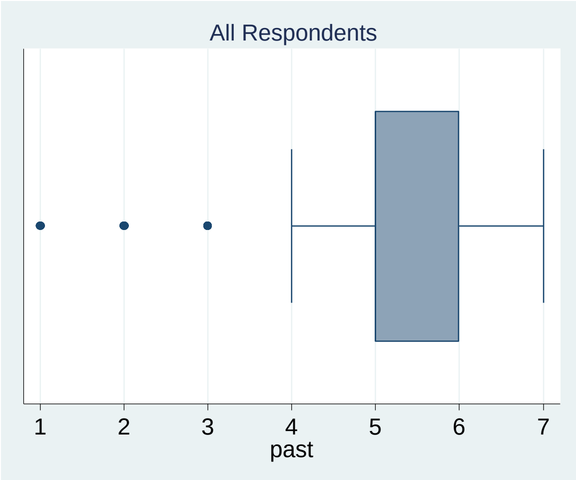
	Mean	Std. Err.	[95% Conf. Interval]	
v019a	5.447368	.0532002	5.34286	5.551877

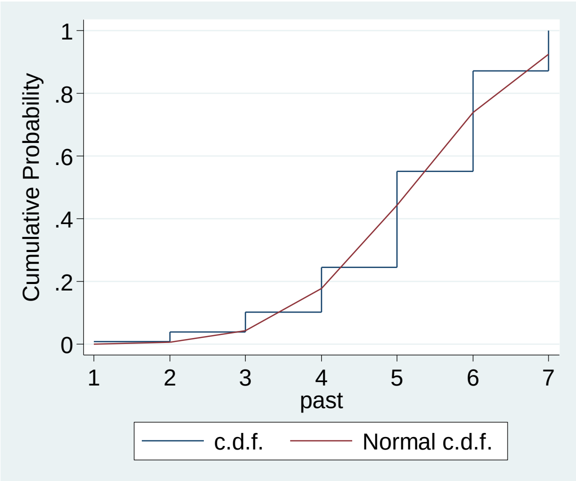
Climate Science	IPCC Involvement	n=137
	No IPCC Involvement	n=253
Affiliated Science	IPCC Involvement	n=48
	No IPCC Involvement	n=84

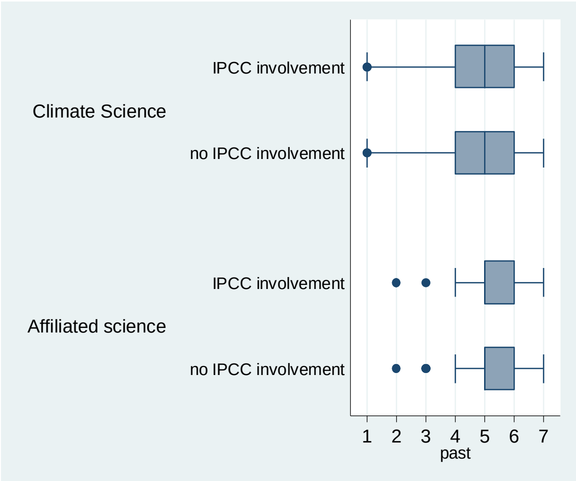
Figure 33. (019b) How much do you agree that the skill of climate models in describing possible future conditions can be derived from the skill of models on describing past conditions?

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









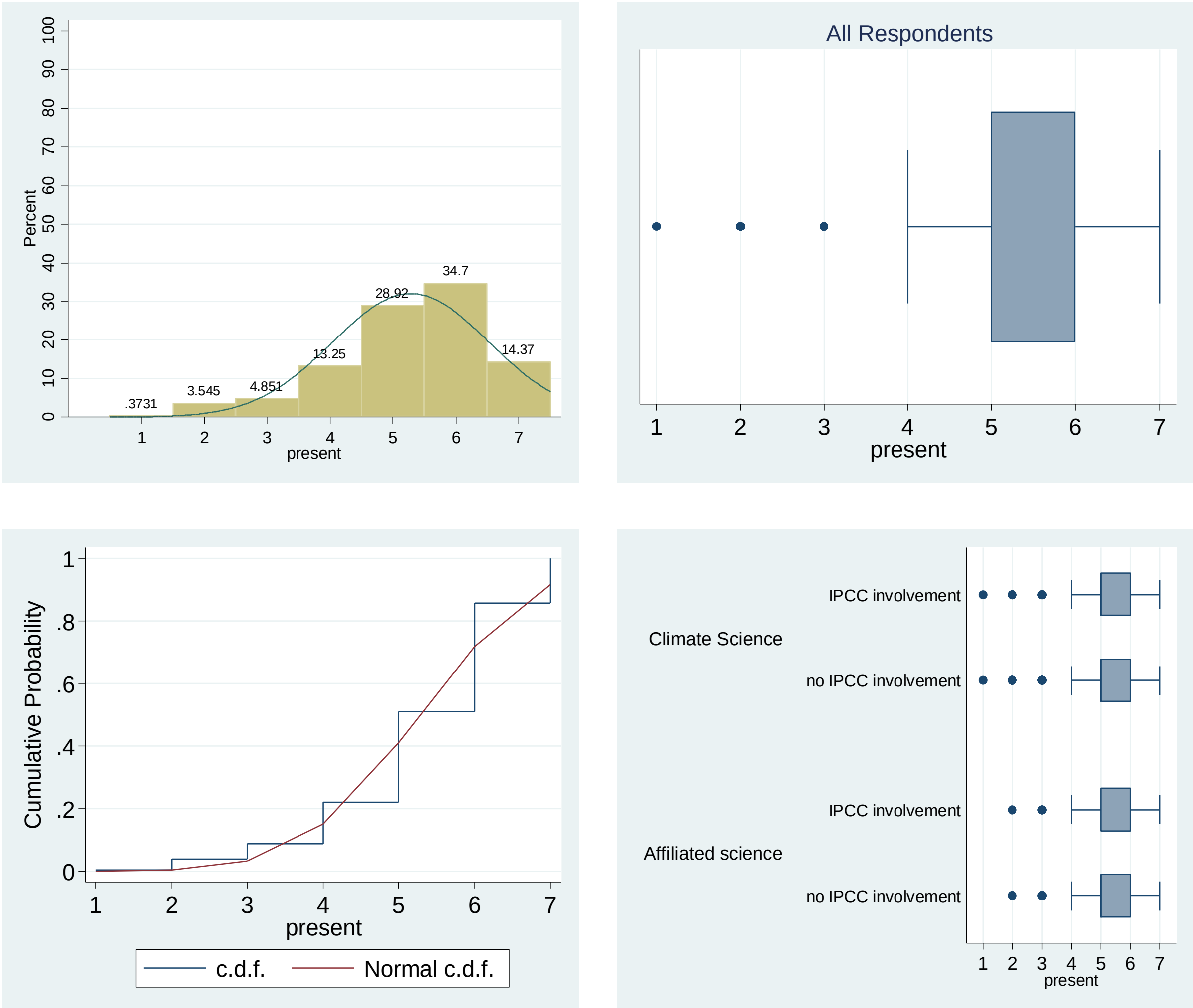
Mean estimation Number of obs = 532

	Mean	Std. Err.	[95% Conf. Interval]	
v019b	5.182331	.0552817	5.073733	5.290928

Climate Science	IPCC Involvement	n=139
	No IPCC Involvement	n=252
Affiliated Science	IPCC Involvement	n=48
	No IPCC Involvement	n=83

Figure 34. (v019c) How much do you agree that the skill of climate models in describing possible future conditions can be derived from the skill of models in describing the present conditions?

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



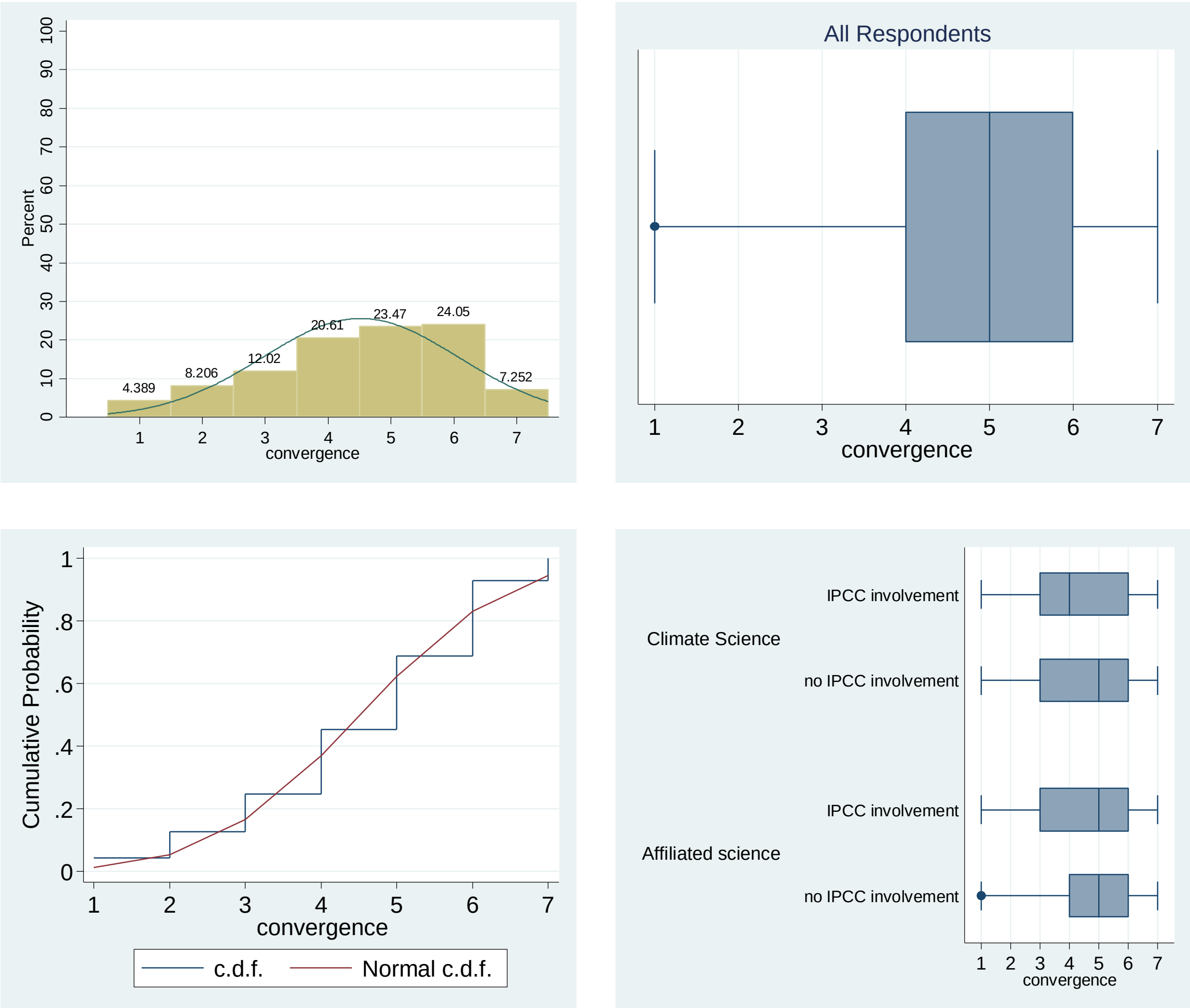
Mean estimation Number of obs = 536

	Mean	Std. Err.	[95% Conf. Interval]	
v019c	5.283582	.0537639	5.177968	5.389196

Climate Science	IPCC Involvement	n=139
	No IPCC Involvement	n=253
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=85

Figure 35. (v019d) How much do you agree that the skill of climate models in describing possible future conditions can be derived from the convergence of recognized climate models?

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

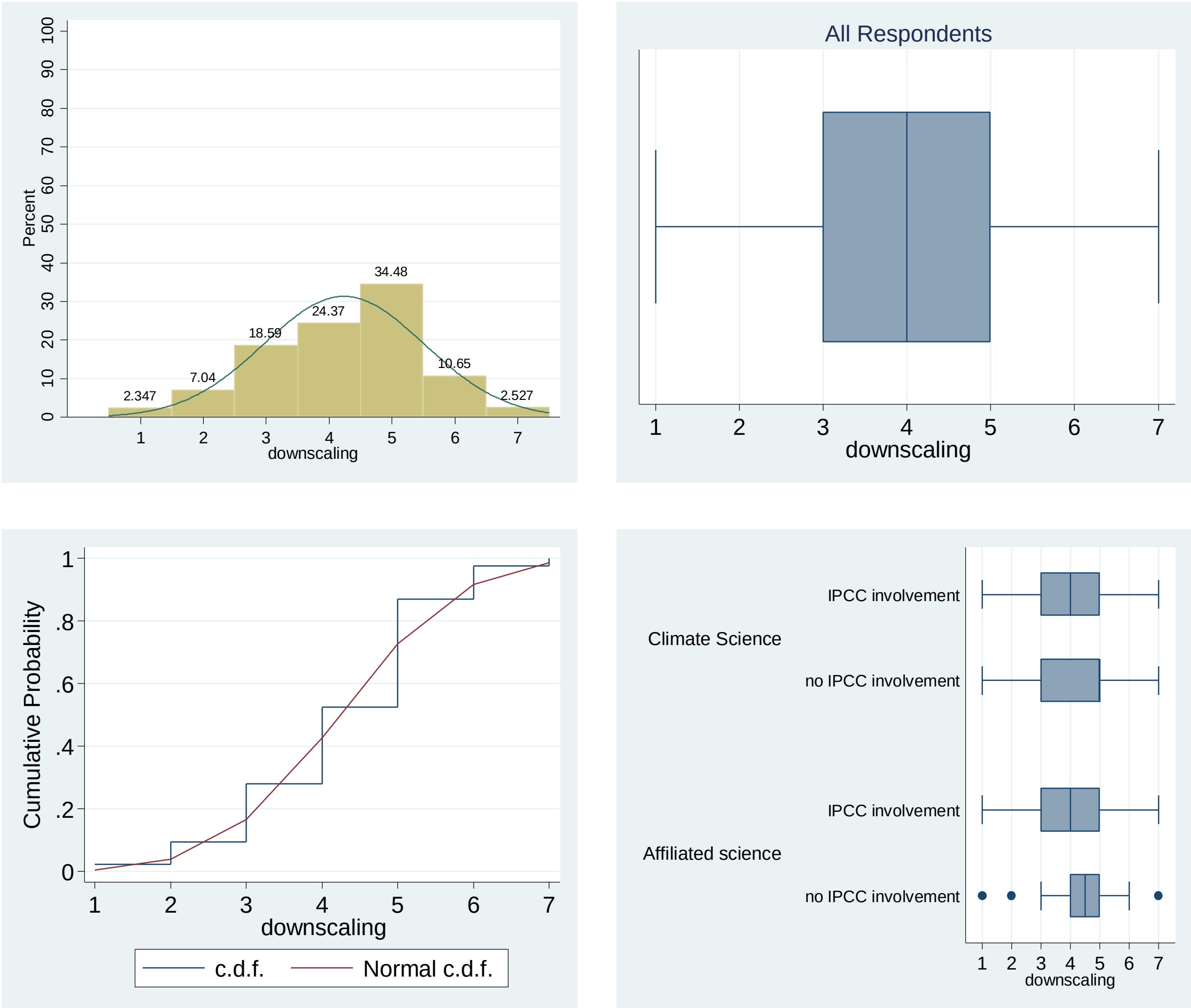


Mean estimation		Number of obs =	524
	Mean	Std. Err.	[95% Conf. Interval]	
v019d	4.517176	.0680973	4.383398	4.650953

Climate Science	IPCC Involvement	n=137
	No IPCC Involvement	n=249
Affiliated Science	IPCC Involvement	n=47
	No IPCC Involvement	n=81

Figure 36. (v020) To what degree do you think that, through the process of downscaling, it is possible to determine local climate change?

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



Mean estimation Number of obs = 554

```
---------------------------------------------------------------
        |    Mean    Std. Err.    [95% Conf. Interval]
-------------+-------------------------------------------------
v020 |   4.236462    .054141     4.130115    4.342809
---------------------------------------------------------------
```

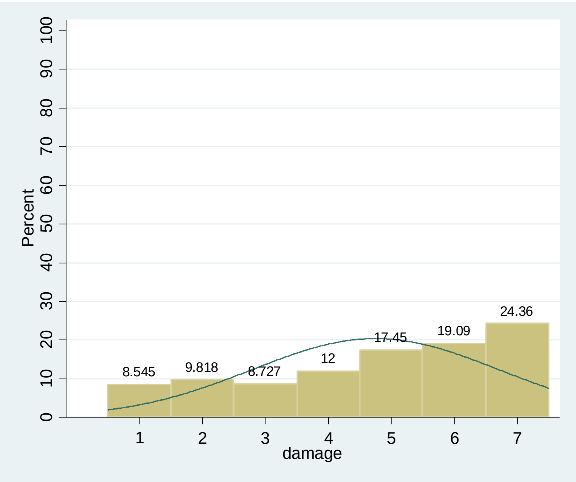
Climate Science	IPCC Involvement	n=135
	No IPCC Involvement	n=266
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=94

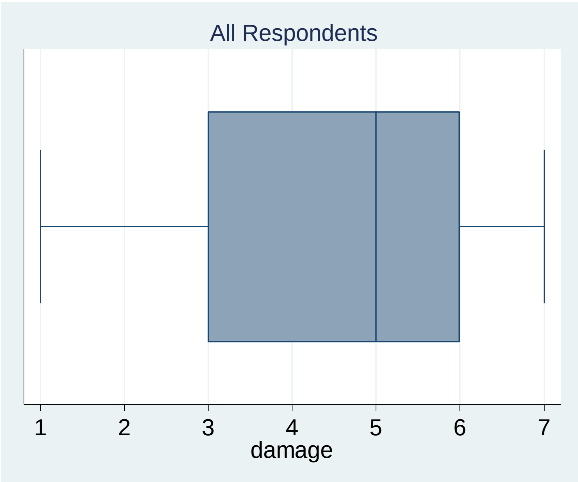
Section 5. Extreme Events

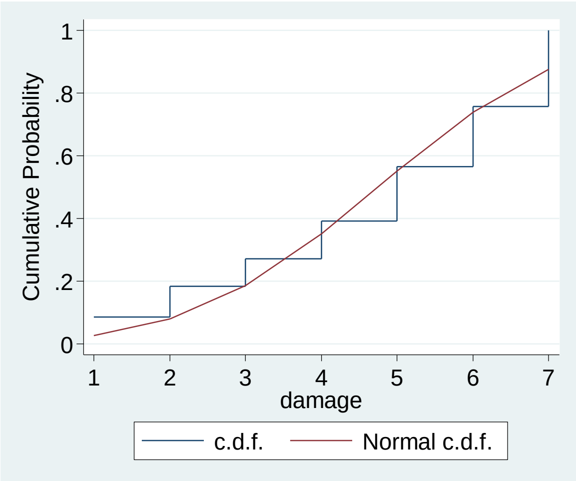
Section 5.a. Defining Extreme Events

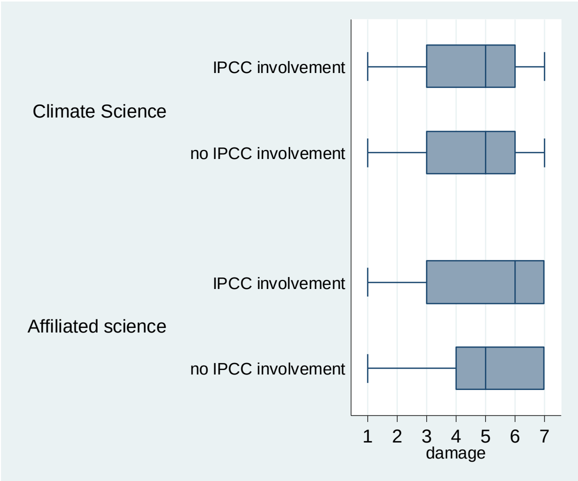
Figure 37. (v021a) When defining an extreme event, how would you rate the importance of considering the *damage* caused by the weather event?

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









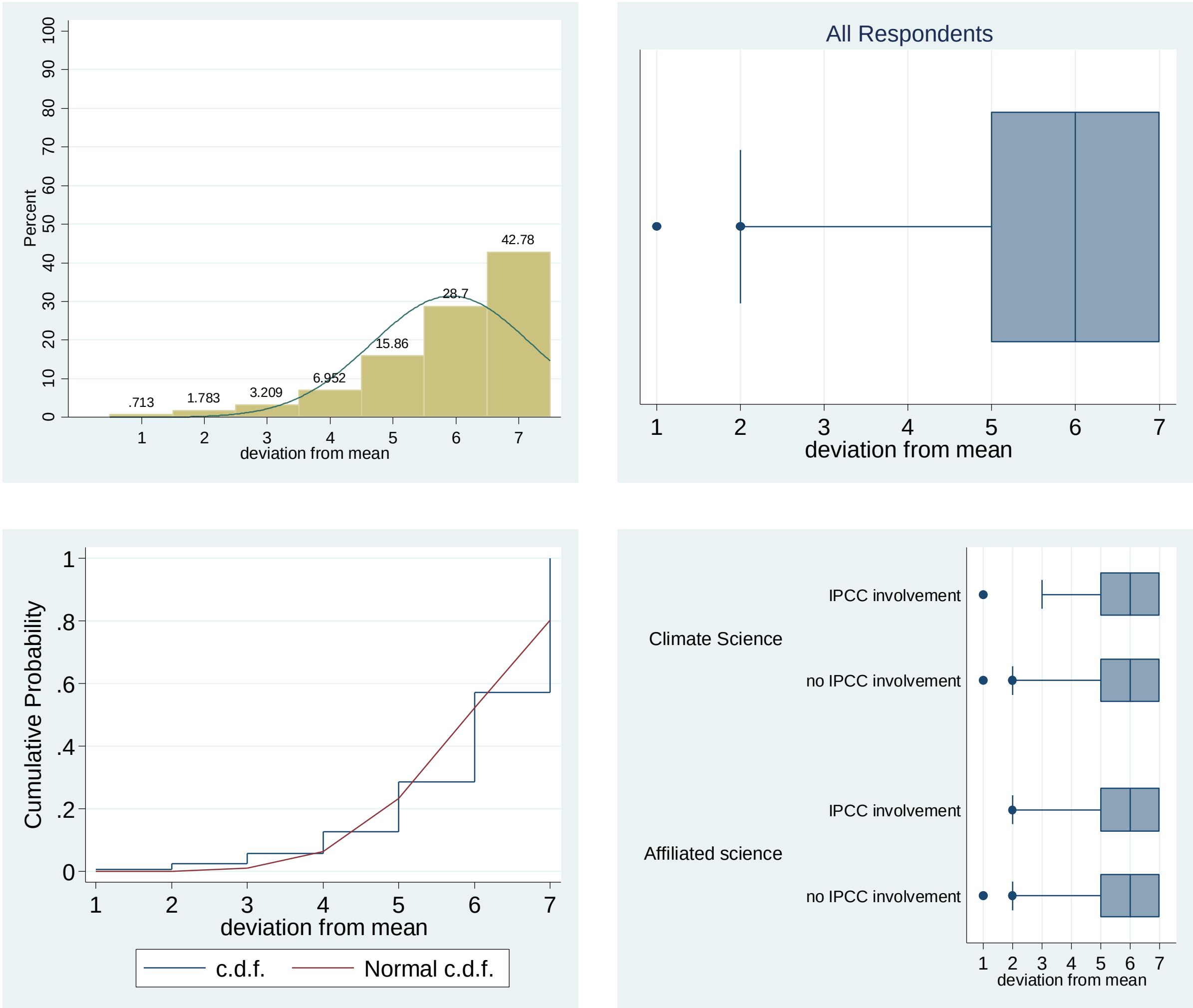
Mean estimation Number of obs = 550

	Mean	Std. Err.	[95% Conf. Interval]	
v021a	4.747273	.0834325	4.583387	4.911159

Climate Science	IPCC Involvement	n=138
	No IPCC Involvement	n=253
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=98

Figure 38. (v021b). When defining an extreme event, how would you rate the importance of considering the *deviation from the meteorological mean*?

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



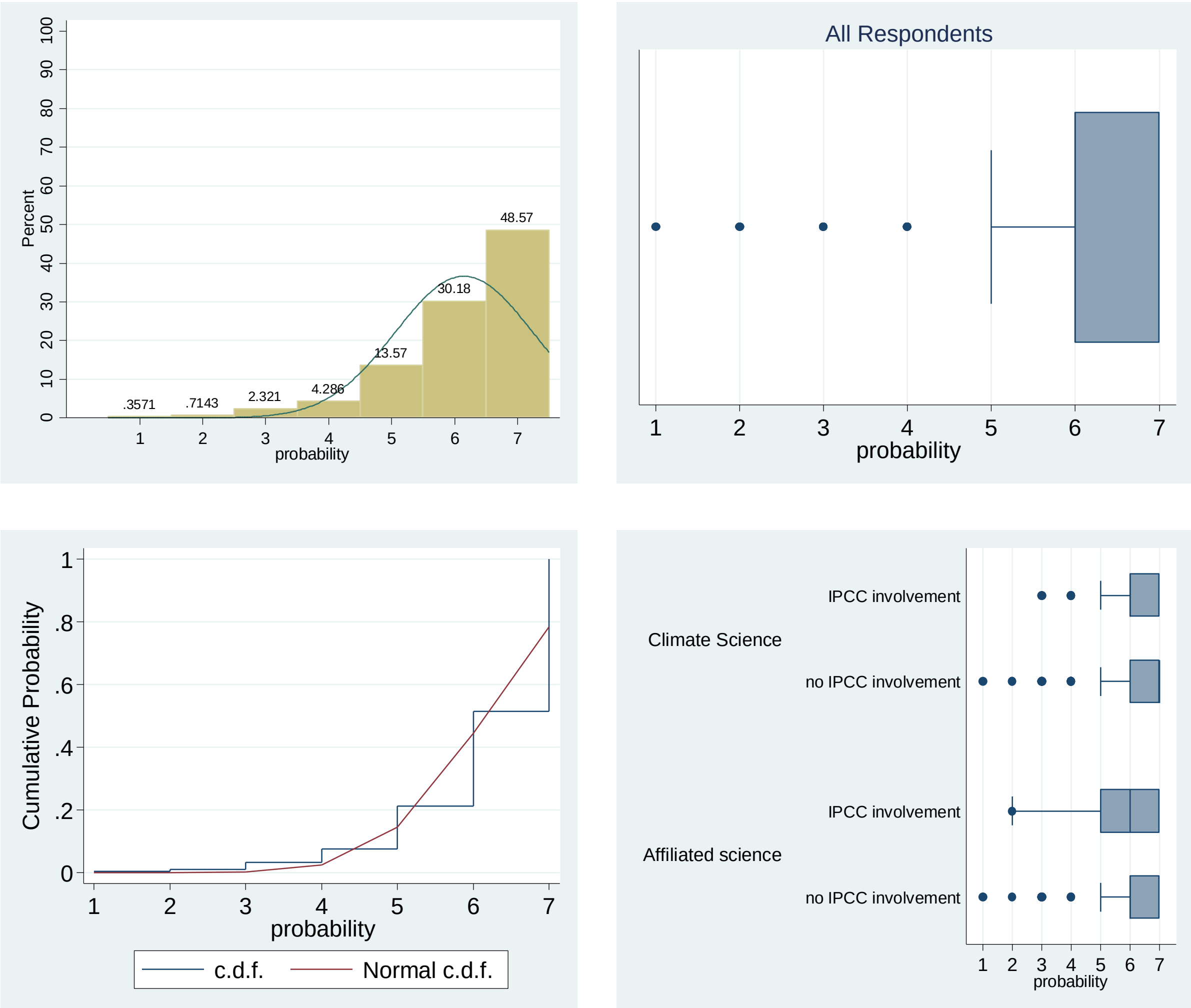

```
Mean estimation                Number of obs   =     561

     --------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
     -------------+------------------------------------------------
       v021b |   5.926916   .0536426      5.821551    6.032281
     --------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=141
	No IPCC Involvement	n=260
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=99

Figure 39. (v021c). When defining an extreme event, how would you rate the importance of the considering *probability of such an event occurring*?

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



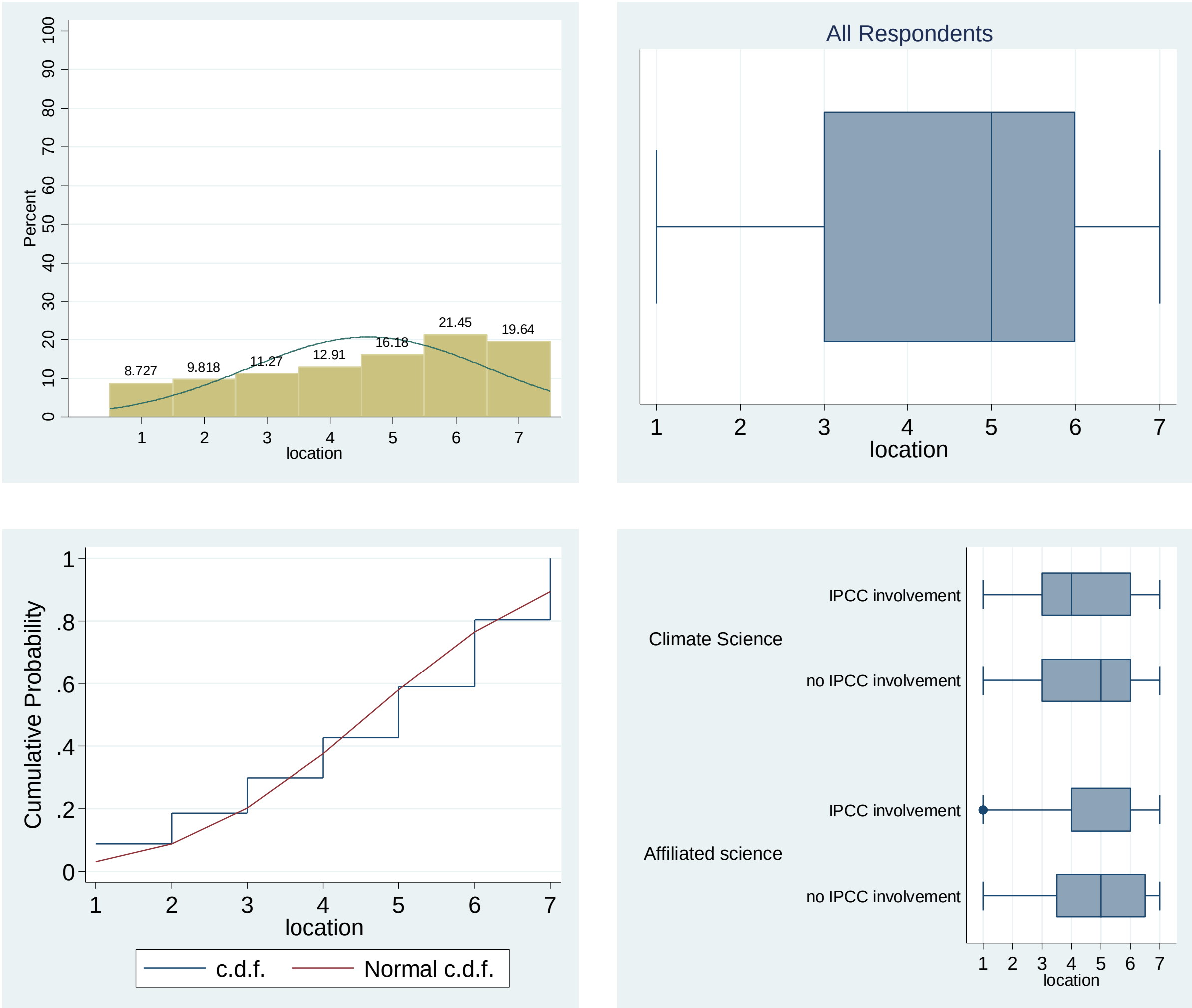
Mean estimation   Number of obs = 560

	Mean	Std. Err.	[95% Conf. Interval]	
v021c	6.148214	.0460106	6.057839	6.238589

Climate Science	IPCC Involvement	n=139
	No IPCC Involvement	n=259
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=100

Figure 40. (v021d). When defining an extreme event, how would you rate the importance of the considering the *geographic location of the event*?

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



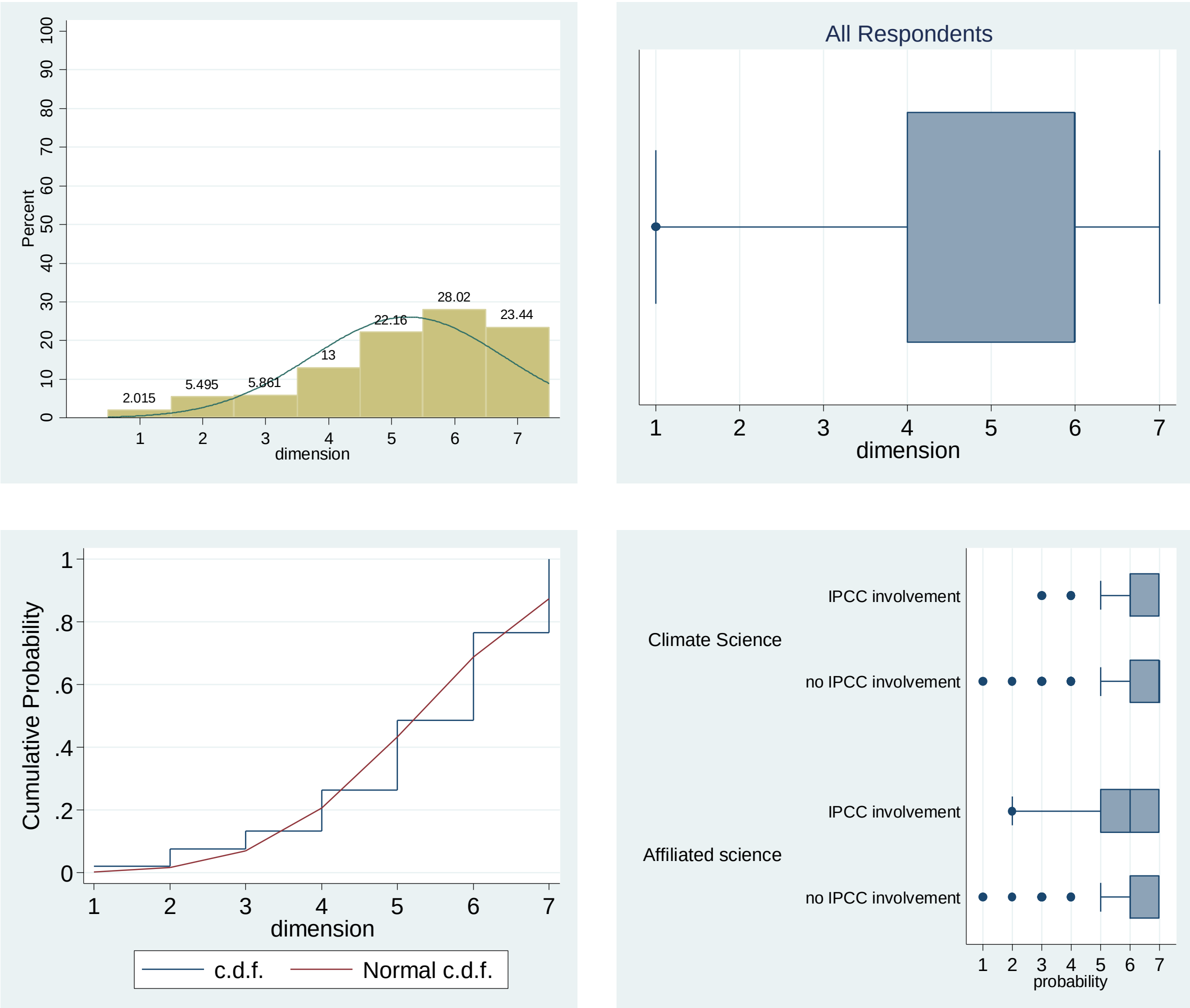
Mean estimation Number of obs = 550

	Mean	Std. Err.	[95% Conf. Interval]	
v021d	4.609091	.0821743	4.447676	4.770506

Climate Science	IPCC Involvement	n=141
	No IPCC Involvement	n=253
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=96

Figure 41. (v021e). When defining an extreme event, how would you rate the importance of the considering the *geographic dimension of the event*?

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



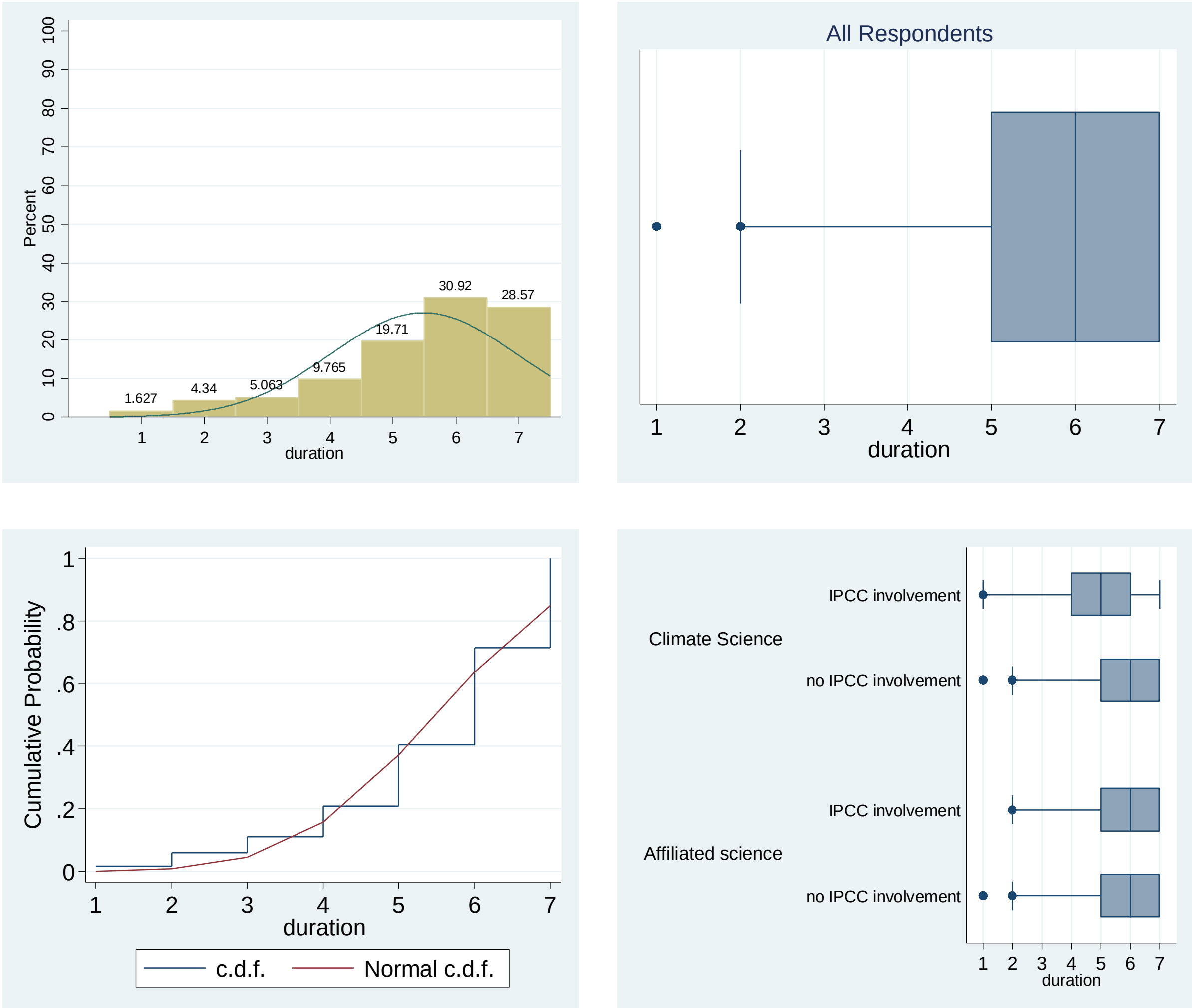
Mean estimation   Number of obs   =   546

```
------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+----------------------------------------------
       v021e |    5.25641   .0654346      5.127875    5.384945
------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=140
	No IPCC Involvement	n=250
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=98

Figure 42. (v021f). When defining an extreme event, how would you rate the importance of the considering the *duration of the event*?

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



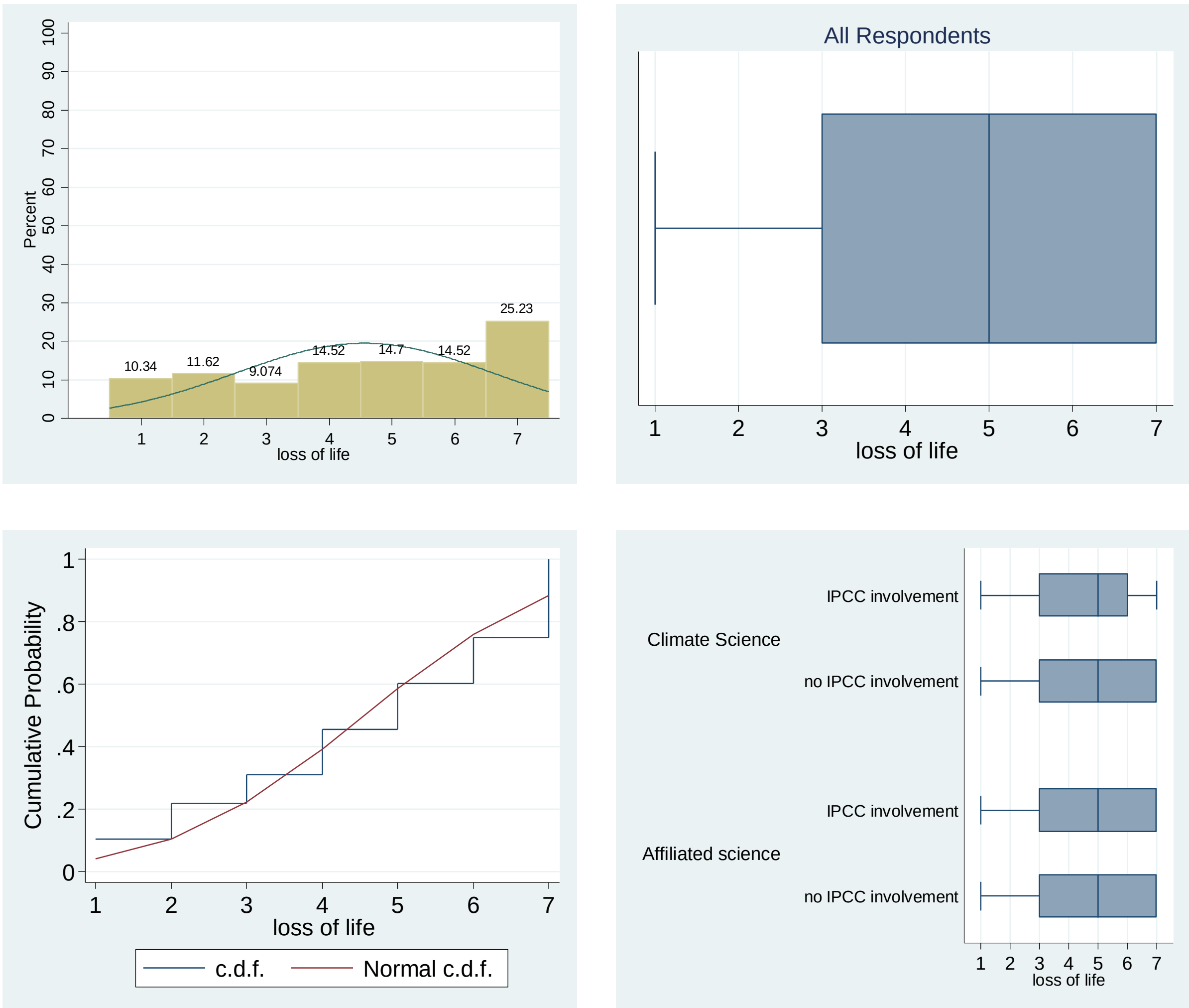
Mean estimation Number of obs = 553

	Mean	Std. Err.	[95% Conf. Interval]	
v021f	5.486438	.0626503	5.363375	5.6095

Climate Science	IPCC Involvement	n=141
	No IPCC Involvement	n=255
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=97

Figure 43. (v021g). When defining an extreme event, how would you rate the importance of the considering the number of *human lives lost* to the event?

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



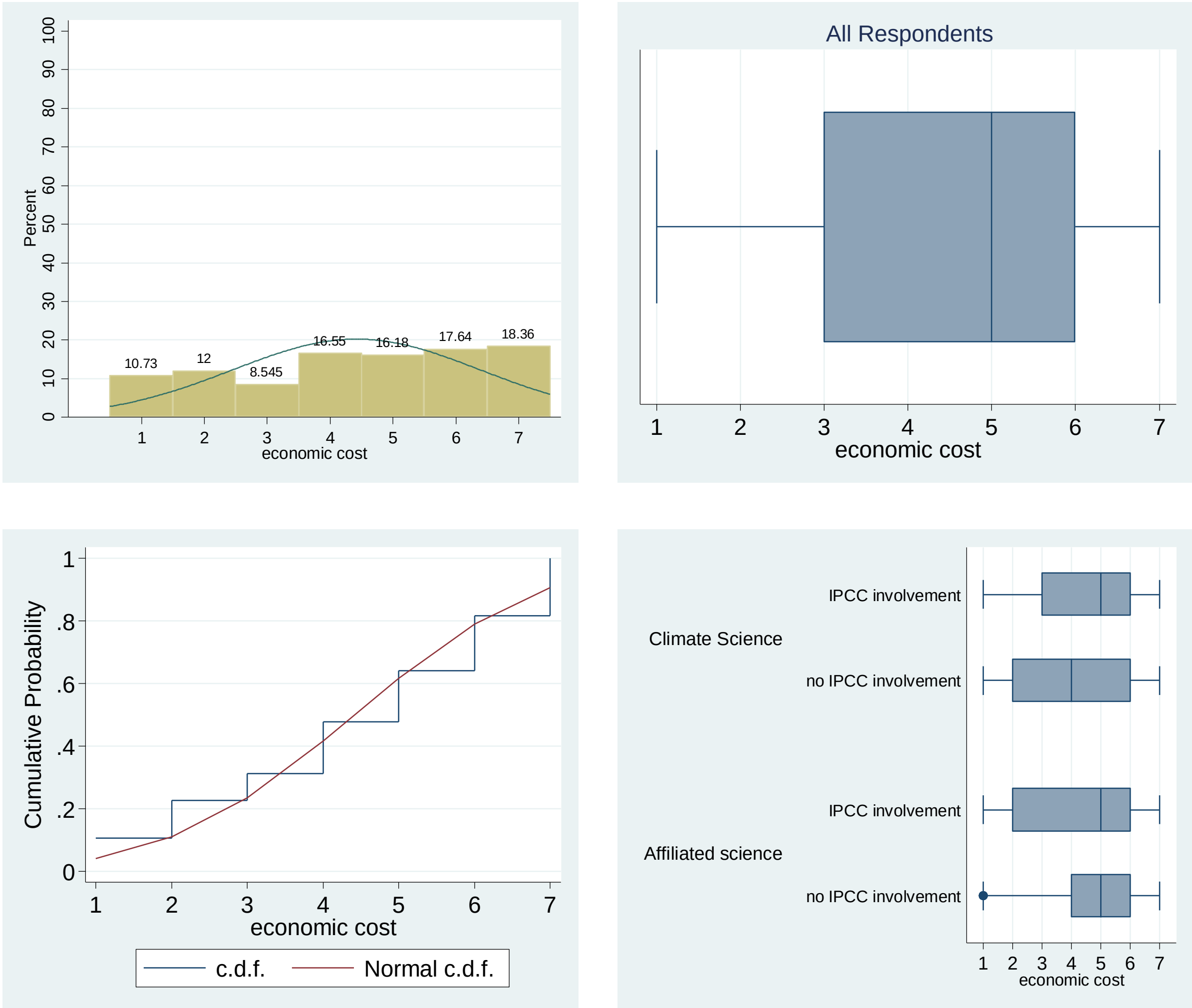
Mean estimation Number of obs = 551

	Mean	Std. Err.	[95% Conf. Interval]	
v021g	4.560799	.0870745	4.389759	4.731838

Climate Science	IPCC Involvement	n=140
	No IPCC Involvement	n=254
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=96

Figure 44. (v021h). When defining an extreme event, how would you rate the importance of the considering the *economic costs*?

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



Mean estimation Number of obs = 550

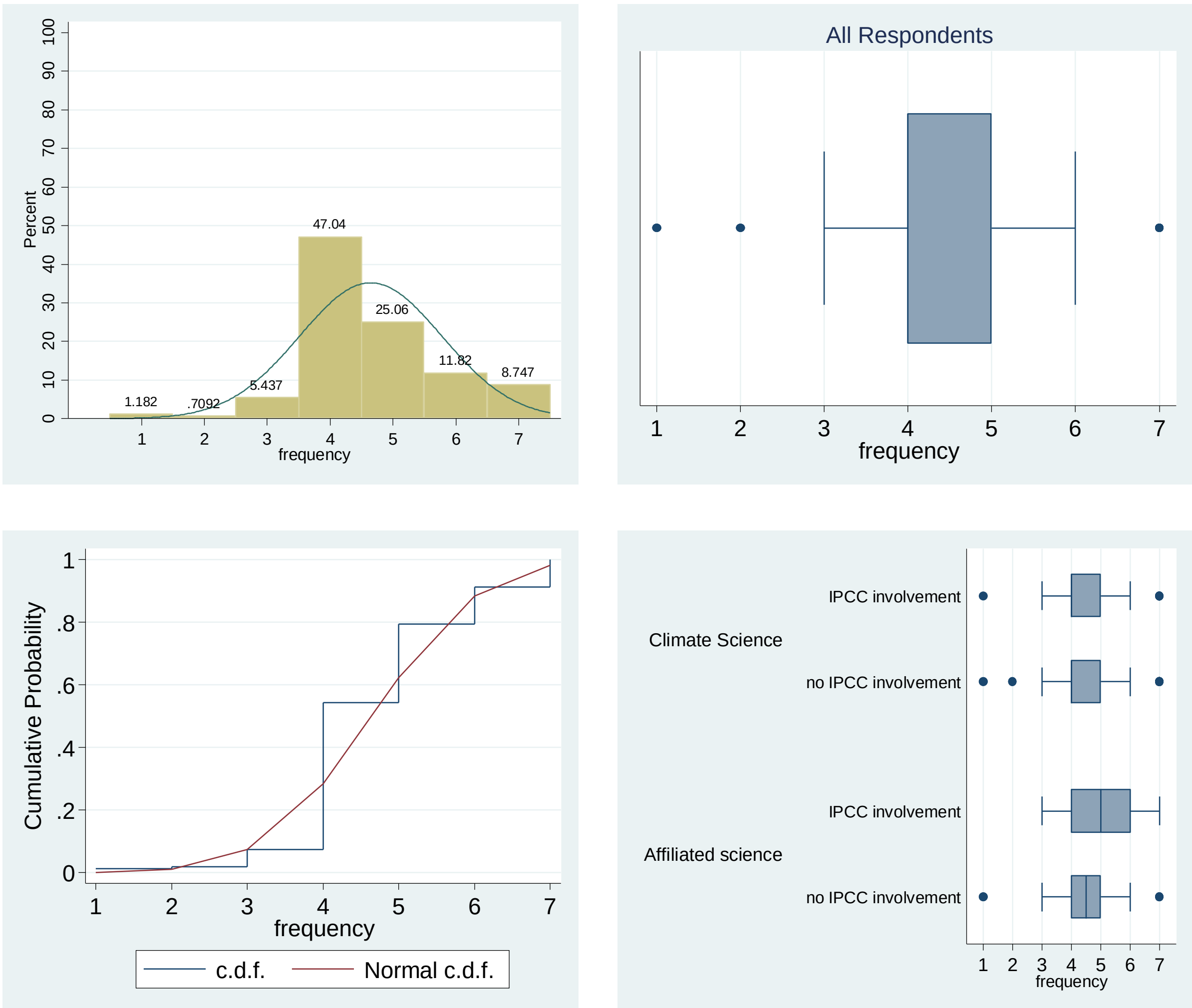
	Mean	Std. Err.	[95% Conf. Interval]	
v021h	4.418182	.0840248	4.253132	4.583231

Climate Science	IPCC Involvement	n=139
	No IPCC Involvement	n=255
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=96

Section 5.b. Extreme events where you live: convective rainfall/thunder storms

Figure 45. (v022a) In the region where you live the *frequency* of convective rainfall events / thunder storms in the *last 20 years* has

decreased 1 2 3 not changed 4 5 6 7 increased



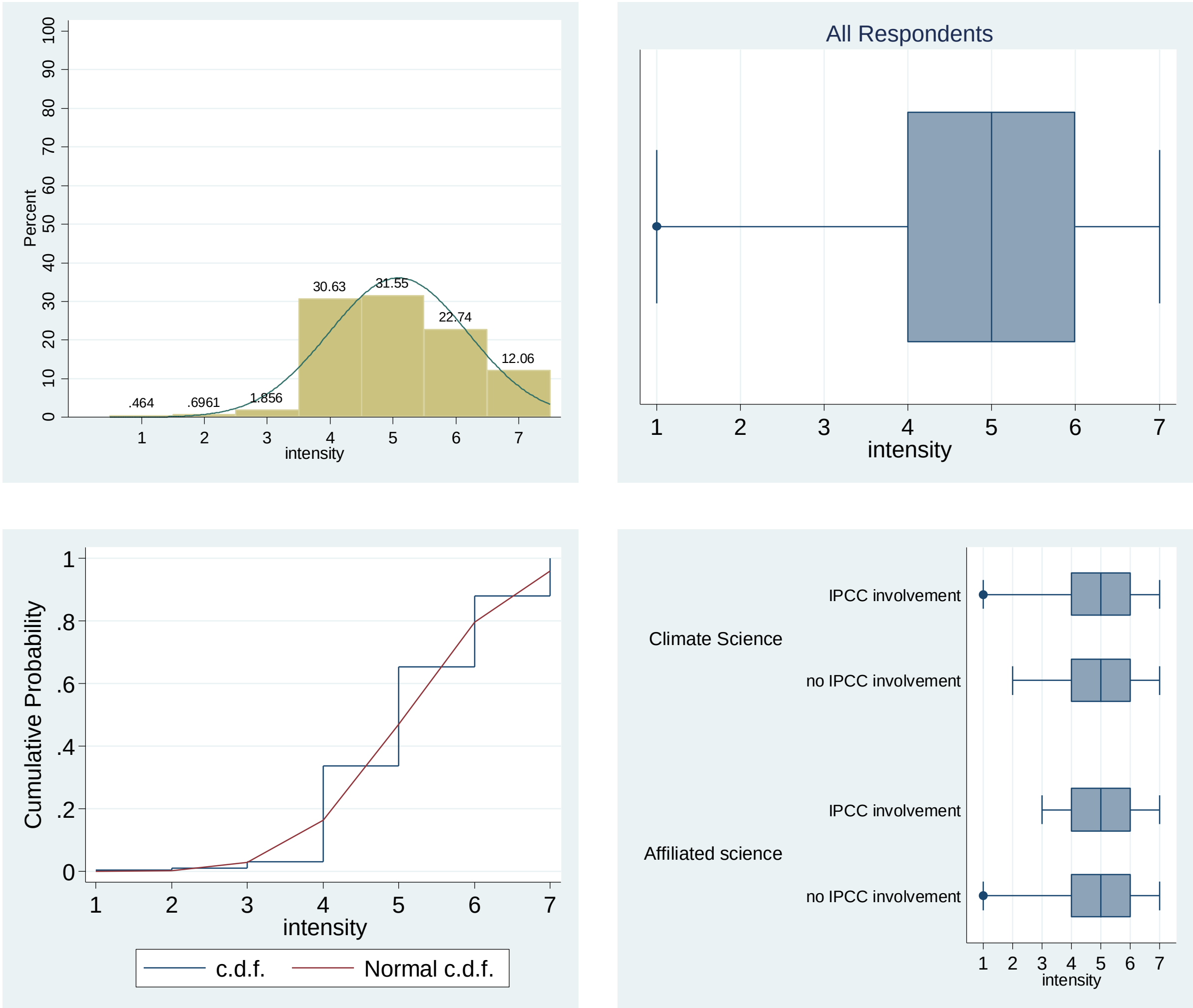
Mean estimation Number of obs = 423

	Mean	Std. Err.	[95% Conf. Interval]	
v022a	4.64539	.0551438	4.536999	4.753781

Climate Science	IPCC Involvement	n=109
	No IPCC Involvement	n=191
Affiliated Science	IPCC Involvement	n=39
	No IPCC Involvement	n=78

Figure 46. (v022b) In the region where you live the *intensity* of convective rainfall events / thunder storms in the *last 20 years* has

decreased 1 2 3 not changed 4 5 6 7 increased



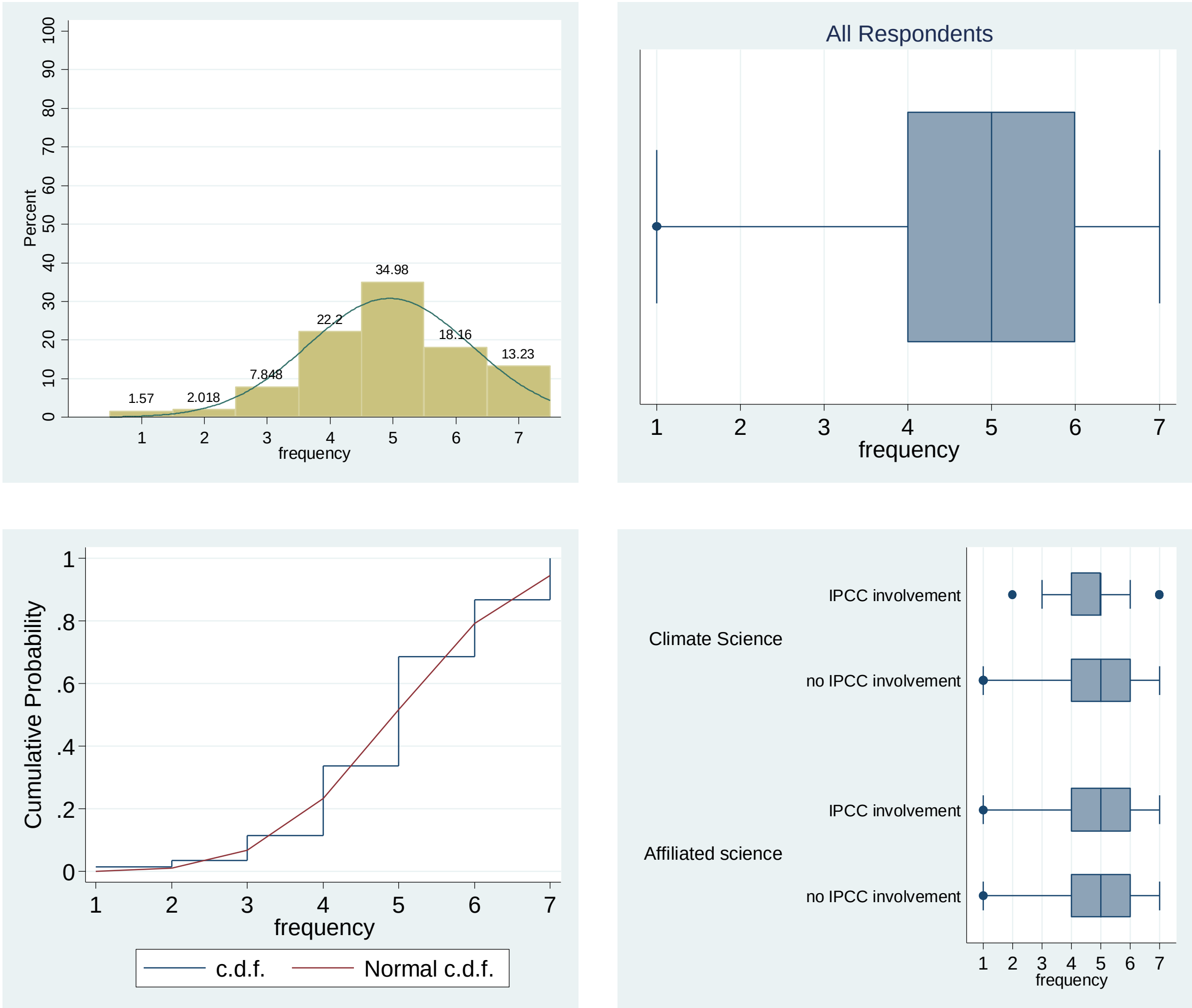
Mean estimation Number of obs = 431

	Mean	Std. Err.	[95% Conf. Interval]	
v022b	5.085847	.0532656	4.981153	5.19054

Climate Science	IPCC Involvement	n=112
	No IPCC Involvement	n=195
Affiliated Science	IPCC Involvement	n=40
	No IPCC Involvement	n=78

Figure 47. (v023a) In the region where you live, what change in the *frequency* of convective rainfall events / thunder storms would you expect in the *next 50 years*

decrease 1 2 3 no change 4 5 6 7 increase



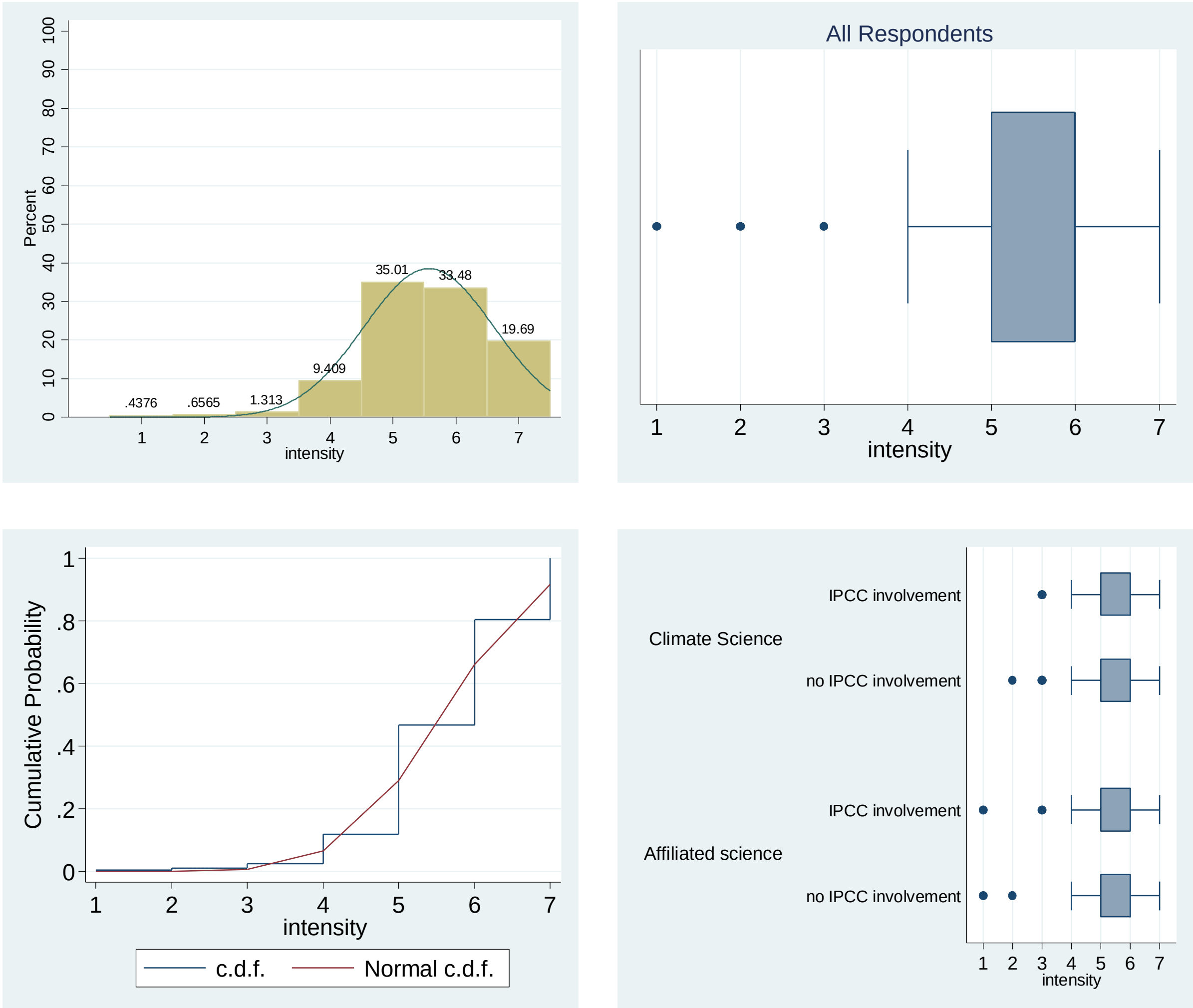
Mean estimation   Number of obs = 446

	Mean	Std. Err.	[95% Conf. Interval]	
v023a	4.943946	.0613743	4.823327	5.064566

Climate Science	IPCC Involvement	n=112
	No IPCC Involvement	n=210
Affiliated Science	IPCC Involvement	n=39
	No IPCC Involvement	n=78

Figure 48. (v023b) In the region where you live, what change in the *intensity* of convective rainfall events / thunder storms would you expect in the *next 50 years*

decrease 1   2   3   no change 4   5   6   7 increase



Mean estimation   Number of obs   =   457

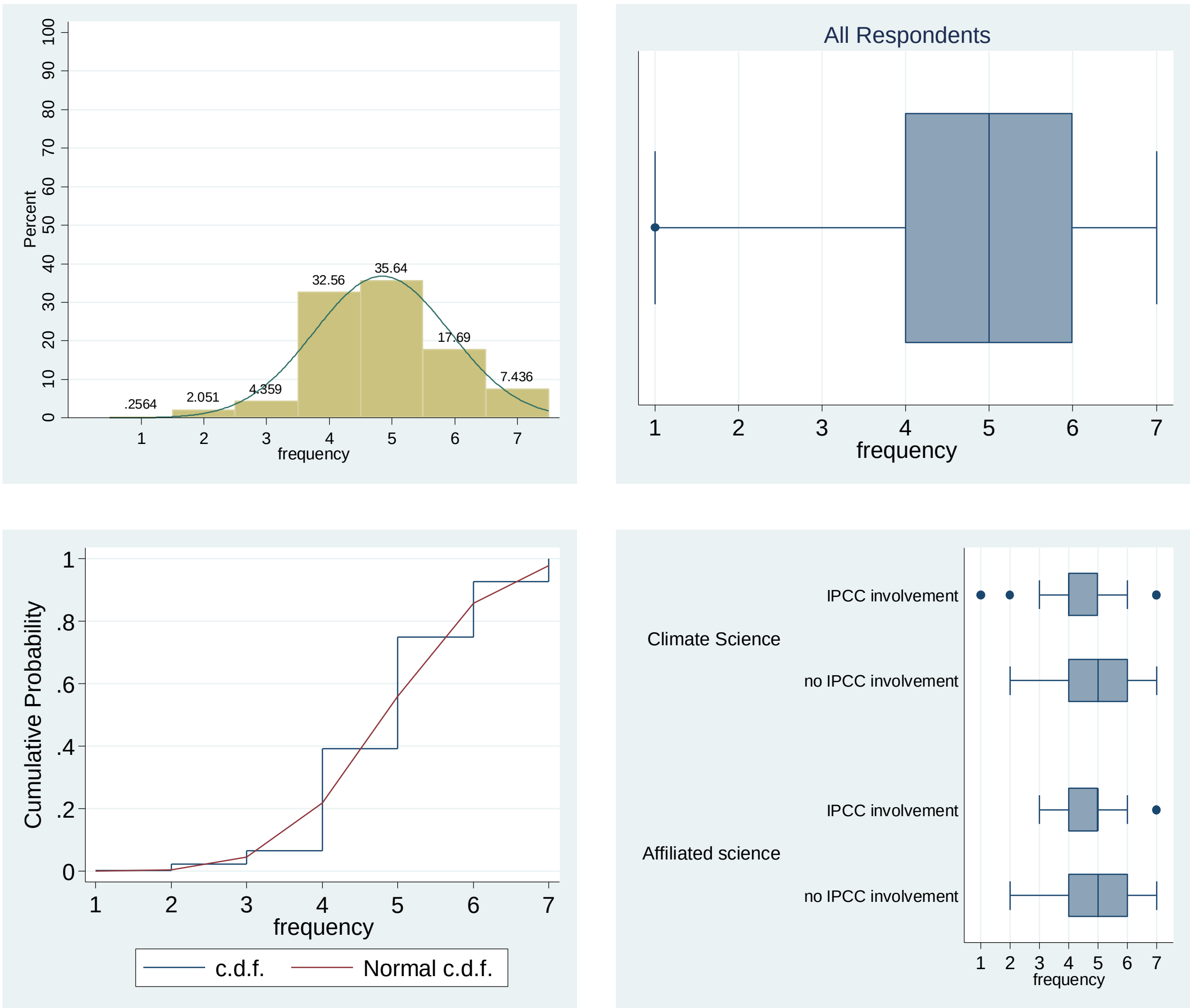
	Mean	Std. Err.	[95% Conf. Interval]	
v023b	5.571116	.0484876	5.475829	5.666403

Climate Science	IPCC Involvement	n=113
	No IPCC Involvement	n=217
Affiliated Science	IPCC Involvement	n=41
	No IPCC Involvement	n=79

Section 5.c. Extreme events on a global scale: convective rainfall/thunder storms

Figure 49. (v024a) On a global scale the *frequency* of convective rainfall events / thunder storms in the *last 20 years* has

decreased 1 2 3 not changed 4 5 6 7 increased



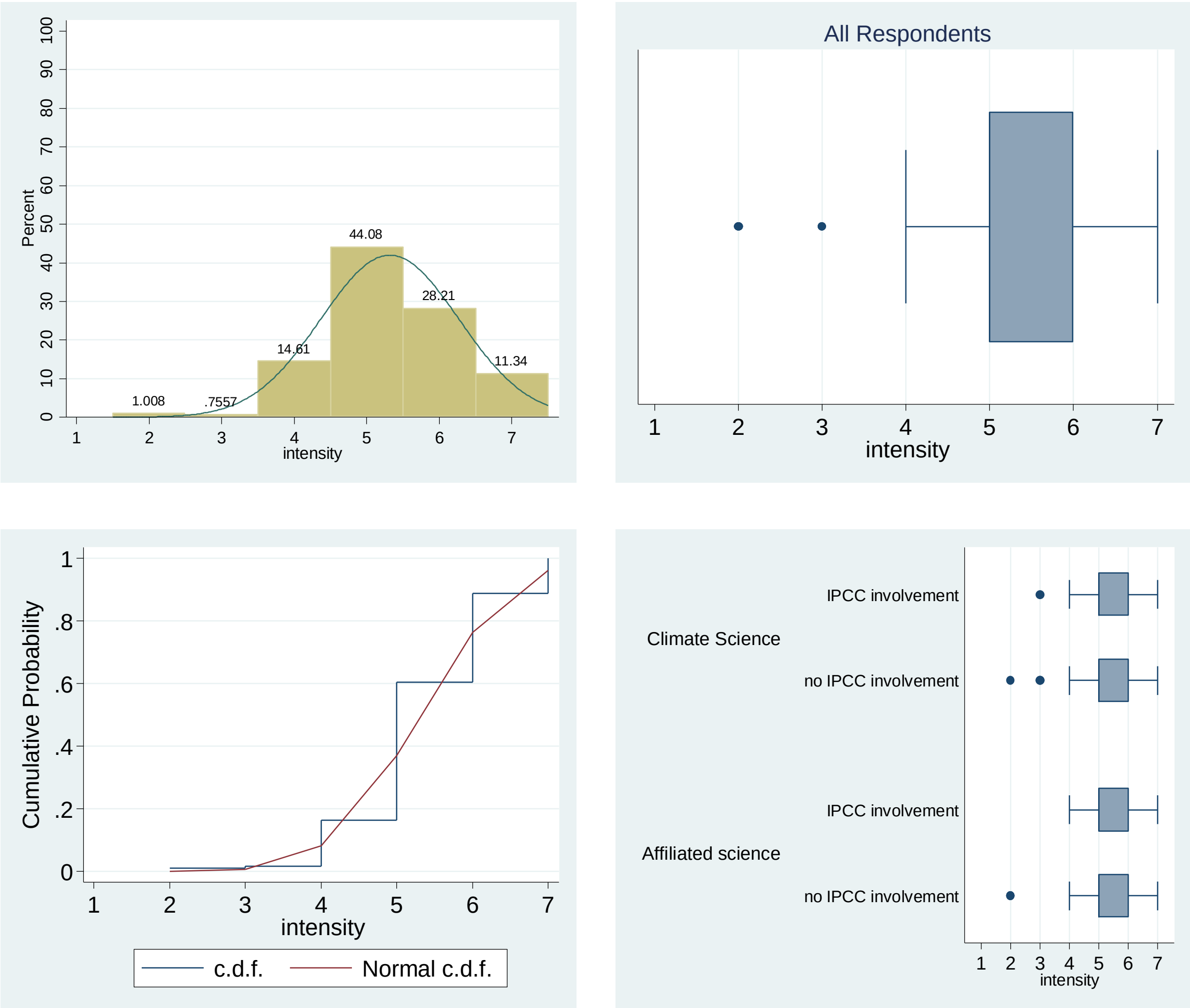
Mean estimation Number of obs = 390

```
--------------------------------------------------------------
             |      Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
       v024a |  4.841026   .0549533     4.732983    4.949068
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=100
	No IPCC Involvement	n=176
Affiliated Science	IPCC Involvement	n=38
	No IPCC Involvement	n=69

Figure 50. (v024b) On a global scale the *intensity* of convective rainfall events / thunder storms in the *last 20 years* has

decreased 1 2 3 not changed 4 5 6 7 increased



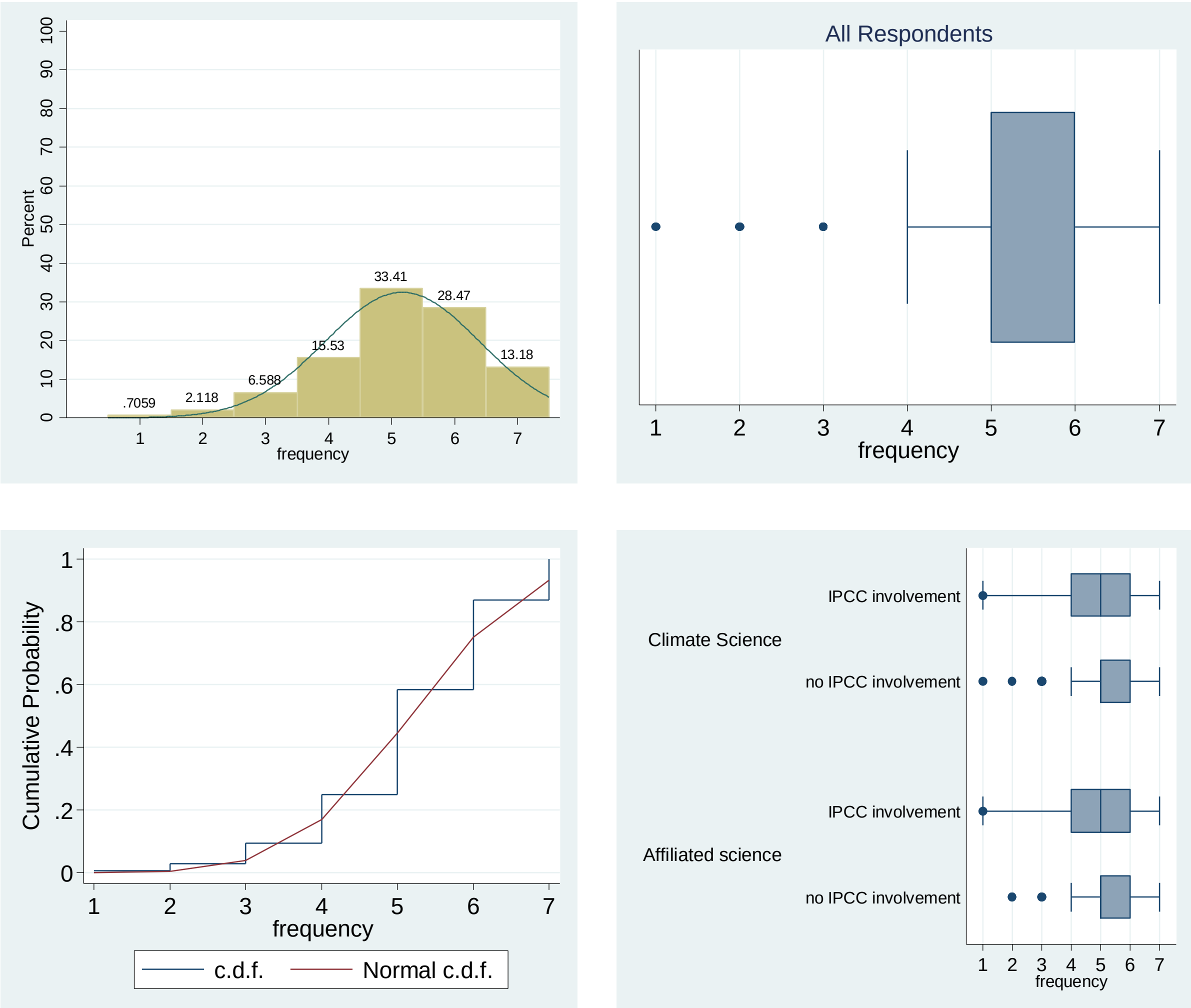
Mean estimation Number of obs = 397

	Mean	Std. Err.	[95% Conf. Interval]	
v024b	5.31738	.0477205	5.223563	5.411198

Climate Science	IPCC Involvement	n=103
	No IPCC Involvement	n=179
Affiliated Science	IPCC Involvement	n=38
	No IPCC Involvement	n=70

Figure 51. (v025a) On a global scale, what change in the *frequency* of convective rainfall events / thunder storms would you expect in the *next 50 years*?

decrease 1   2   3   no change 4   5   6   7 increase



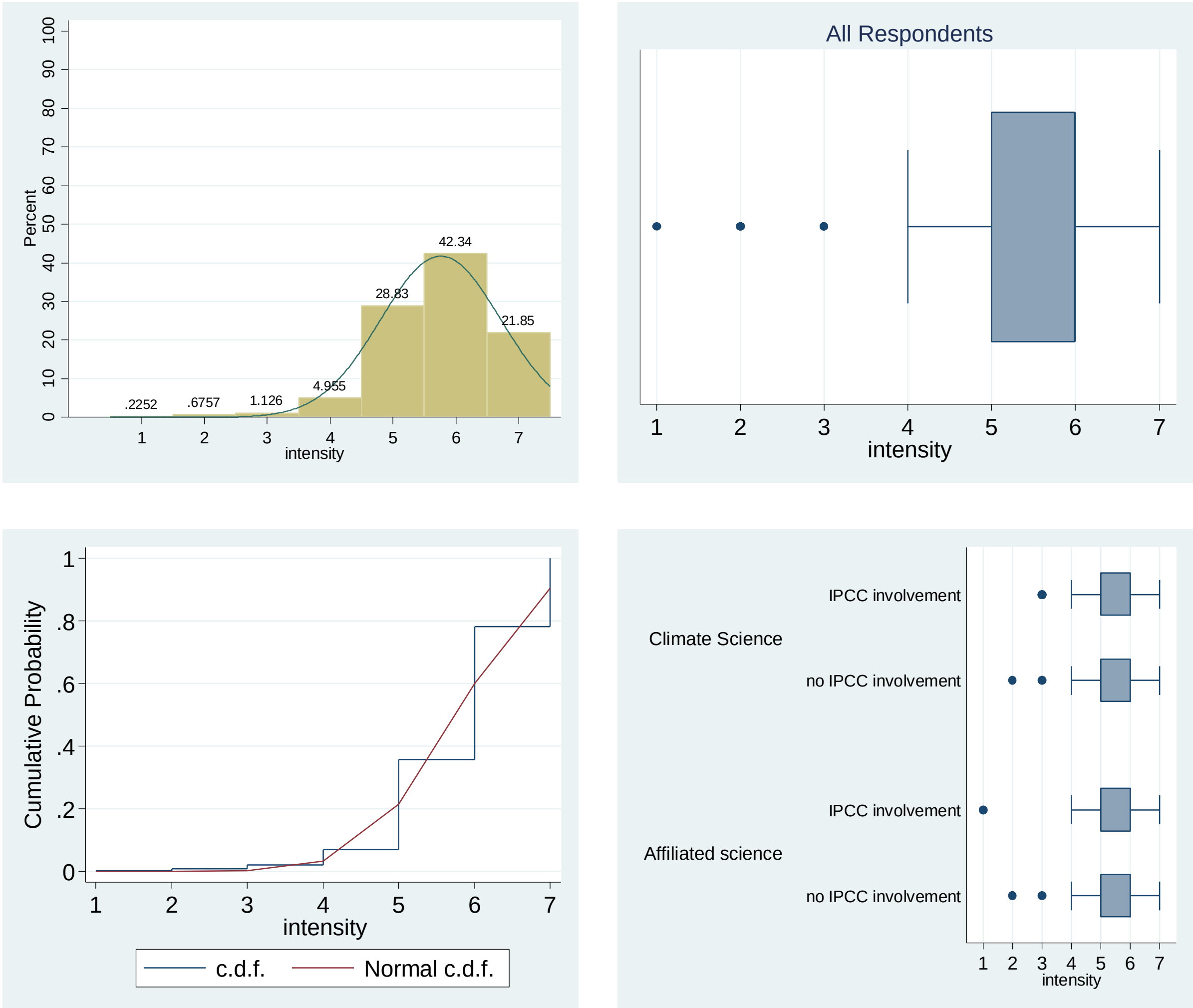
Mean estimation   Number of obs = 425

	Mean	Std. Err.	[95% Conf. Interval]	
v025a	5.169412	.0595862	5.052291	5.286533

Climate Science	IPCC Involvement	n=111
	No IPCC Involvement	n=199
Affiliated Science	IPCC Involvement	n=39
	No IPCC Involvement	n=74

Figure 52. (v025b) On a global scale, what change in the *intensity* of convective rainfall events / thunder storms would you expect in the *next 50 years*?

decrease 1 2 3 no change 4 5 6 7 increase



Mean estimation Number of obs = 444

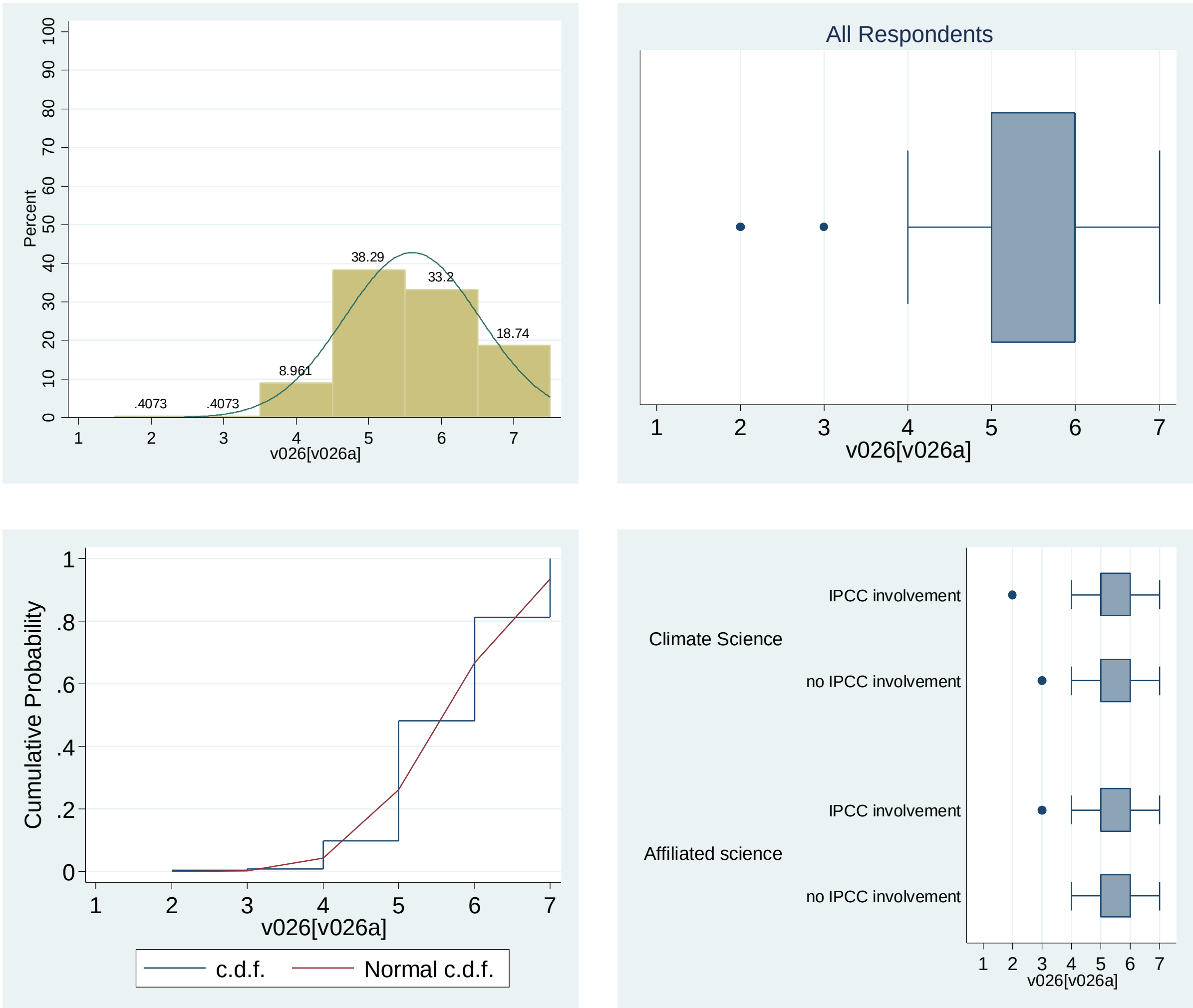
```
--------------------------------------------------------------
             |      Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
       v025b |  5.759009   .0453888      5.669805    5.848213
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=126
	No IPCC Involvement	n=208
Affiliated Science	IPCC Involvement	n=43
	No IPCC Involvement	n=75

Section 5.d. Extreme events on a global scale: heat waves

Figure 53. (v026a) On a global scale over the *last 20 years* the *frequency* of heat waves has

decreased 1   2   3   not changed 4   5   6   7 increased

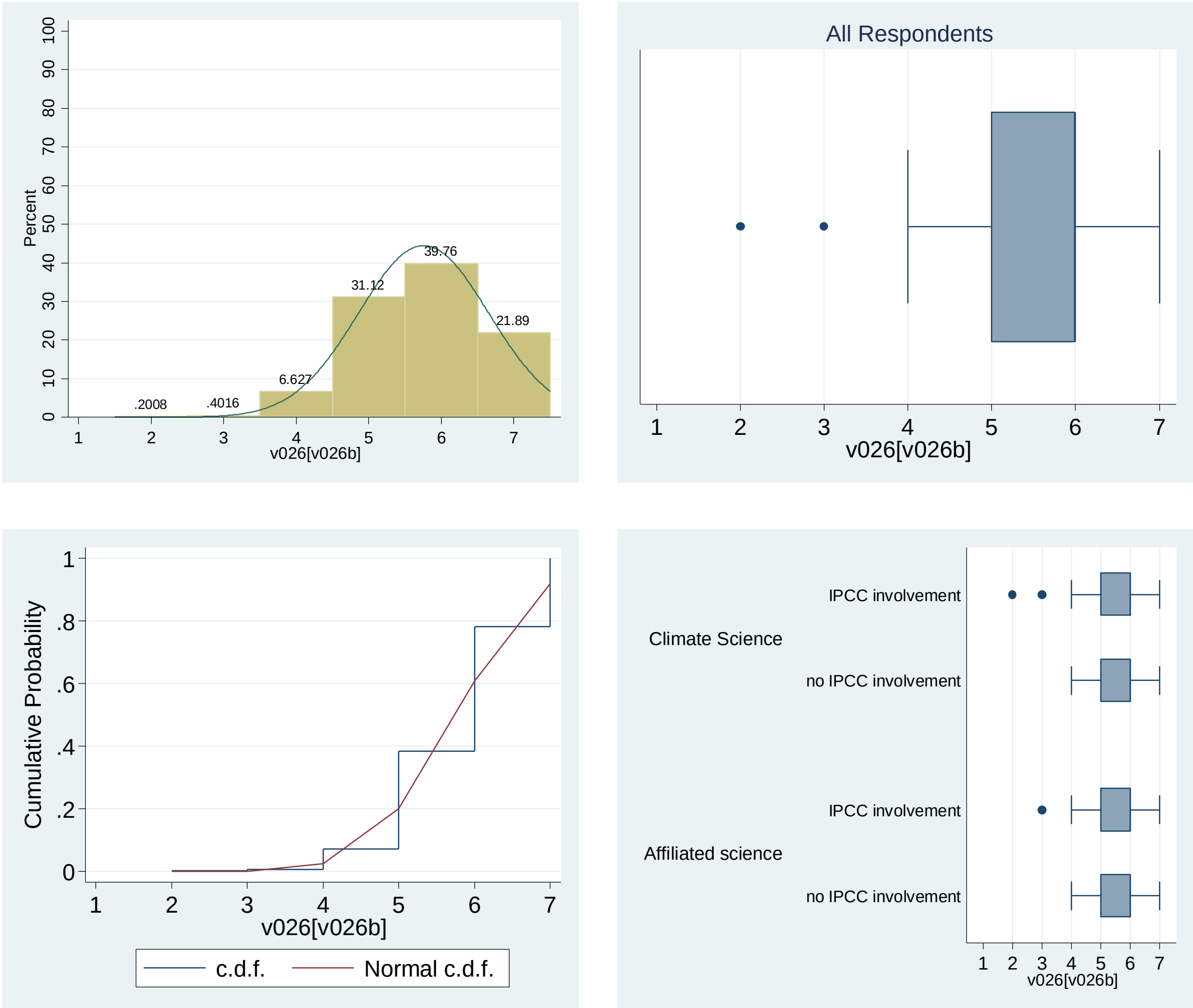


Mean estimation		Number of obs = 491		
	Mean	Std. Err.	[95% Conf. Interval]	
v026a	5.596741	.0420867	5.514049	5.679434

Climate Science	IPCC Involvement	n=127
	No IPCC Involvement	n=222
Affiliated Science	IPCC Involvement	n=45
	No IPCC Involvement	n=89

Figure 54. (v026b) On a global scale over the *last 20 years* the *intensity* of heat waves has

decreased 1 2 3 not changed 4 5 6 7 increased



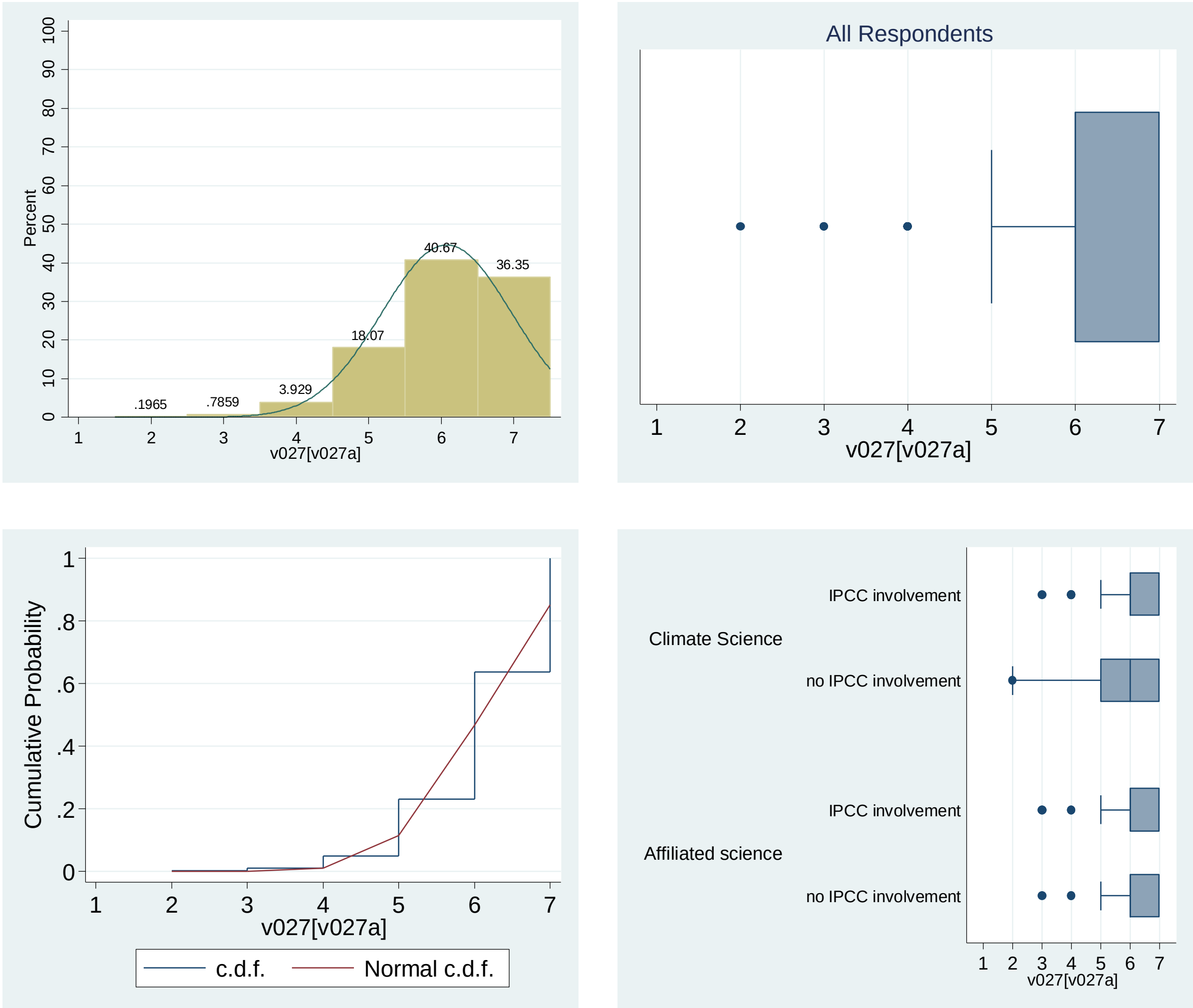
Mean estimation Number of obs = 498

	Mean	Std. Err.	[95% Conf. Interval]	
v026b	5.75502	.0402067	5.676024	5.834016

Climate Science	IPCC Involvement	n=132
	No IPCC Involvement	n=226
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=90

Figure 55. (var027a) On a global scale, what change in the *frequency* of heat waves would you expect in the *next 50 years*?

decrease 1 2 3 no change 4 5 6 7 increase



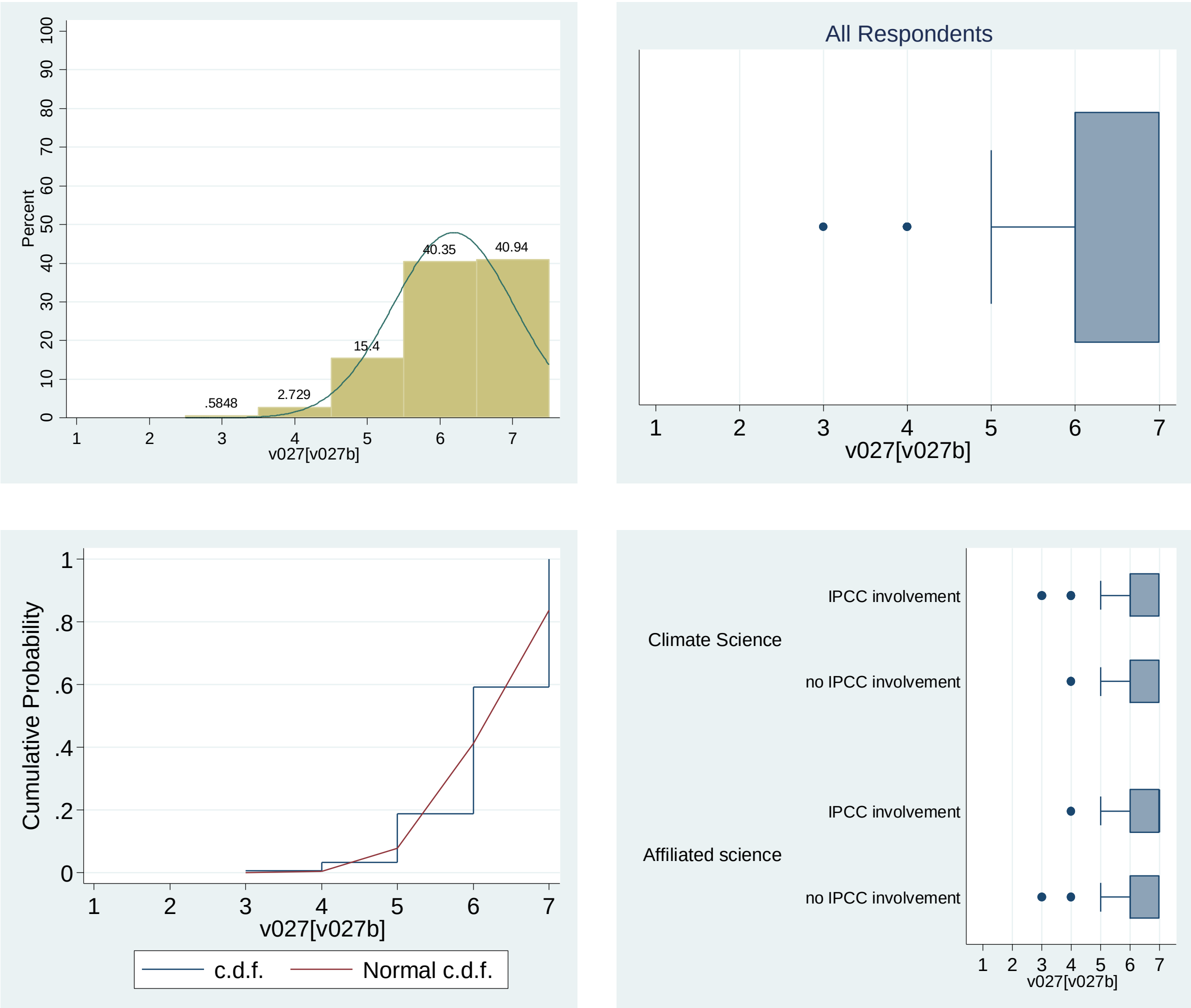

```
Mean estimation              Number of obs   =    509

 --------------------------------------------------------------
            |     Mean   Std. Err.    [95% Conf. Interval]
 -------------+------------------------------------------------
       v027a |  6.072692  .0396404     5.994812    6.150571
 --------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=134
	No IPCC Involvement	n=232
Affiliated Science	IPCC Involvement	n=45
	No IPCC Involvement	n=91

Figure 56. (var027b) On a global scale, what change in the *intensity* of heat waves would you expect in the *next 50 years*?

decrease 1   2   3   no change 4   5   6   7 increase



Mean estimation	Number of obs = 513

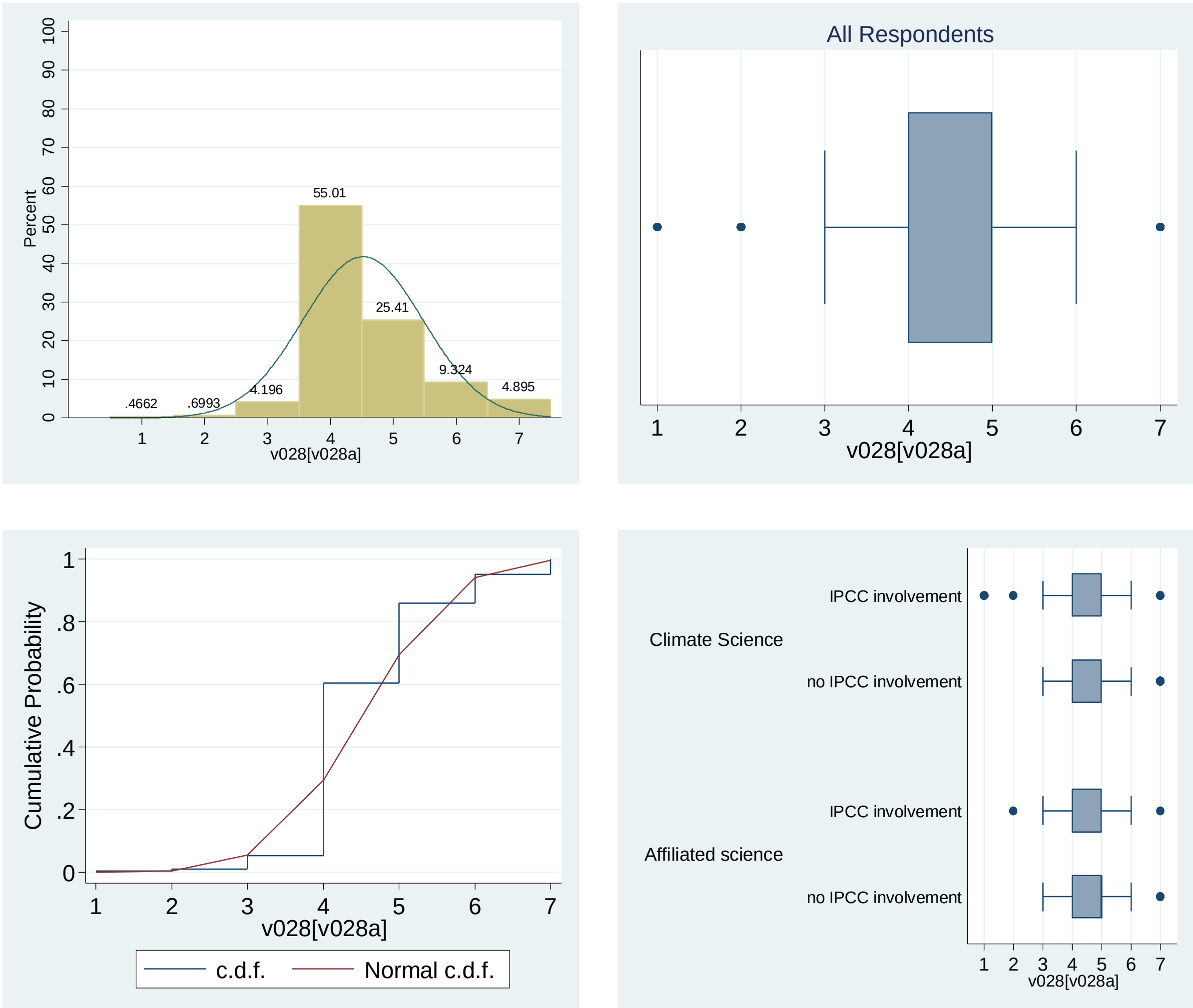
	Mean	Std. Err.	[95% Conf. Interval]	
v027b	6.183236	.0367522	6.111032	6.25544

Climate Science	IPCC Involvement	n=114
	No IPCC Involvement	n=233
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=91

Section 5.e. Extreme events on a global scale: tropical storms (hurricane/typhoons)

Figure 57. (var028a) Over the *last 20 years*, the *frequency* of tropical storms (hurricanes, typhoons) has

decreased 1 2 3 not changed 4 5 6 7 increased



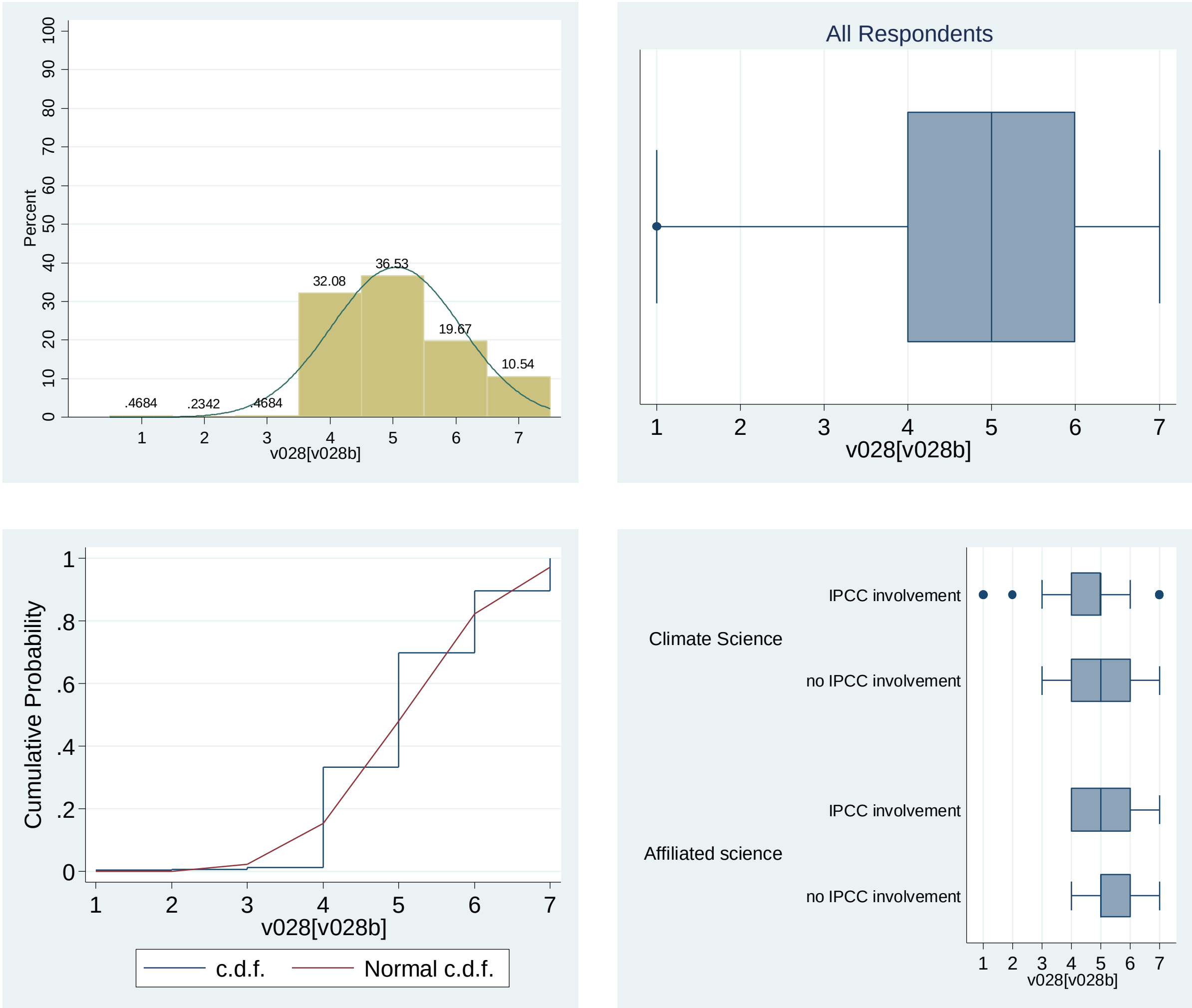
Mean estimation Number of obs = 429

	Mean	Std. Err.	[95% Conf. Interval]	
v028a	4.517483	.0461534	4.426767	4.608198

Climate Science	IPCC Involvement	n=114
	No IPCC Involvement	n=184
Affiliated Science	IPCC Involvement	n=43
	No IPCC Involvement	n=80

Figure 58. (var028b) Over the *last 20 years*, the *intensity* of tropical storms (hurricanes, typhoons) has

decreased 1 2 3 not changed 4 5 6 7 increased



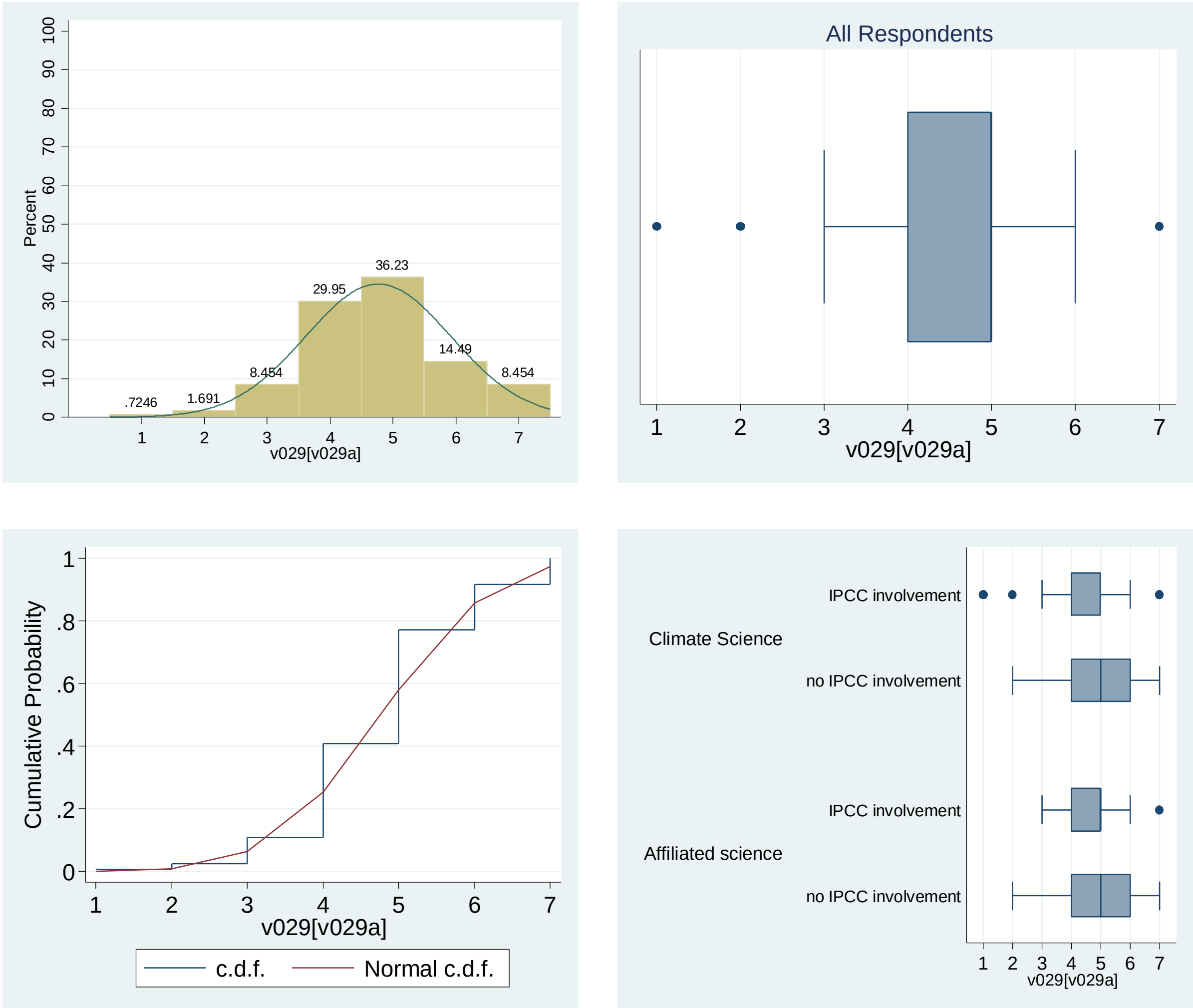
Mean estimation Number of obs = 427

	Mean	Std. Err.	[95% Conf. Interval]	
v028b	5.051522	.0496752	4.953883	5.149161

Climate Science	IPCC Involvement	n=114
	No IPCC Involvement	n=184
Affiliated Science	IPCC Involvement	n=41
	No IPCC Involvement	n=80

Figure 59. (v029a) Over the *next 50 years*, the *frequency* of tropical storms (hurricanes, typhoons) will

decrease 1   2   3   no change 4   5   6   7 increase



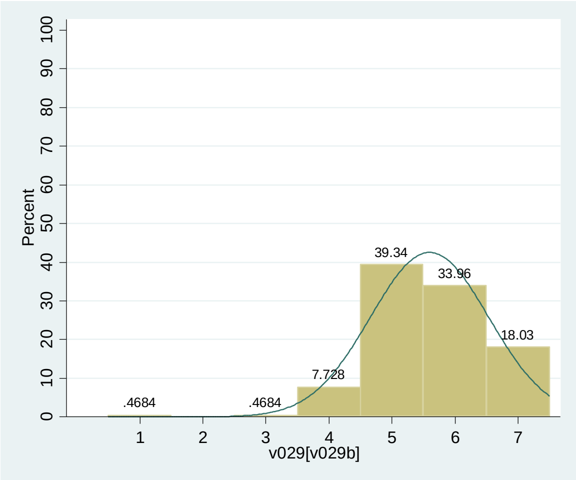
Mean estimation   Number of obs = 414

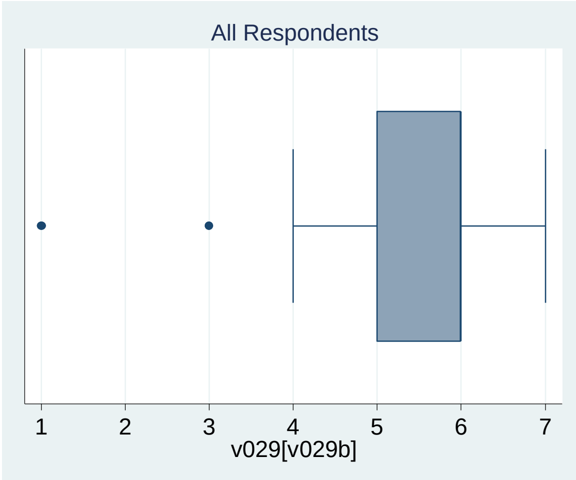
	Mean	Std. Err.	[95% Conf. Interval]	
v029a	4.7657	.0568331	4.653982	4.877419

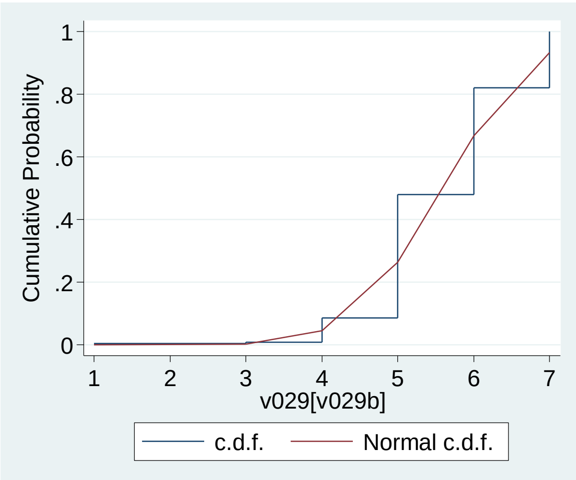
Climate Science	IPCC Involvement	n=110
	No IPCC Involvement	n=181
Affiliated Science	IPCC Involvement	n=36
	No IPCC Involvement	n=79

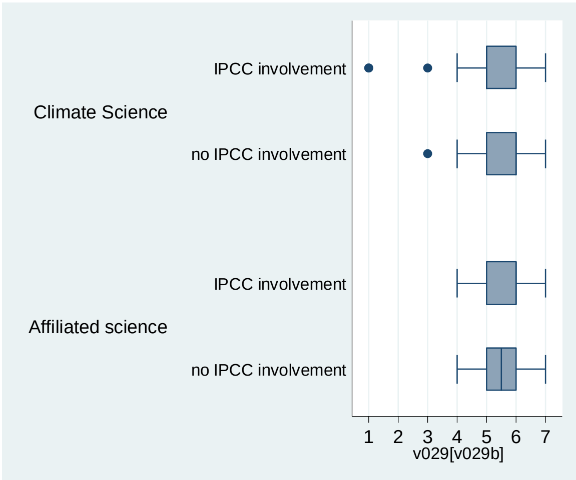
Figure 60. (v029b) Over the *next 50 years*, the *intensity* of tropical storms (hurricanes, typhoons) will

decrease 1   2   3   no change 4   5   6   7 increase









Mean estimation Number of obs = 427

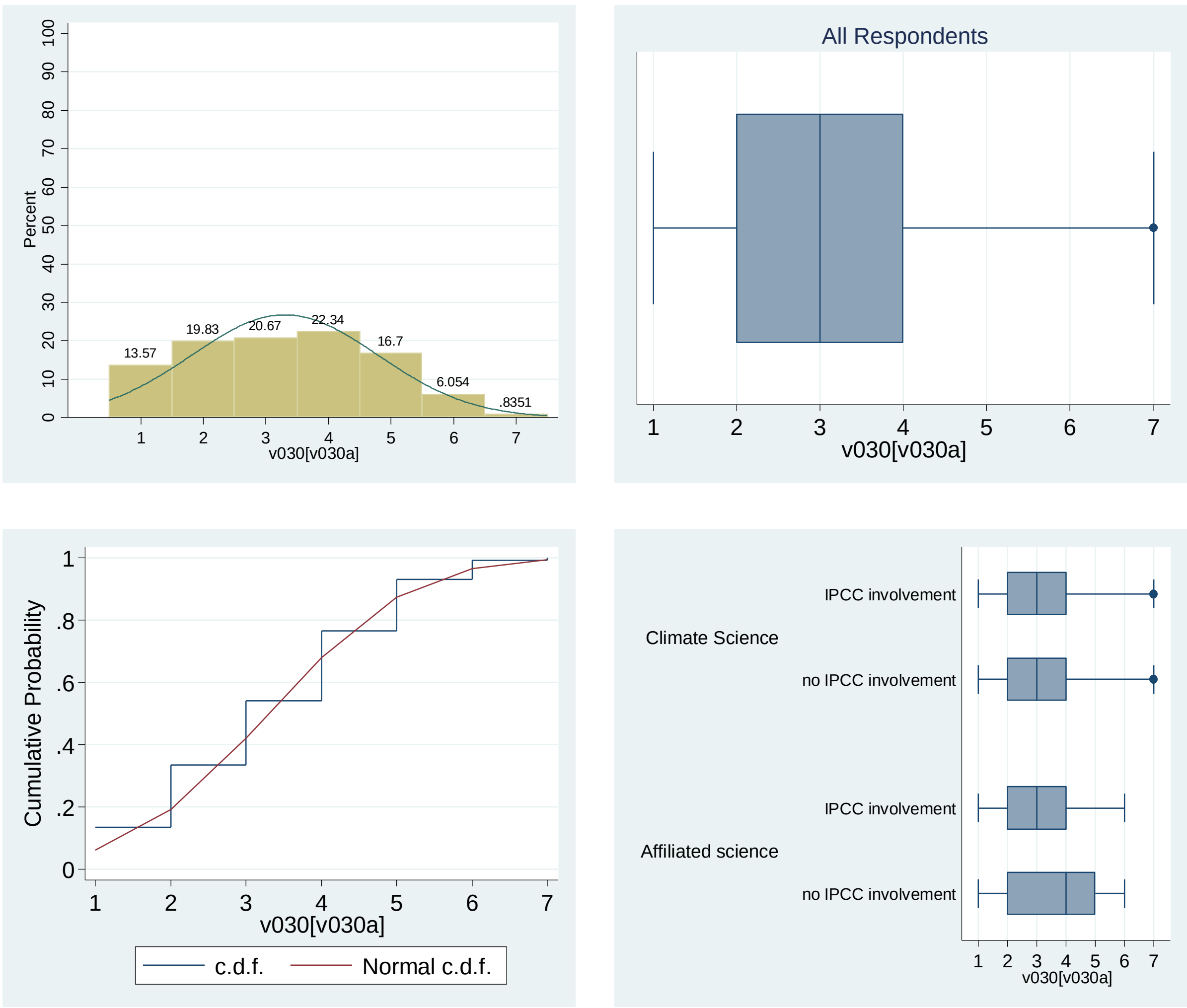
```
--------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
       v029b |   5.594848   .0453988      5.505614    5.684081
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=113
	No IPCC Involvement	n=189
Affiliated Science	IPCC Involvement	n=37
	No IPCC Involvement	n=80

Section 5.f. Projections of extreme events: regional climate models

Figure 61. (v030a) How would you rate the ability of *regional climate models* to make *10 year projections* of *convective rain storms/ thunderstorms*?

not at all 1	*2*	*3*	*4*	*5*	*6*	*7 very good*



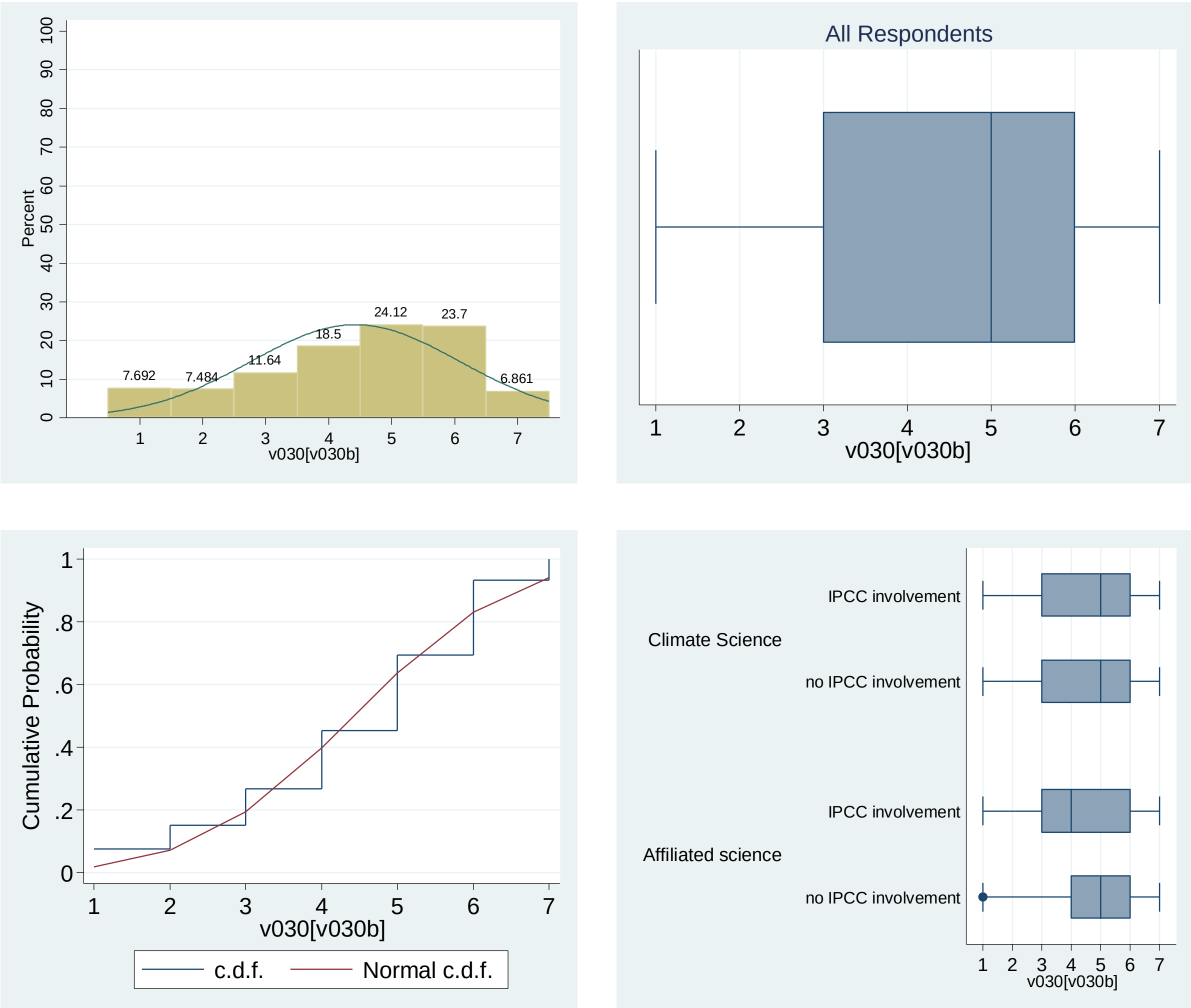
Mean estimation Number of obs = 479

	Mean	Std. Err.	[95% Conf. Interval]	
v030a	3.302714	.0681407	3.168822	3.436606

Climate Science	IPCC Involvement	n=120
	No IPCC Involvement	n=223
Affiliated Science	IPCC Involvement	n=39
	No IPCC Involvement	n=88

Figure 62. (v030b) How would you rate the ability of *regional climate models* to make 10 *year projections* of *heat waves*?

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



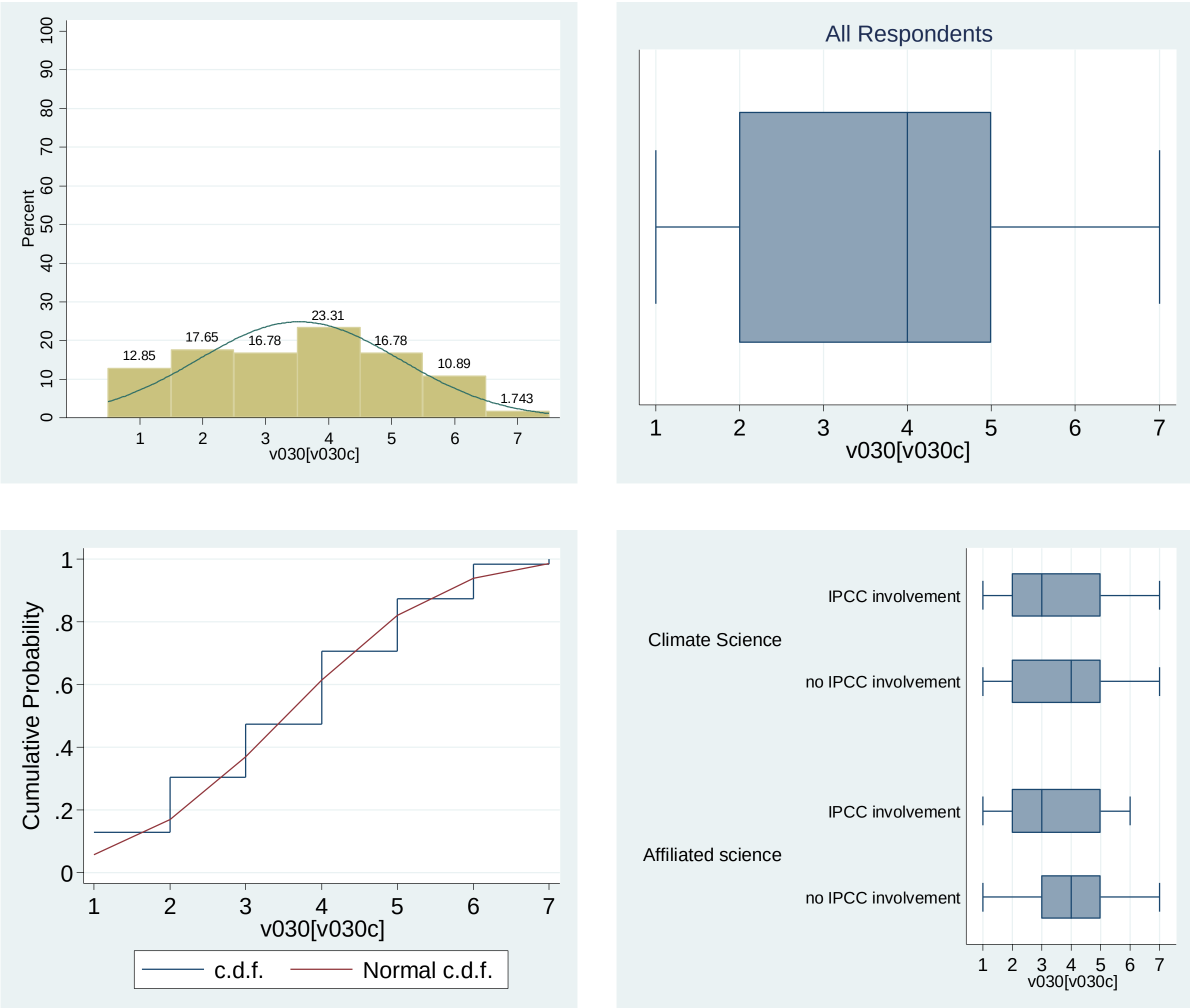
Mean estimation Number of obs = 481

	Mean	Std. Err.	[95% Conf. Interval]	
v030vb	4.424116	.075483	4.275799	4.572434

Climate Science	IPCC Involvement	n=121
	No IPCC Involvement	n=222
Affiliated Science	IPCC Involvement	n=41
	No IPCC Involvement	n=88

Figure 63. (v030c) How would you rate the ability of *regional climate models* to make *10 year projections* of *tropical storms (hurricanes/typhoons)*?

not at all 1	*2*	*3*	*4*	*5*	*6*	*7 very good*



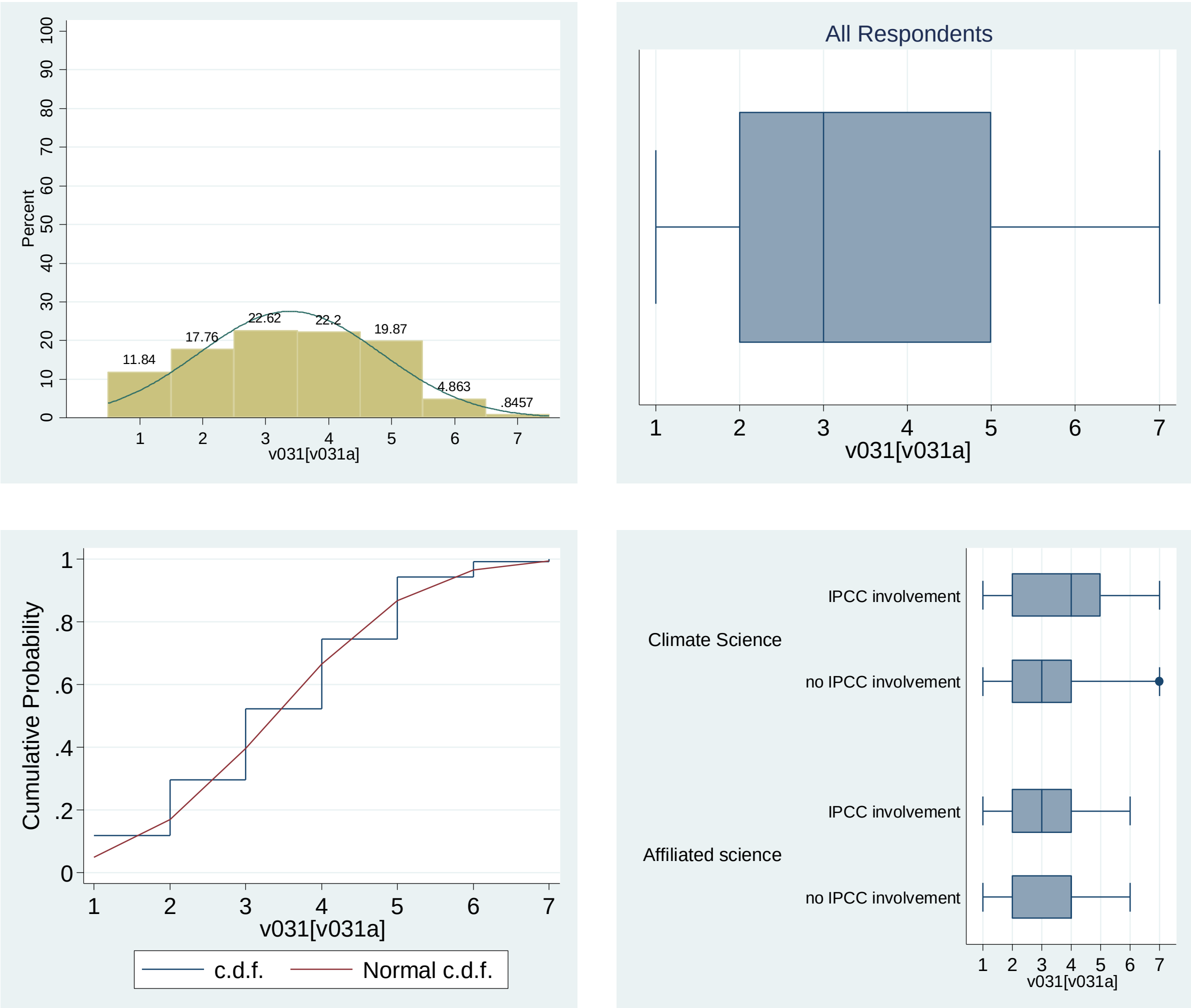
Mean estimation Number of obs = 459

	Mean	Std. Err.	[95% Conf. Interval]	
v030c	3.53159	.07493	3.384341	3.67884

Climate Science	IPCC Involvement	n=119
	No IPCC Involvement	n=212
Affiliated Science	IPCC Involvement	n=38
	No IPCC Involvement	n=83

Figure 64. (v031a) How would you rate the ability of *regional climate models* to make *50 year projections* of *convective rain storms/thunder storms?*

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



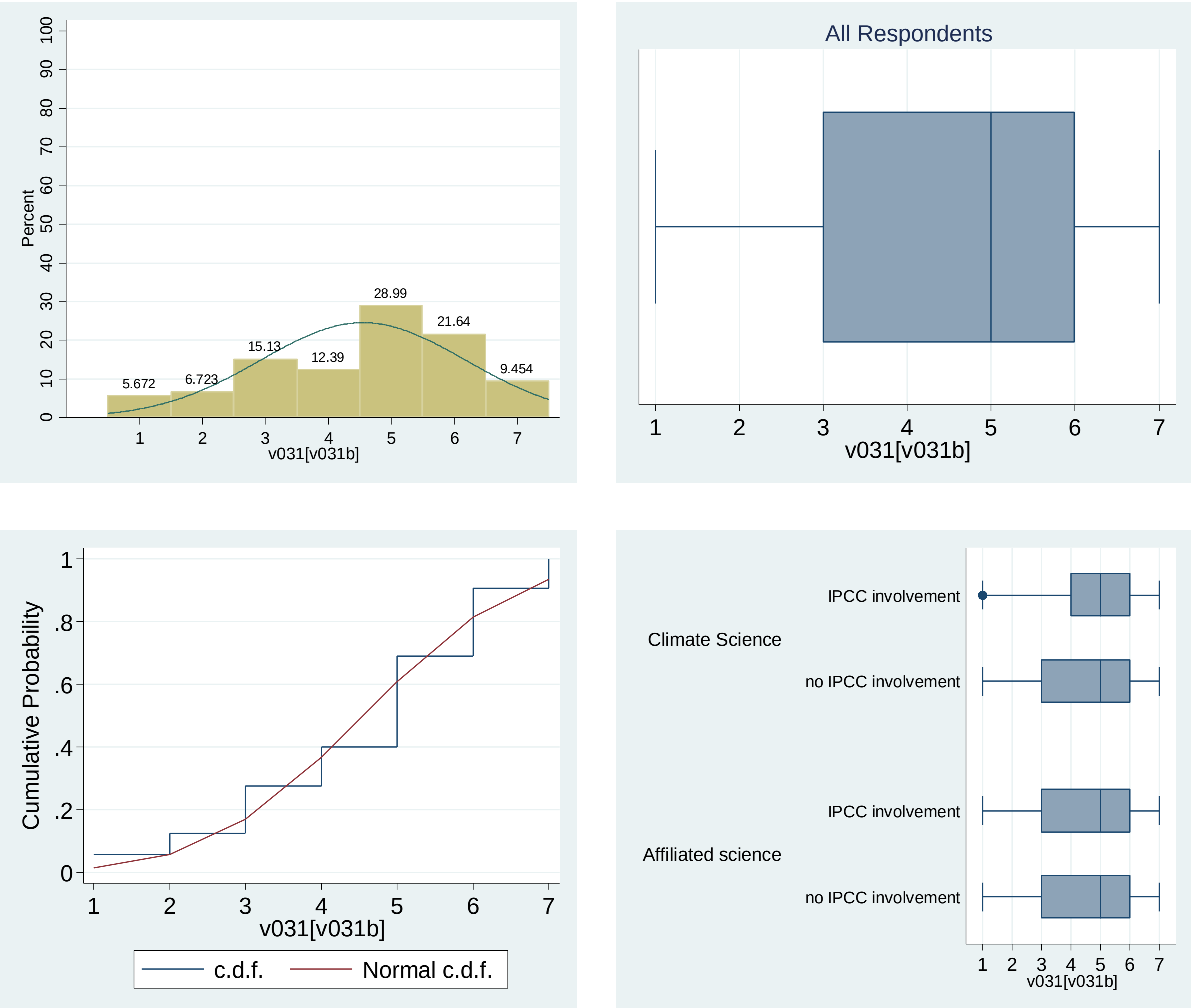
Mean estimation Number of obs = 473

	Mean	Std. Err.	[95% Conf. Interval]	
v031a	3.384778	.0665901	3.253928	3.515628

Climate Science	IPCC Involvement	n=118
	No IPCC Involvement	n=221
Affiliated Science	IPCC Involvement	n=41
	No IPCC Involvement	n=85

Figure 65. (v031b) How would you rate the ability of *regional climate models* to make *50 year projections* of *heat waves*?

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



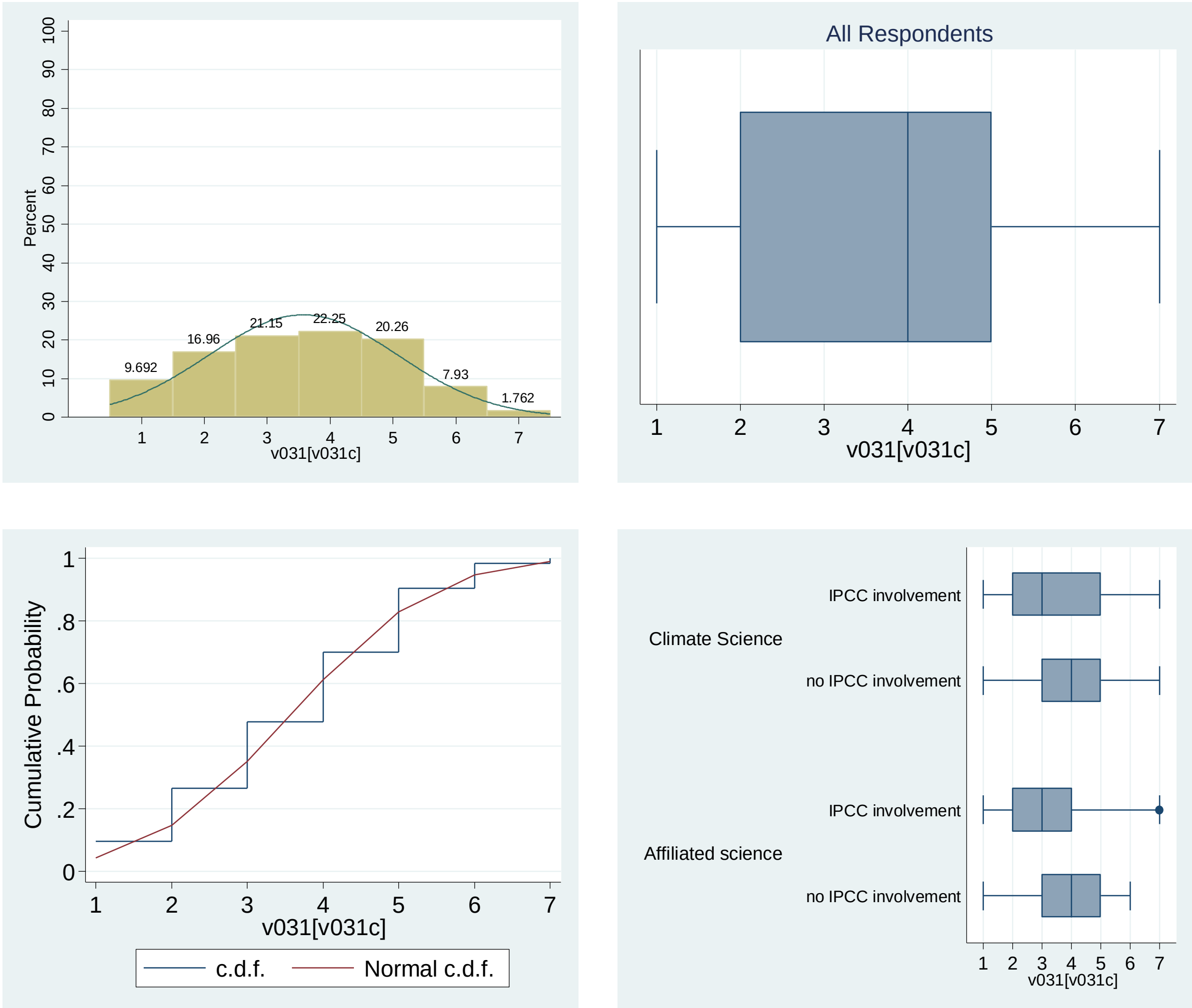

```
Mean estimation                Number of obs   =     476

     ------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
     -------------+----------------------------------------------
       v031b |    4.55042   .0744667      4.404095    4.696745
     ------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=119
	No IPCC Involvement	n=221
Affiliated Science	IPCC Involvement	n=43
	No IPCC Involvement	n=85

Figure 66. (v031c) How would you rate the ability of *regional climate models* to make *50 year projections* of tropical storms (hurricanes/typhoons)?

not at all 1	***2***	***3***	***4***	***5***	***6***	***7 very good***



Mean estimation Number of obs = 454

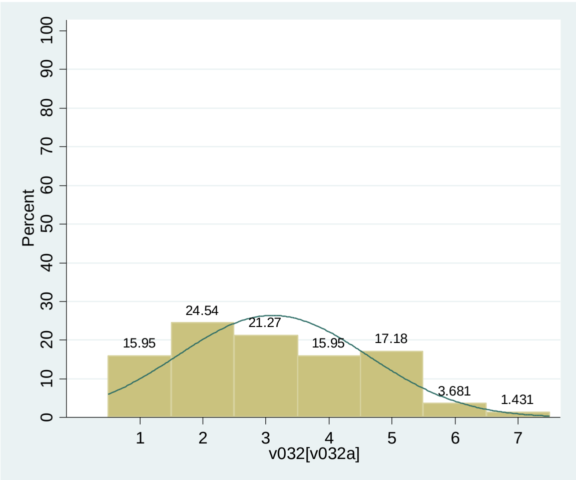
	Mean	Std. Err.	[95% Conf. Interval]	
v031c	3.572687	.0706003	3.433943	3.711432

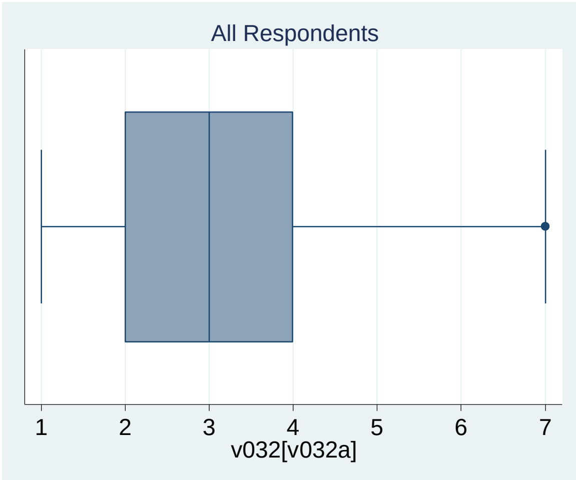
Climate Science	IPCC Involvement	n=115
	No IPCC Involvement	n=213
Affiliated Science	IPCC Involvement	n=41
	No IPCC Involvement	n=79

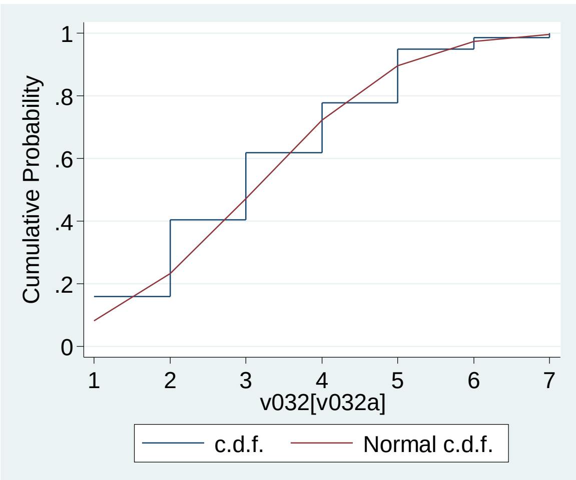
Section 5.g. Projections of extreme events: global climate models

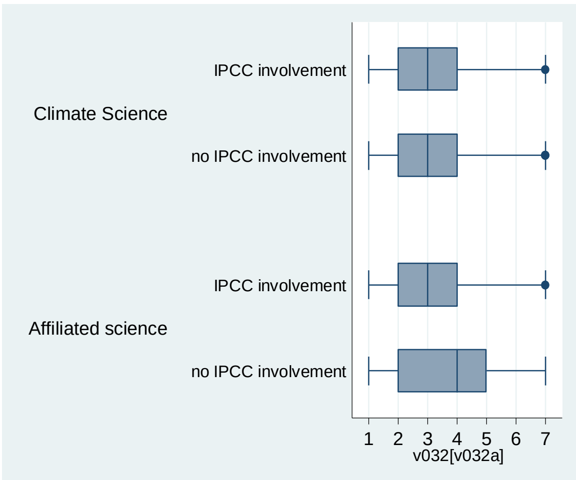
Figure 67. (v032a) How would you rate the ability of *global climate models* to make *10 year projections* of *convective rainfall/thunder storms*?

not at all 1	*2*	*3*	*4*	*5*	*6*	*7 very good*









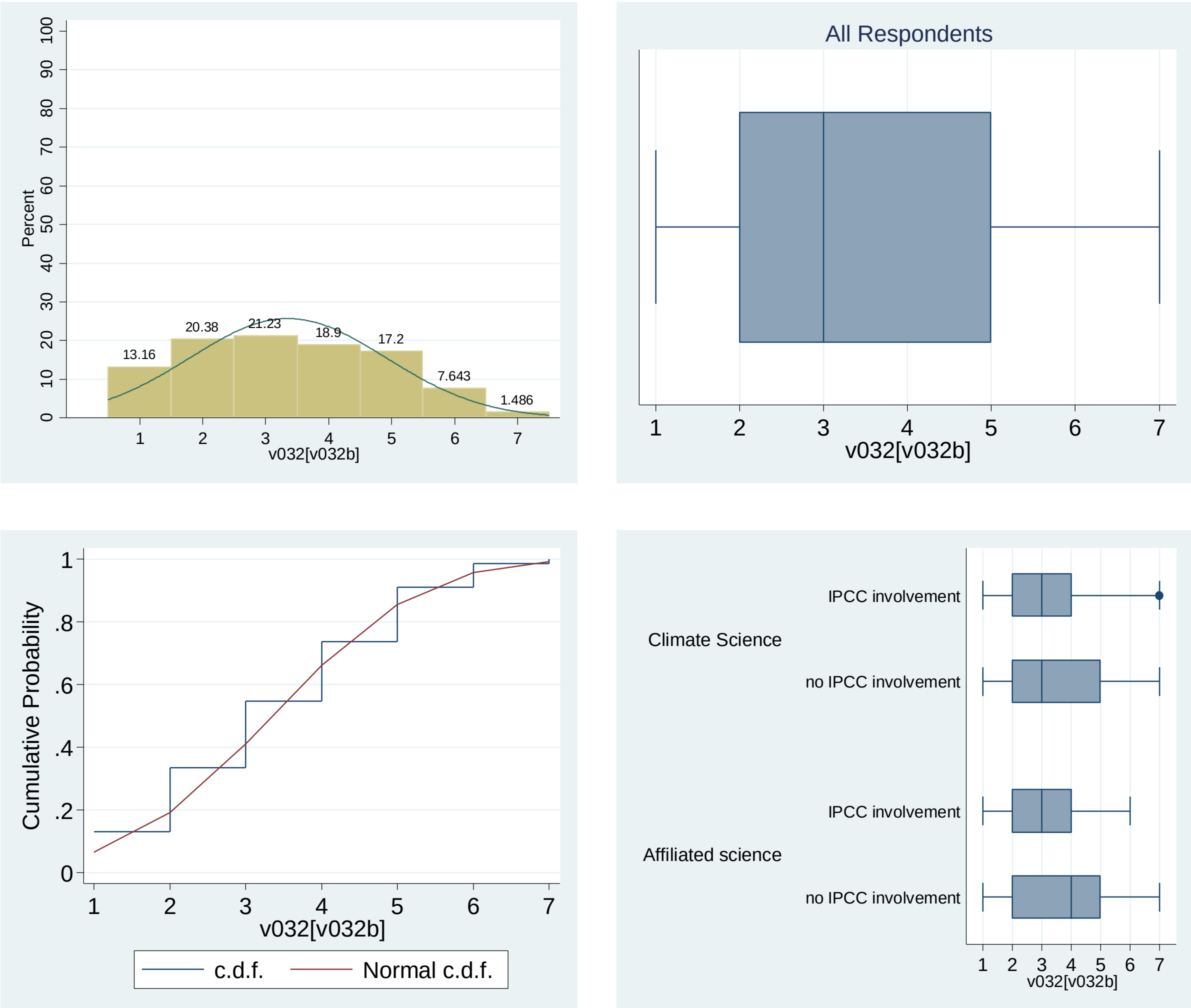
Mean estimation Number of obs = 489

	Mean	Std. Err.	[95% Conf. Interval]	
v032a	3.106339	.0683392	2.972064	3.240615

Climate Science	IPCC Involvement	n=125
	No IPCC Involvement	n=229
Affiliated Science	IPCC Involvement	n=45
	No IPCC Involvement	n=83

Figure 68. (v032b) How would you rate the ability of *global climate models* to make *10 year projections* of *tropical storms (hurricanes/typhoons)?*

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



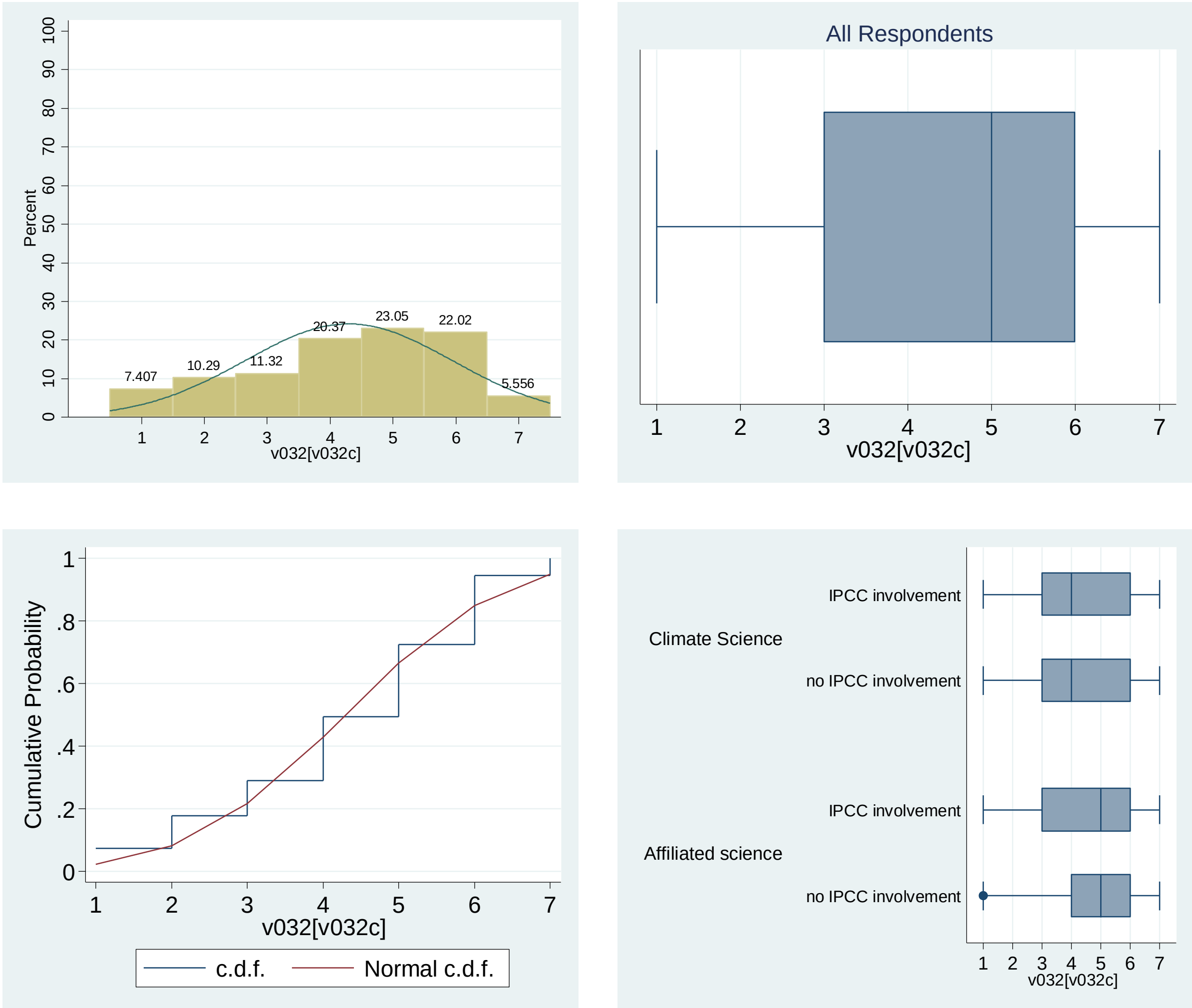
Mean estimation Number of obs = 471

	Mean	Std. Err.	[95% Conf. Interval]	
v032b	3.354565	.071566	3.213936	3.495194

Climate Science	IPCC Involvement	n=123
	No IPCC Involvement	n=219
Affiliated Science	IPCC Involvement	n=44
	No IPCC Involvement	n=79

Figure 69. (v032c) How would you rate the ability of *global climate models* to make *10 year projections* of *heat waves?*

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



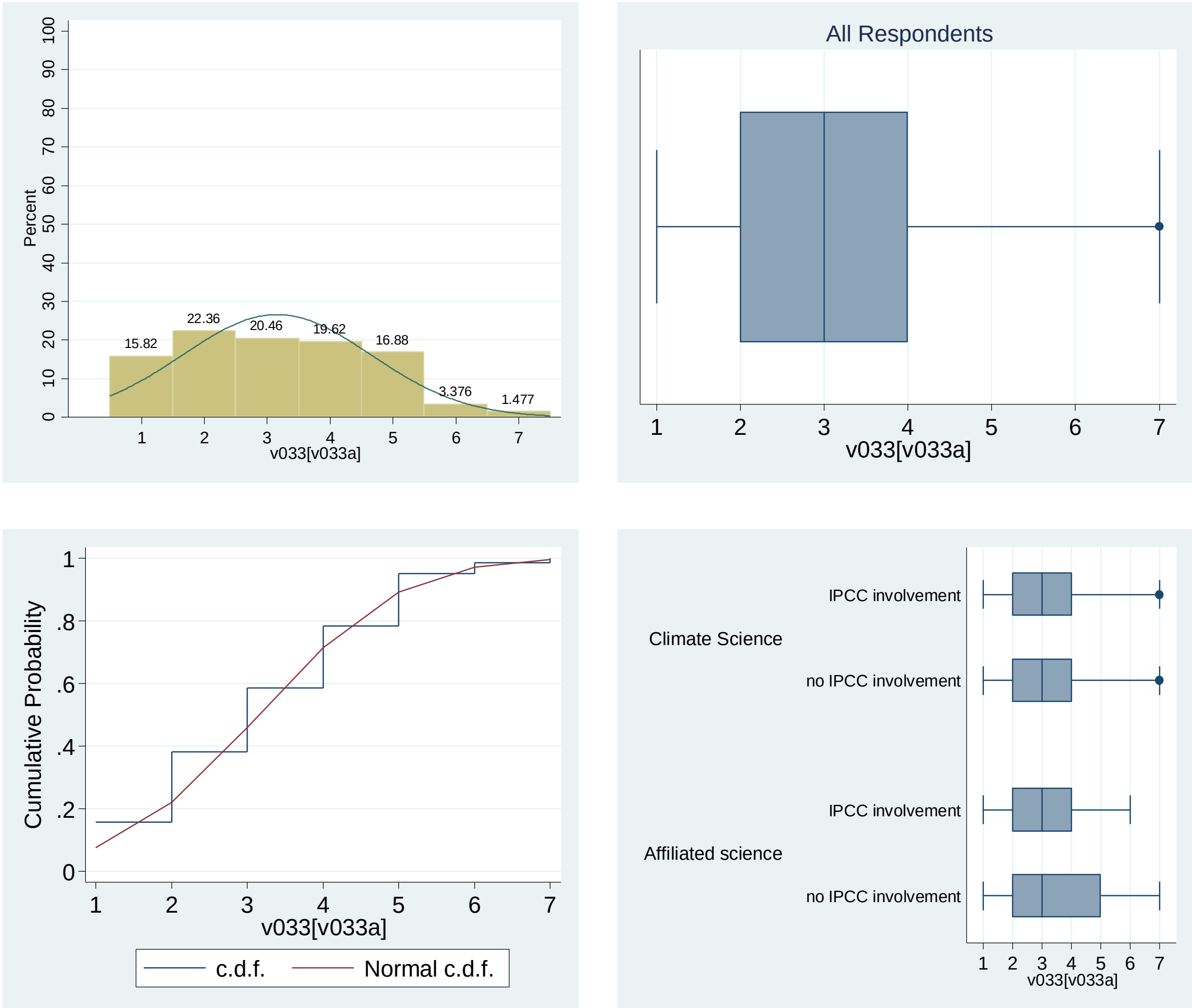
Mean estimation Number of obs = 486

	Mean	Std. Err.	[95% Conf. Interval]	
v032c	4.296296	.0748149	4.149295	4.443298

Climate Science	IPCC Involvement	n=126
	No IPCC Involvement	n=226
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=81

Figure 70. (v033a) . How would you rate the ability of *global climate models* to make *50 year projections* of *convective rain storms/ thunder storms?*

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



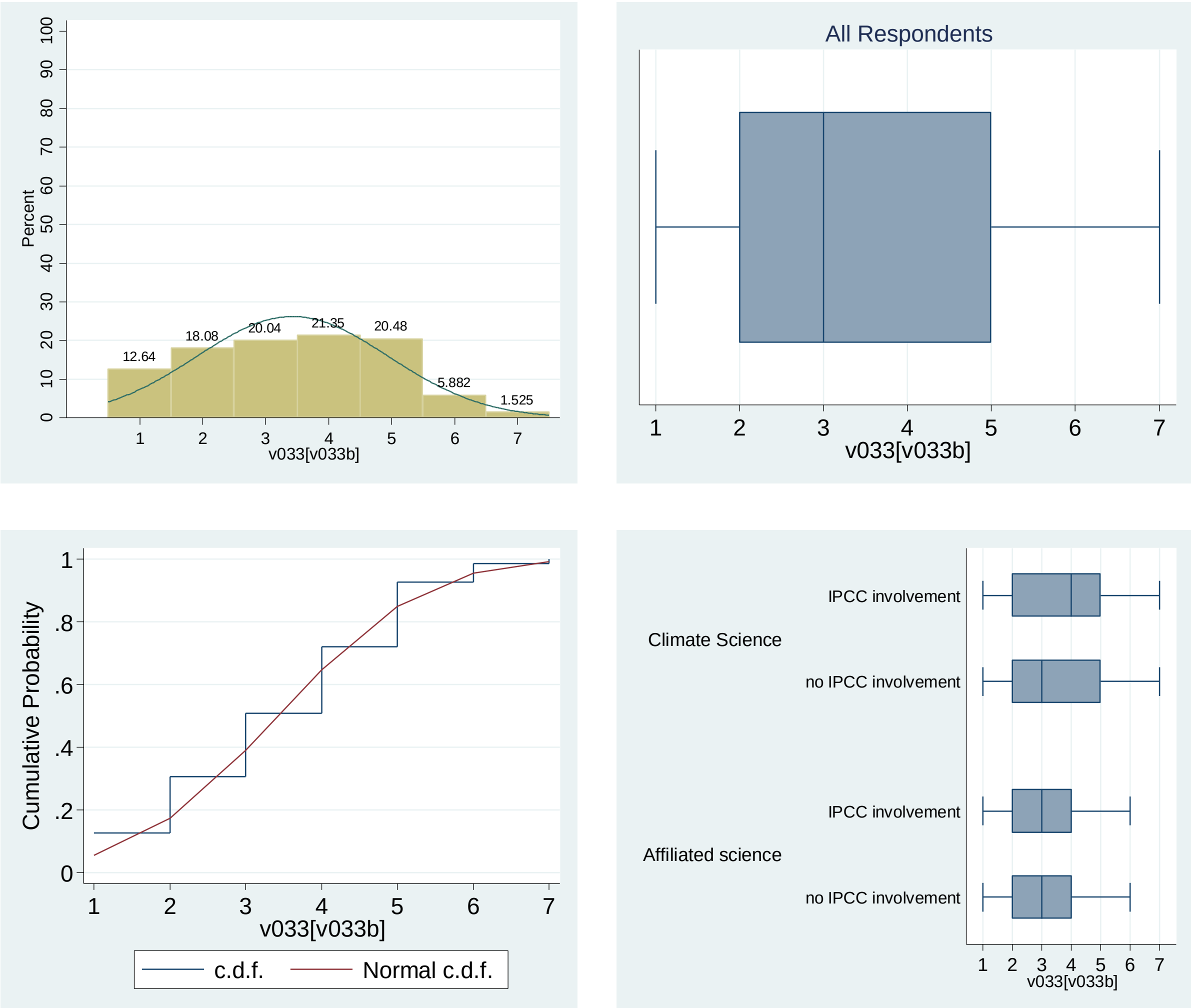
Mean estimation Number of obs = 474

	Mean	Std. Err.	[95% Conf. Interval]	
v033a	3.154008	.0688813	3.018657	3.28936

Climate Science	IPCC Involvement	n=123
	No IPCC Involvement	n=221
Affiliated Science	IPCC Involvement	n=42
	No IPCC Involvement	n=82

Figure 71. (v033b) . How would you rate the ability of *global climate models* to make *50 year projections* of *tropical storms (hurricanes/typhoons)*?

not at all 1	***2***	***3***	***4***	***5***	***6***	***7 very good***



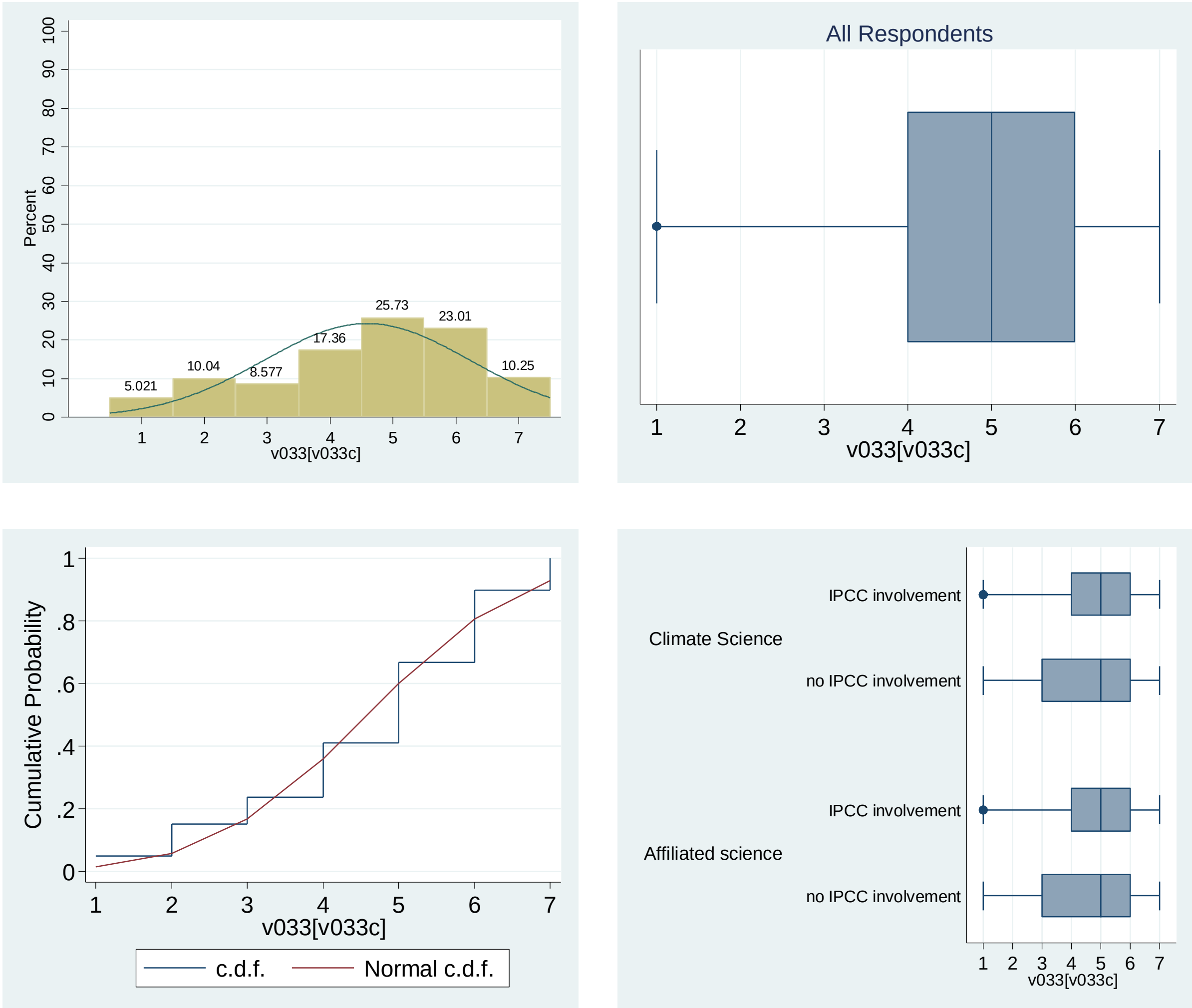
Mean estimation Number of obs = 459

	Mean	Std. Err.	[95% Conf. Interval]	
v033b	3.427015	.0710193	3.287451	3.566579

Climate Science	IPCC Involvement	n=122
	No IPCC Involvement	n=213
Affiliated Science	IPCC Involvement	n=42
	No IPCC Involvement	n=77

Figure 72. (v033c) . How would you rate the ability of *global climate models* to make *50 year projections* of *heat waves*?

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



Mean estimation Number of obs = 478

	Mean	Std. Err.	[95% Conf. Interval]	
v033c	4.587866	.0751541	4.440192	4.73554

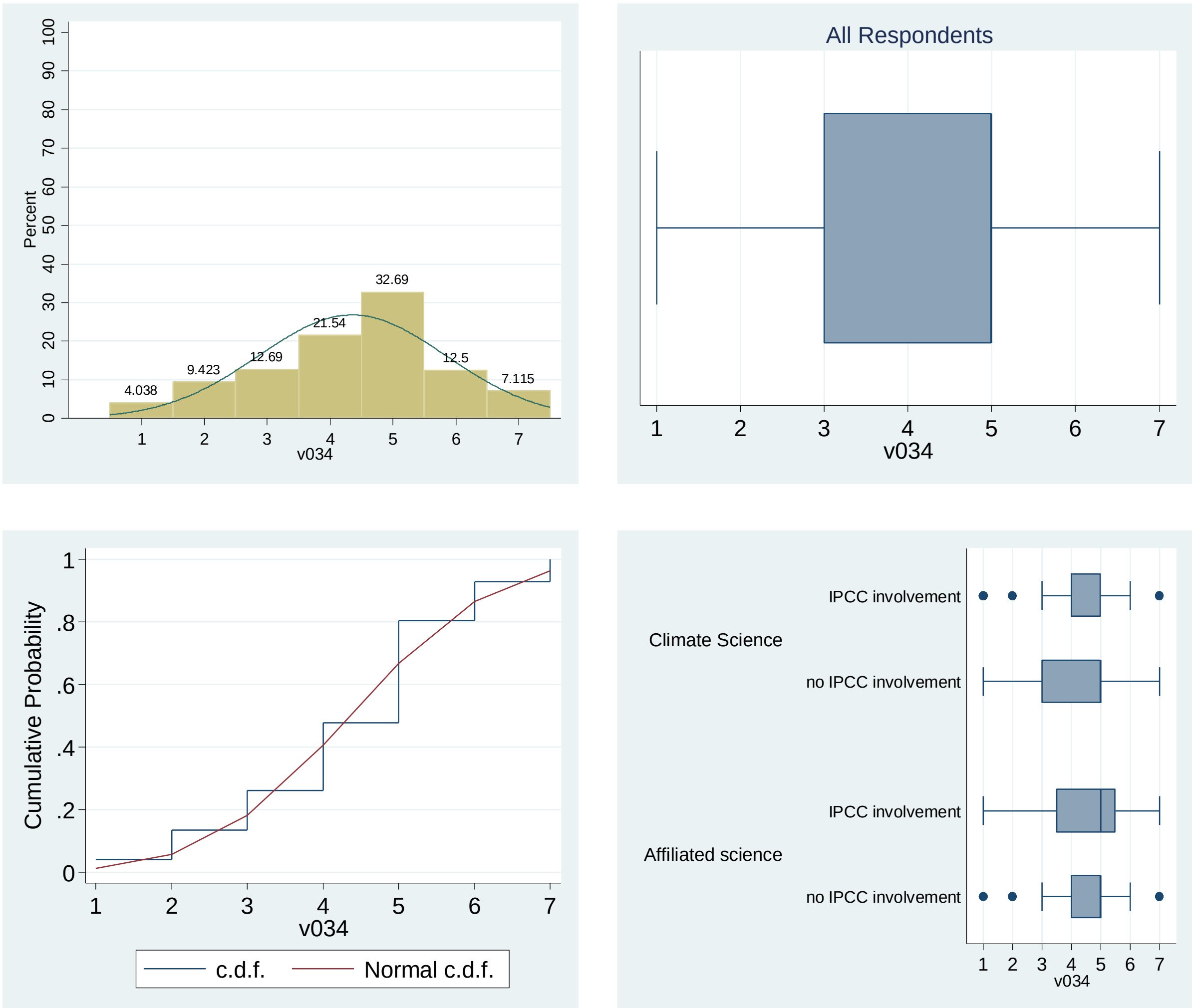
Climate Science	IPCC Involvement	n=127
	No IPCC Involvement	n=218
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=81

Section 6. Attribution of Extreme Events

For some years, efforts have been underway to attribute cause of extreme events (heat waves, storms, etc.) to external drivers, in particular to elevated atmospheric concentrations of greenhouse gases.

Figure 73. (v034) How much do you think such efforts have provided robust evidence of attributing events to causes?

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



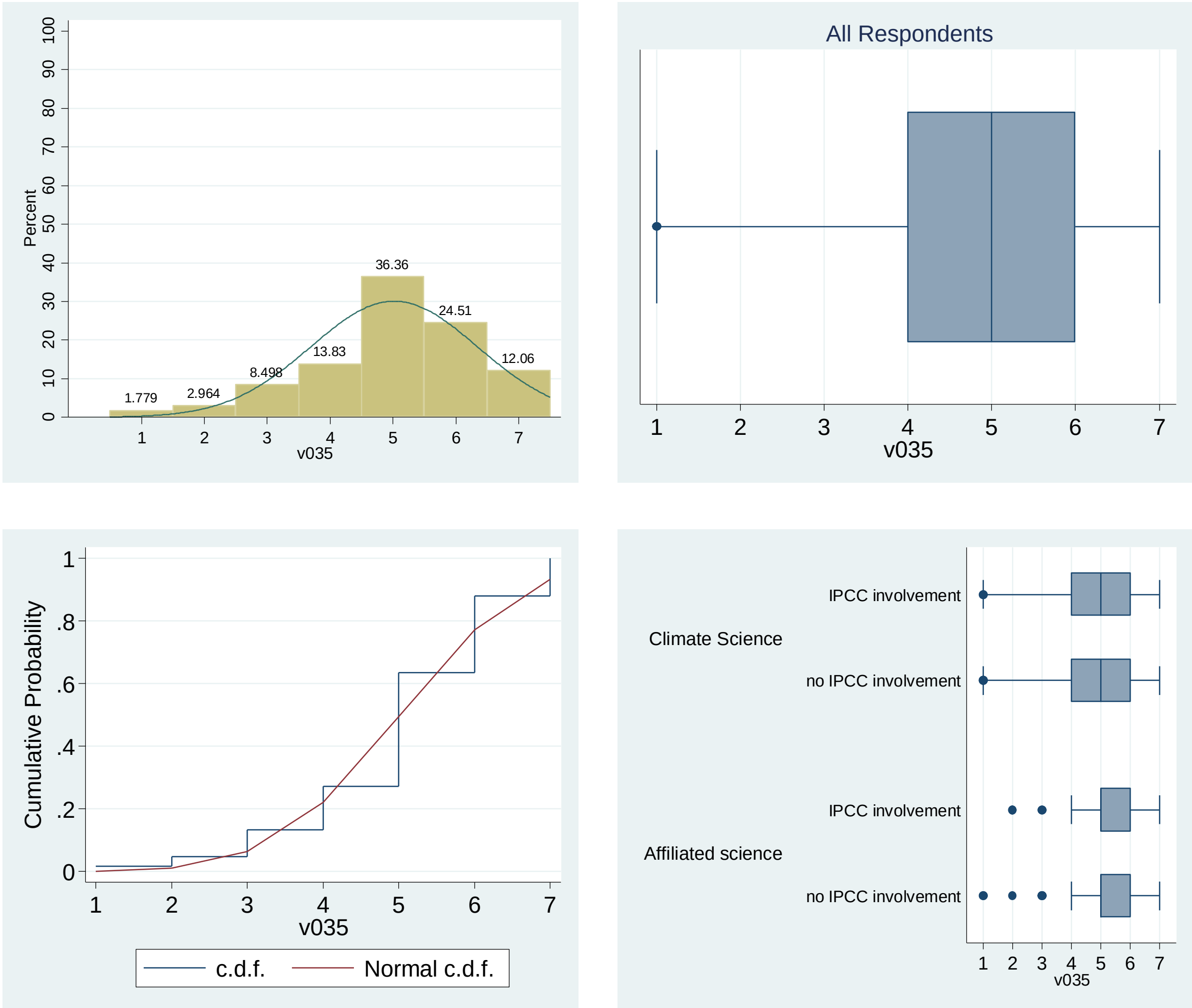
Mean estimation Number of obs = 520

	Mean	Std. Err.	[95% Conf. Interval]	
v034	4.353846	.0652461	4.225667	4.482025

Climate Science	IPCC Involvement	n=133
	No IPCC Involvement	n=241
Affiliated Science	IPCC Involvement	n=48
	No IPCC Involvement	n=90

Figure 74. (v035) How much would successful attribution efforts help to disentangle the dynamics and sensitivities of the climate system?

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



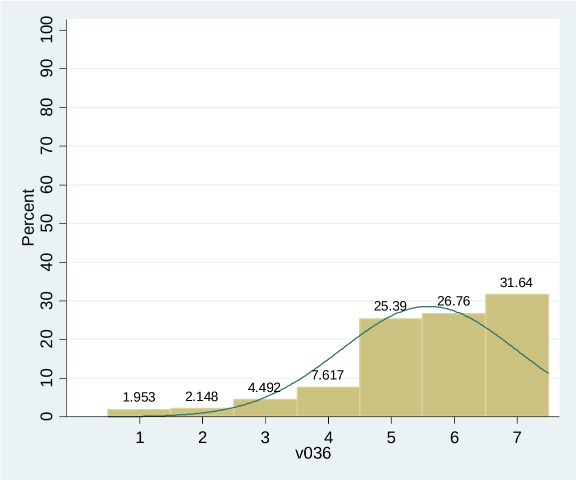
Mean estimation Number of obs = 506

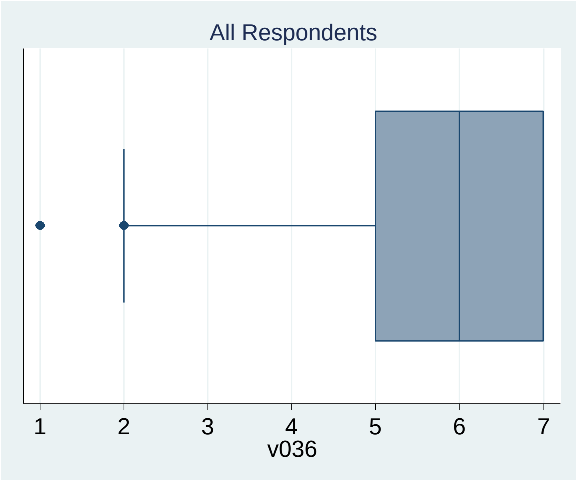
	Mean	Std. Err.	[95% Conf. Interval]	
v035	5.017787	.0589781	4.901914	5.133659

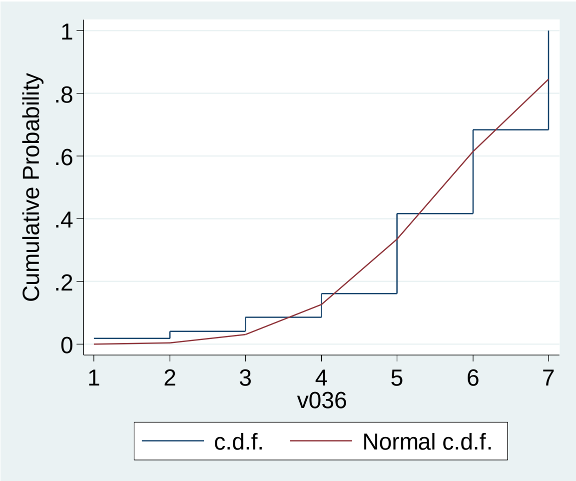
Climate Science	IPCC Involvement	n=128
	No IPCC Involvement	n=235
Affiliated Science	IPCC Involvement	n=47
	No IPCC Involvement	n=89

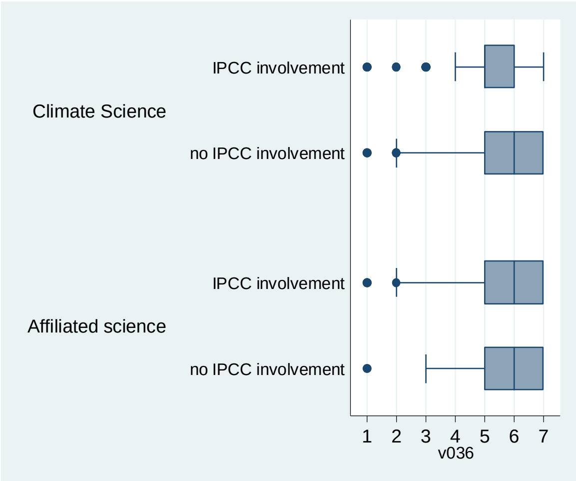
Figure 75. (v036) If such efforts were successful, how much would the results demonstrate the urgency of reducing greenhouse gases?

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









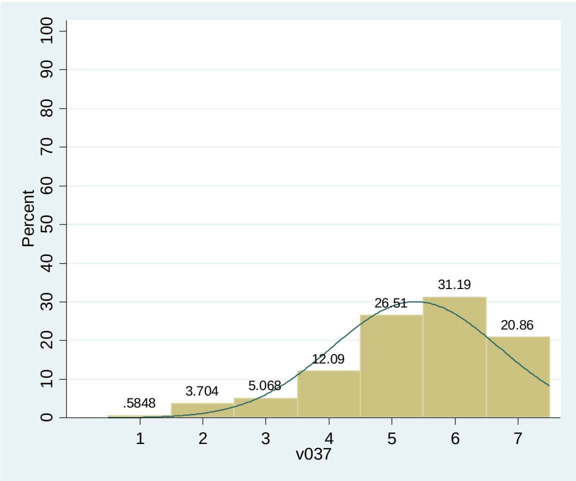
Mean estimation   Number of obs = 512

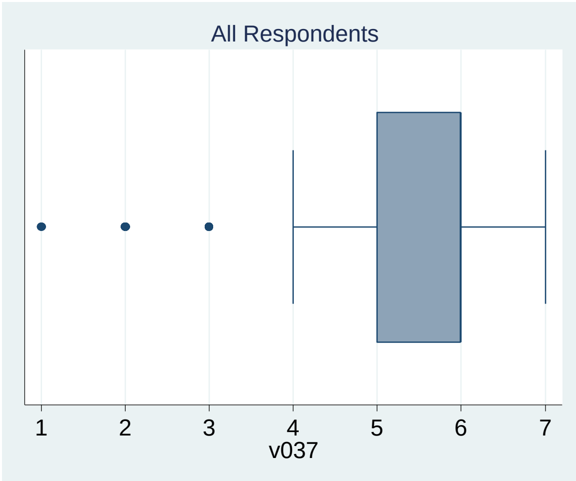
	Mean	Std. Err.	[95% Conf. Interval]	
v036	5.591797	.0616901	5.470599	5.712994

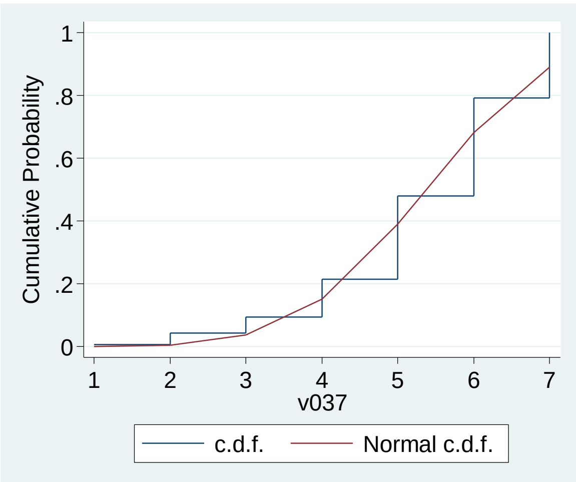
Climate Science	IPCC Involvement	n=129
	No IPCC Involvement	n=237
Affiliated Science	IPCC Involvement	n=50
	No IPCC Involvement	n=88

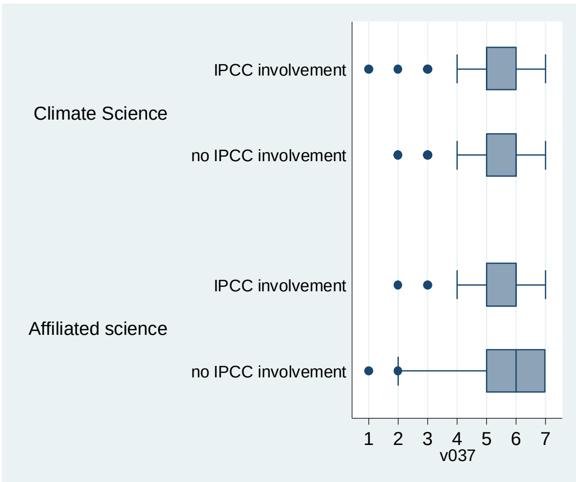
Figure 76. (v037) If such efforts were successful, how much would they support the design of adaptation strategies?

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









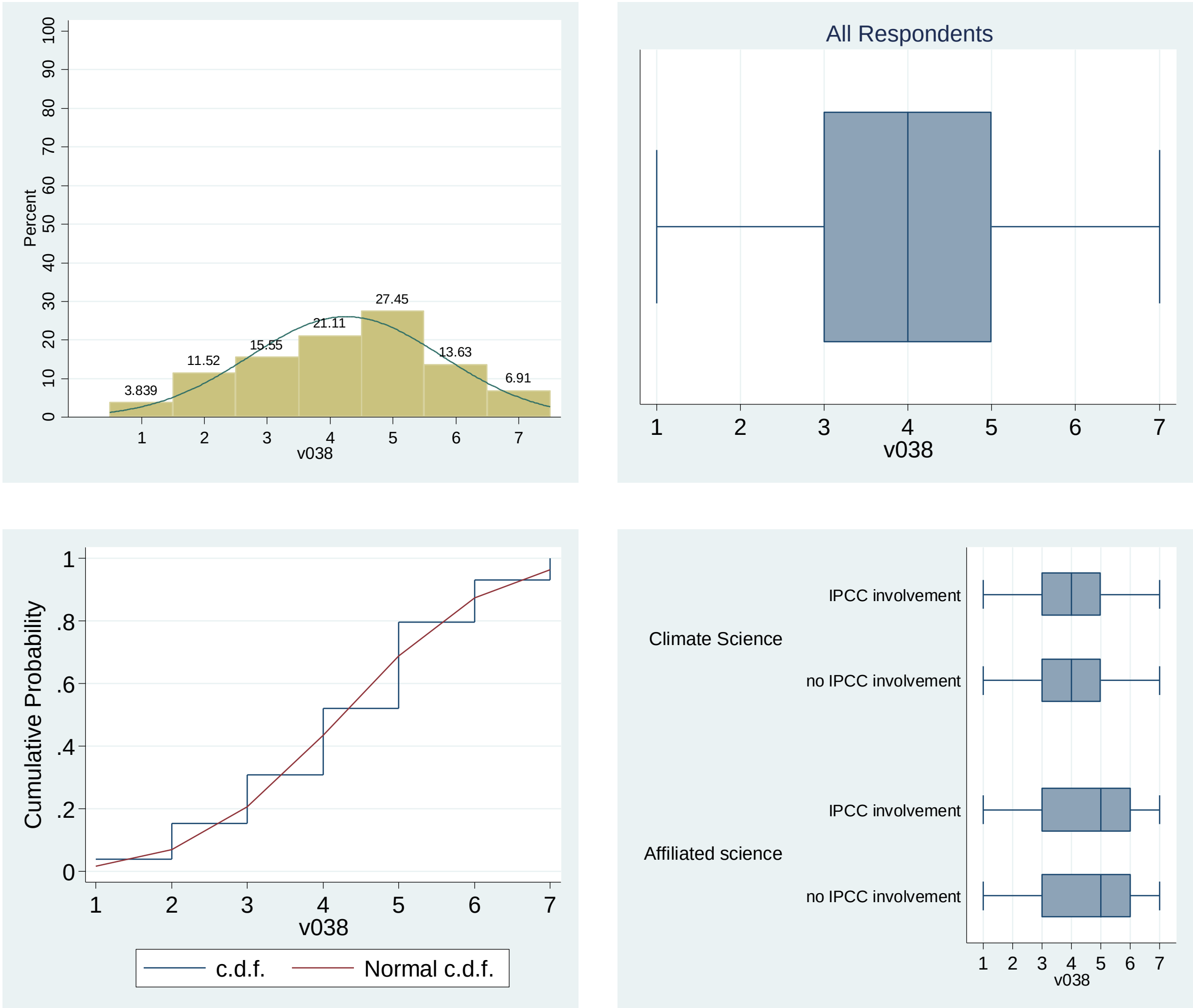
Mean estimation Number of obs = 513

	Mean	Std. Err.	[95% Conf. Interval]	
v037	5.37232	.0585979	5.257198	5.487442

Climate Science	IPCC Involvement	n=131
	No IPCC Involvement	n=236
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=89

Figure 77. (v038) With how much certainty can we attribute recent extreme climate events to climate change (anthropogenic or otherwise)?

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



Mean estimation Number of obs = 521

```
--------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
        v038 |   4.253359    .067066      4.121605    4.385113
--------------------------------------------------------------
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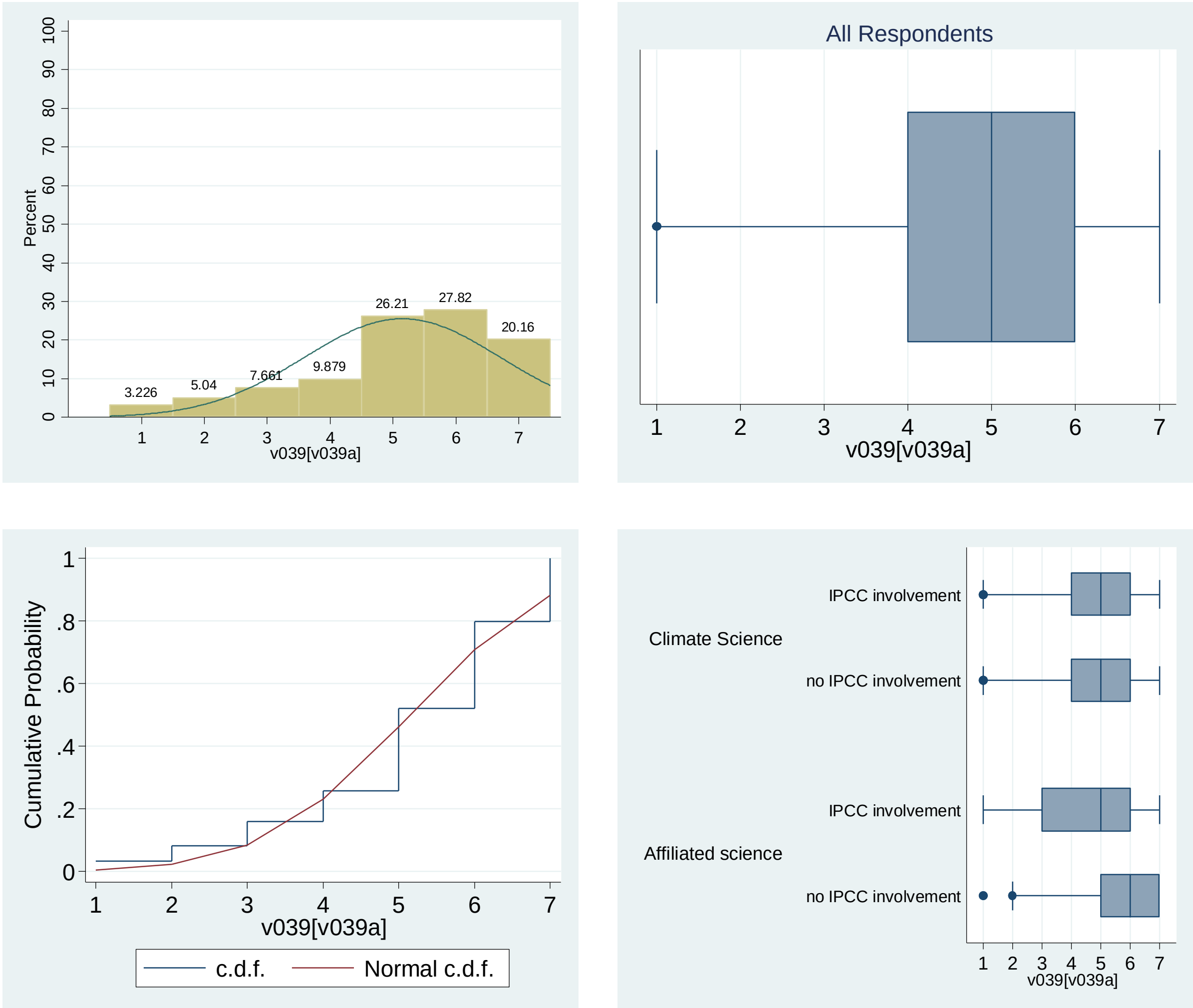
Climate Science	IPCC Involvement	n=128
	No IPCC Involvement	n=243
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=91

Figure 78. (v39a) The significance of an investigation of an individual extreme weather event that has already occurred, is to improve the planning and execution of climate adaptation strategies with the use of evidence bases planning.

not significant 1 2 3 4 5 6 7 very significant



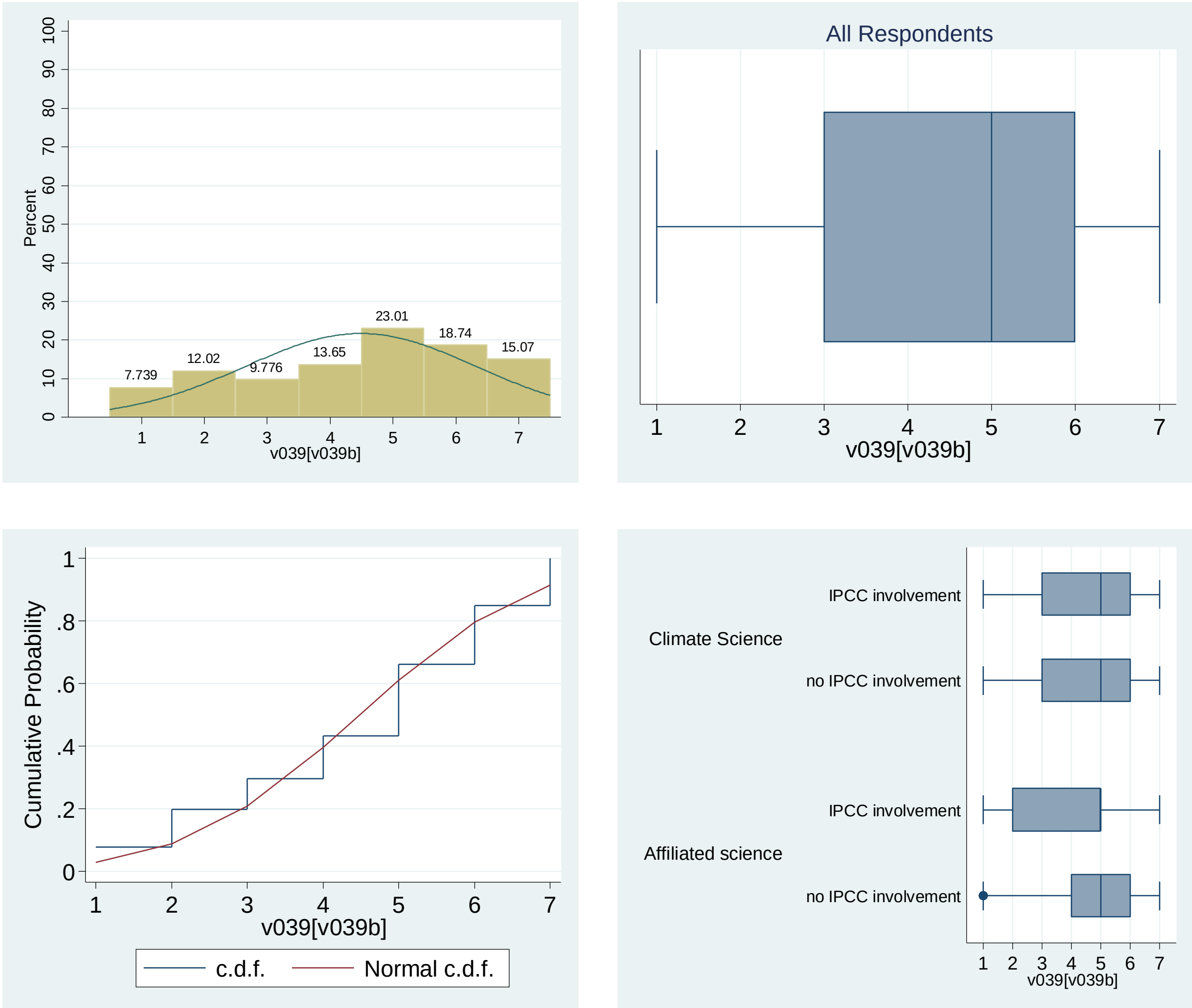
Mean estimation Number of obs = 496

	Mean	Std. Err.	[95% Conf. Interval]	
v039a	5.149194	.0701718	5.011322	5.287065

Climate Science	IPCC Involvement	n=125
	No IPCC Involvement	n=228
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=89

Figure 79. (v039b) The significance of an investigation of an individual extreme weather event that has already occurred is to make climate change visible and convince citizens of the reality of climate change.

not significant 1 2 3 4 5 6 7 very significant



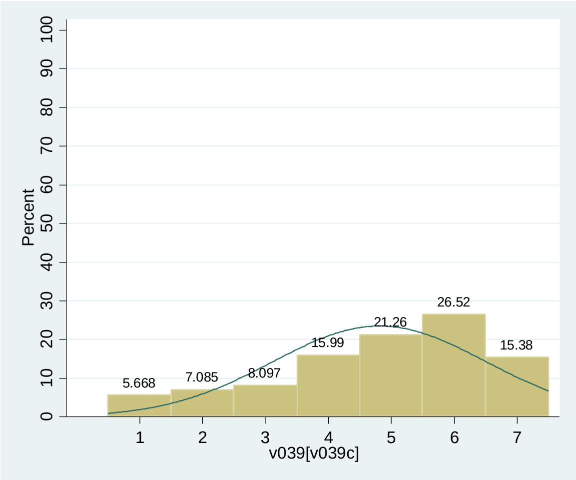
Mean estimation Number of obs = 491

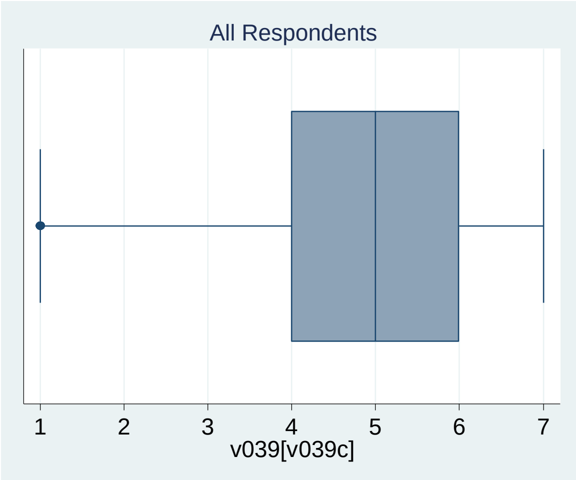
	Mean	Std. Err.	[95% Conf. Interval]	
v039b	4.486762	.082981	4.323719	4.649804

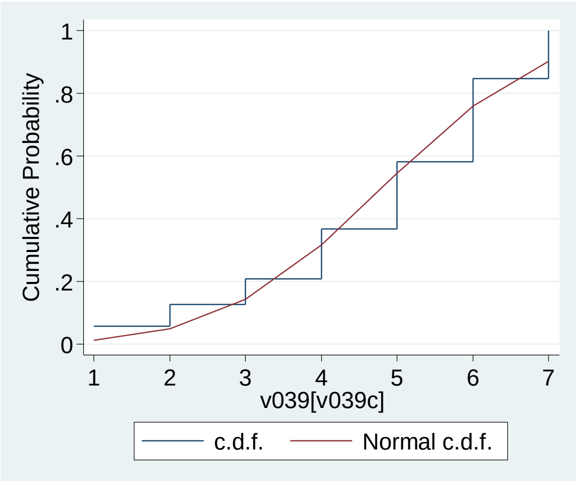
Climate Science	IPCC Involvement	n=126
	No IPCC Involvement	n=225
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=86

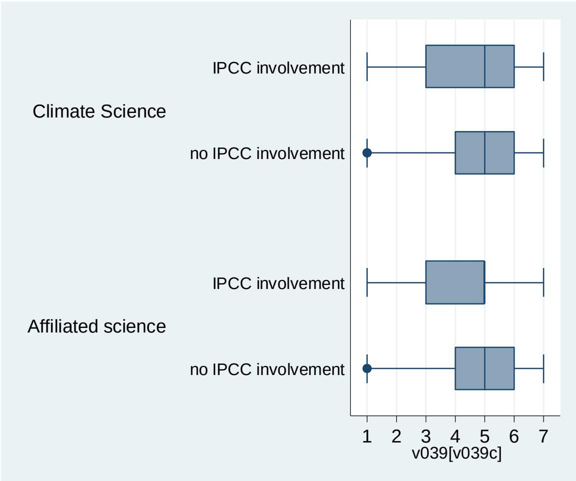
Figure 80. (v039c) The significance of an investigation of an individual extreme weather event that has already occurred is to try to determine a method of assessing the anthropogenic influence on extreme events.

not significant 1	*2*	*3*	*4*	*5*	*6*	*7 very significant*









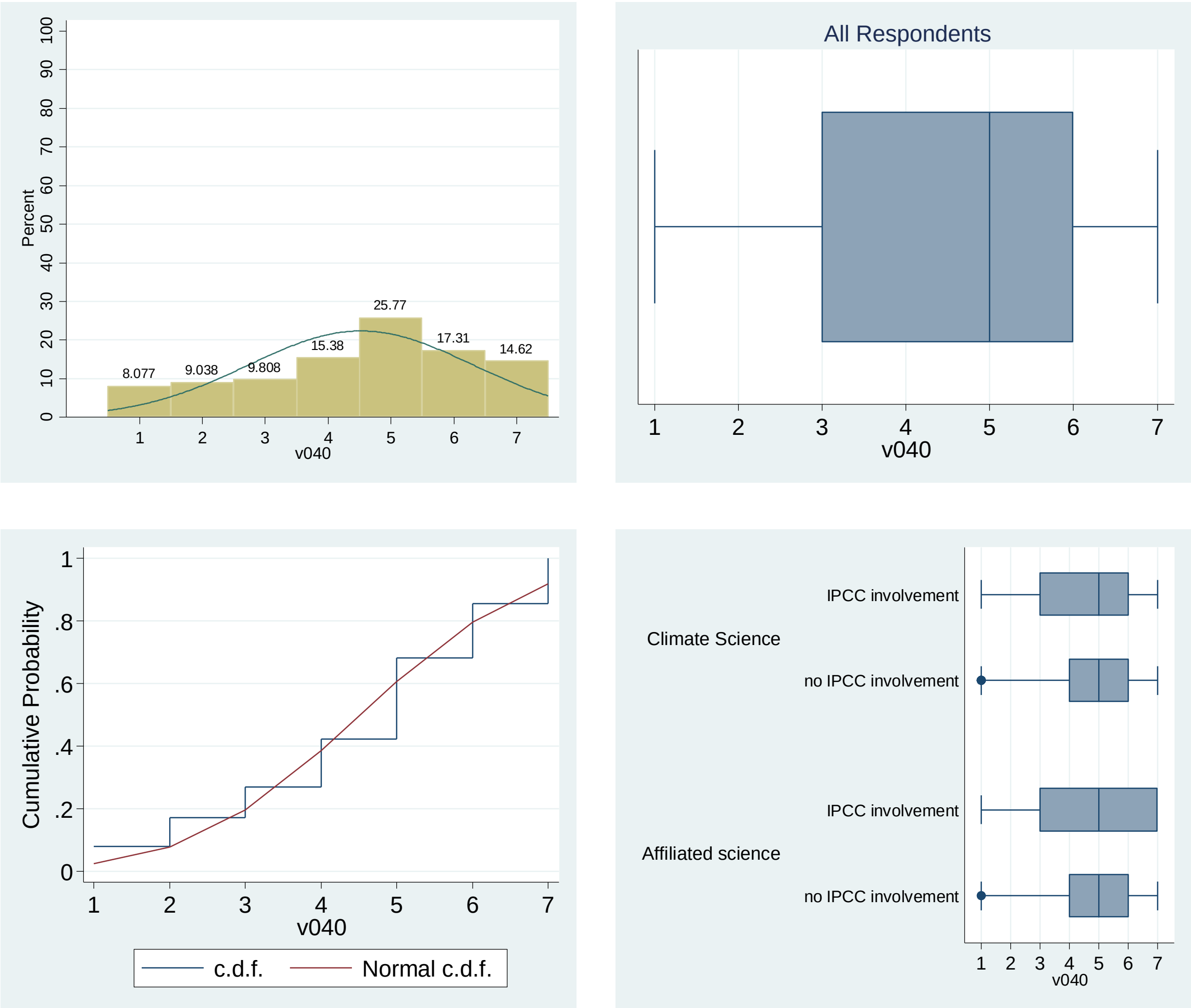
Mean estimation Number of obs = 494

	Mean	Std. Err.	[95% Conf. Interval]	
v039c	4.811741	.0763448	4.66174	4.961742

Climate Science	IPCC Involvement	n=124
	No IPCC Involvement	n=227
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=89

Figure 81. (v040) How much would you agree with the following statement: "Extreme weather events are a major consequence of climate change."?

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



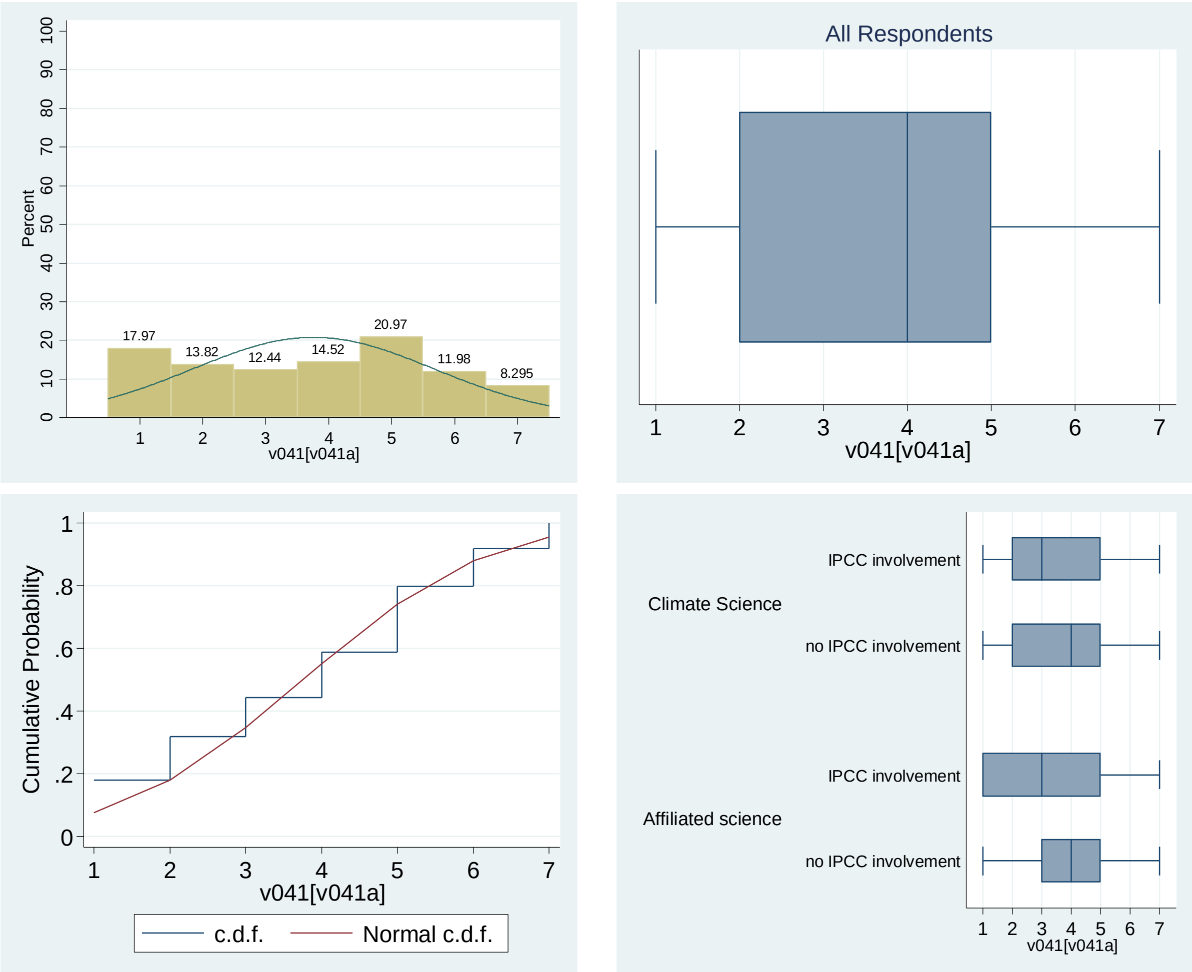
Mean estimation Number of obs = 520

	Mean	Std. Err.	[95% Conf. Interval]	
v040	4.521154	.0782802	4.367369	4.674939

Climate Science	IPCC Involvement	n=131
	No IPCC Involvement	n=242
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=90

Figure 82. (v041a) How much would you agree with the following: "Extreme weather events are becoming more erratic"?

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



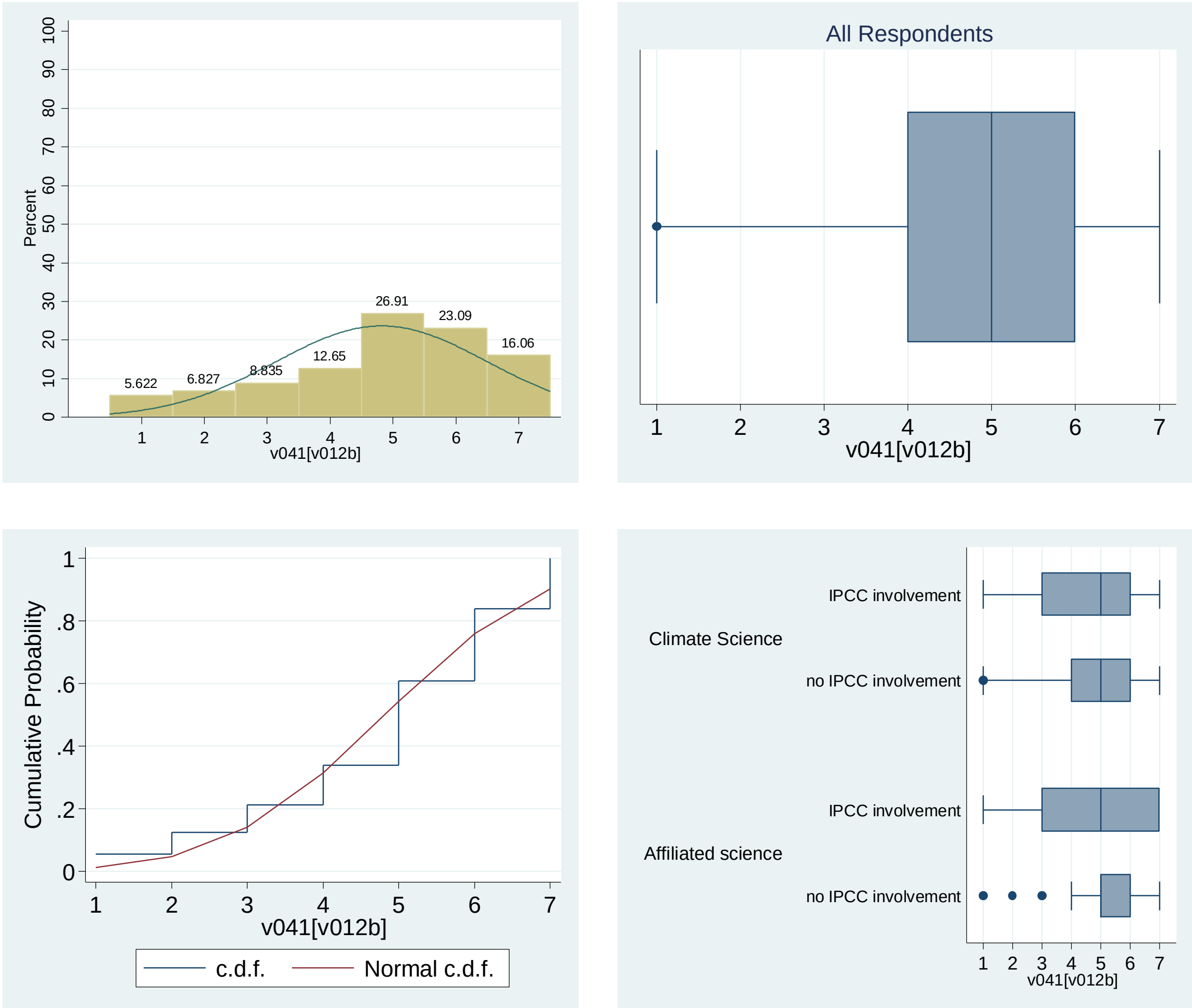
Mean estimation Number of obs = 434

	Mean	Std. Err.	[95% Conf. Interval]	
v041a	3.758065	.0920874	3.577071	3.939058

Climate Science	IPCC Involvement	n=105
	No IPCC Involvement	n=208
Affiliated Science	IPCC Involvement	n=36
	No IPCC Involvement	n=78

Figure 83. (v041b) How much would you agree with the following: "Extreme weather events are becoming more frequent"?

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



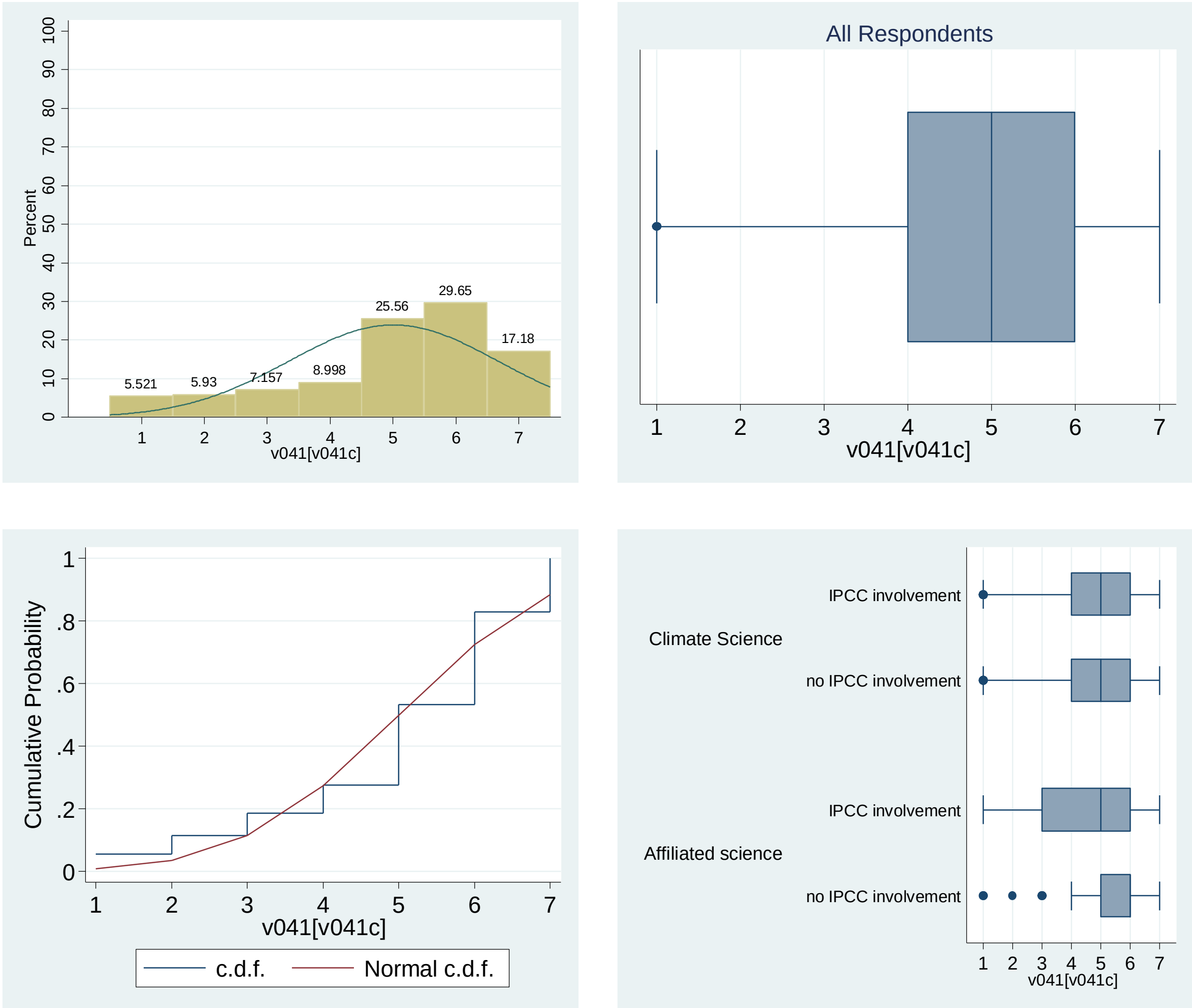
Mean estimation Number of obs = 498

	Mean	Std. Err.	[95% Conf. Interval]	
v041b	4.819277	.0755238	4.670892	4.967662

Climate Science	IPCC Involvement	n=123
	No IPCC Involvement	n=229
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=89

Figure 84. (v041c) How much would you agree with the following: "Extreme weather events are becoming more powerful"?

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



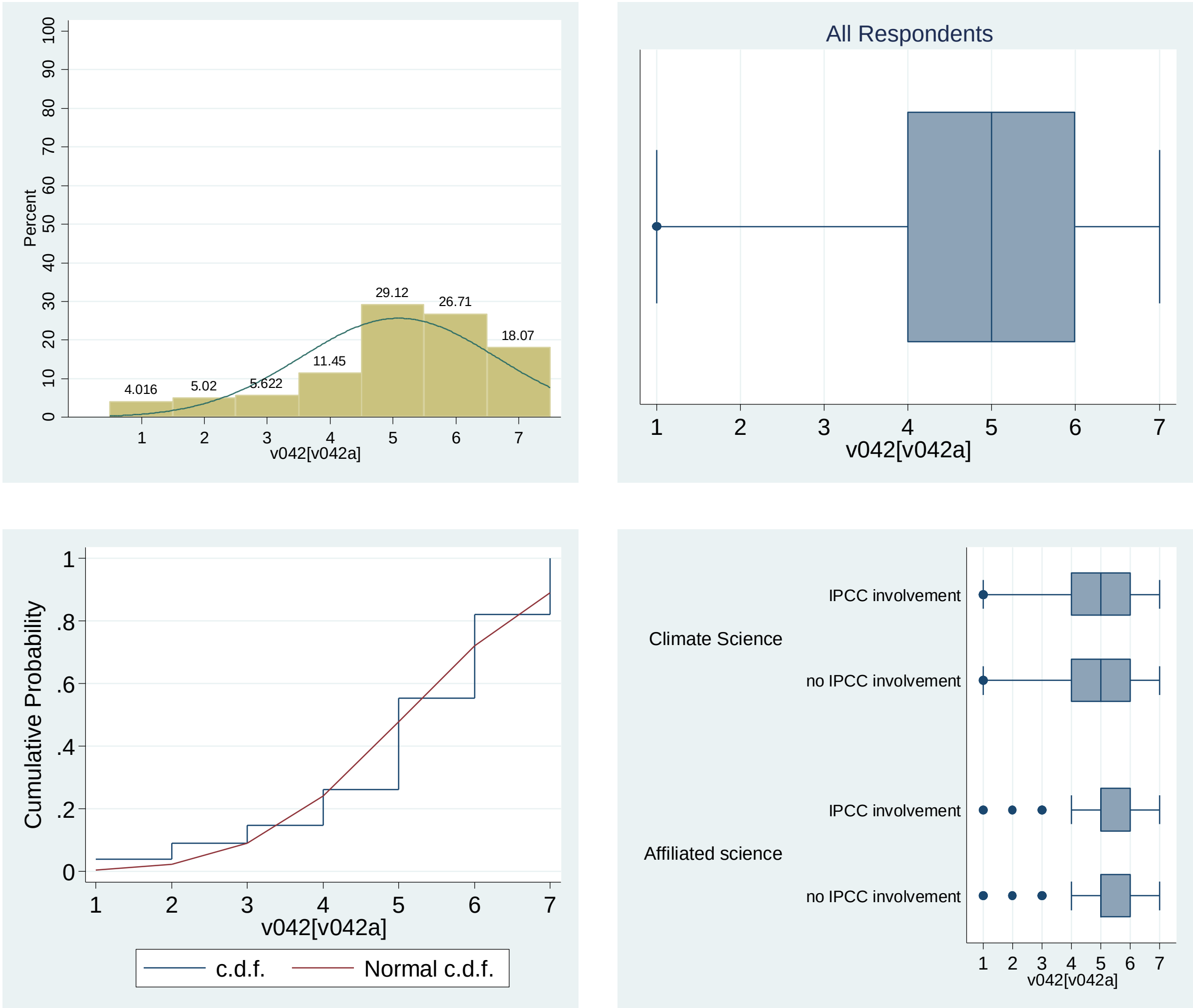
Mean estimation Number of obs = 489

	Mean	Std. Err.	[95% Conf. Interval]	
v041c	5.00818	.0754363	4.85996	5.1564

Climate Science	IPCC Involvement	n=124
	No IPCC Involvement	n=218
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=90

Figure 85. (v042a). How much do you think the anthropogenic influence on the climate increases the probability of the occurrence of an extreme event?

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



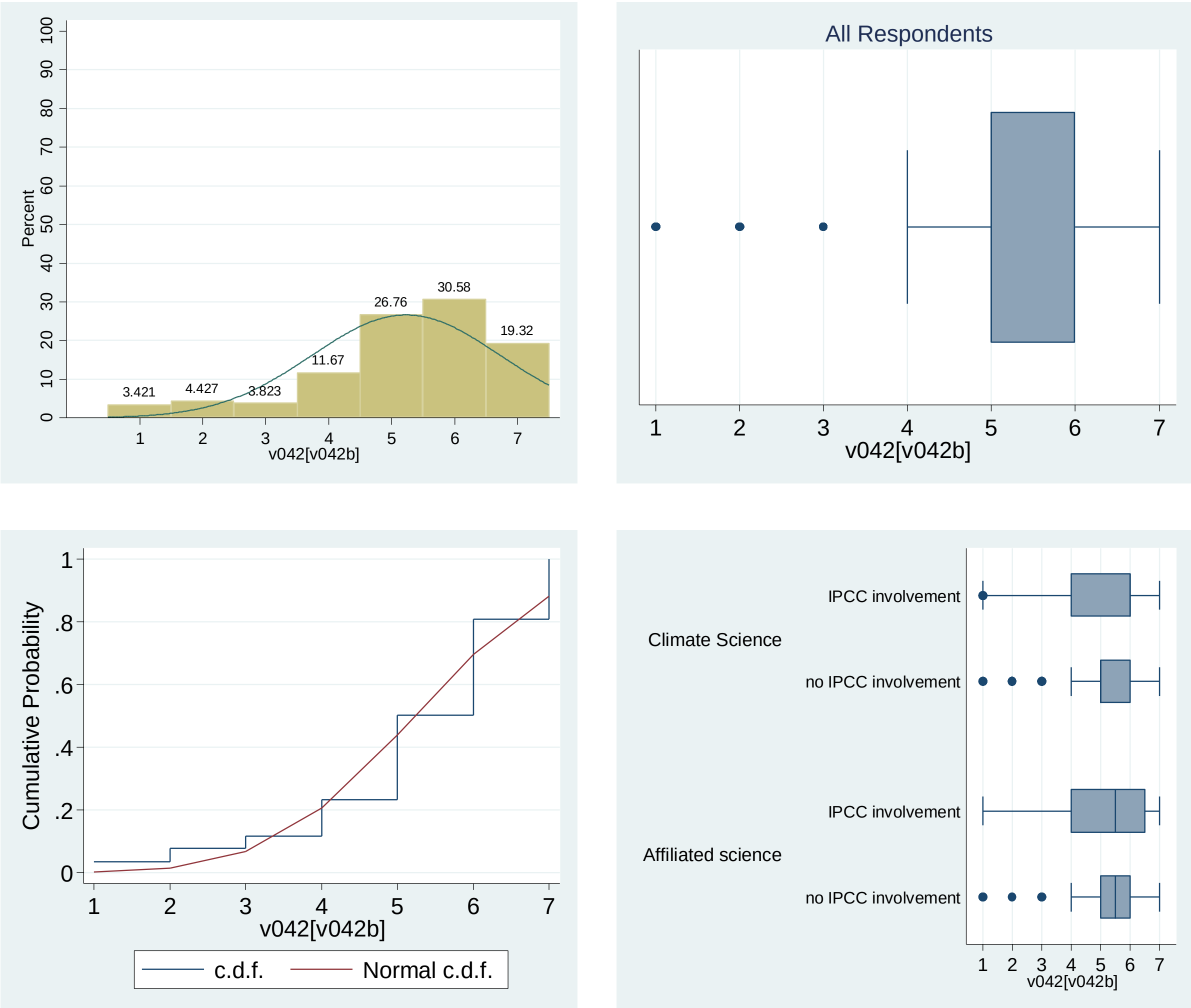
Mean estimation Number of obs = 498

	Mean	Std. Err.	[95% Conf. Interval]	
v042a	5.090361	.0697153	4.953388	5.227334

Climate Science	IPCC Involvement	n=124
	No IPCC Involvement	n=230
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=90

Figure 86. (v042b) How much do you think the anthropogenic influence on the climate increases the intensity of an extreme event?

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



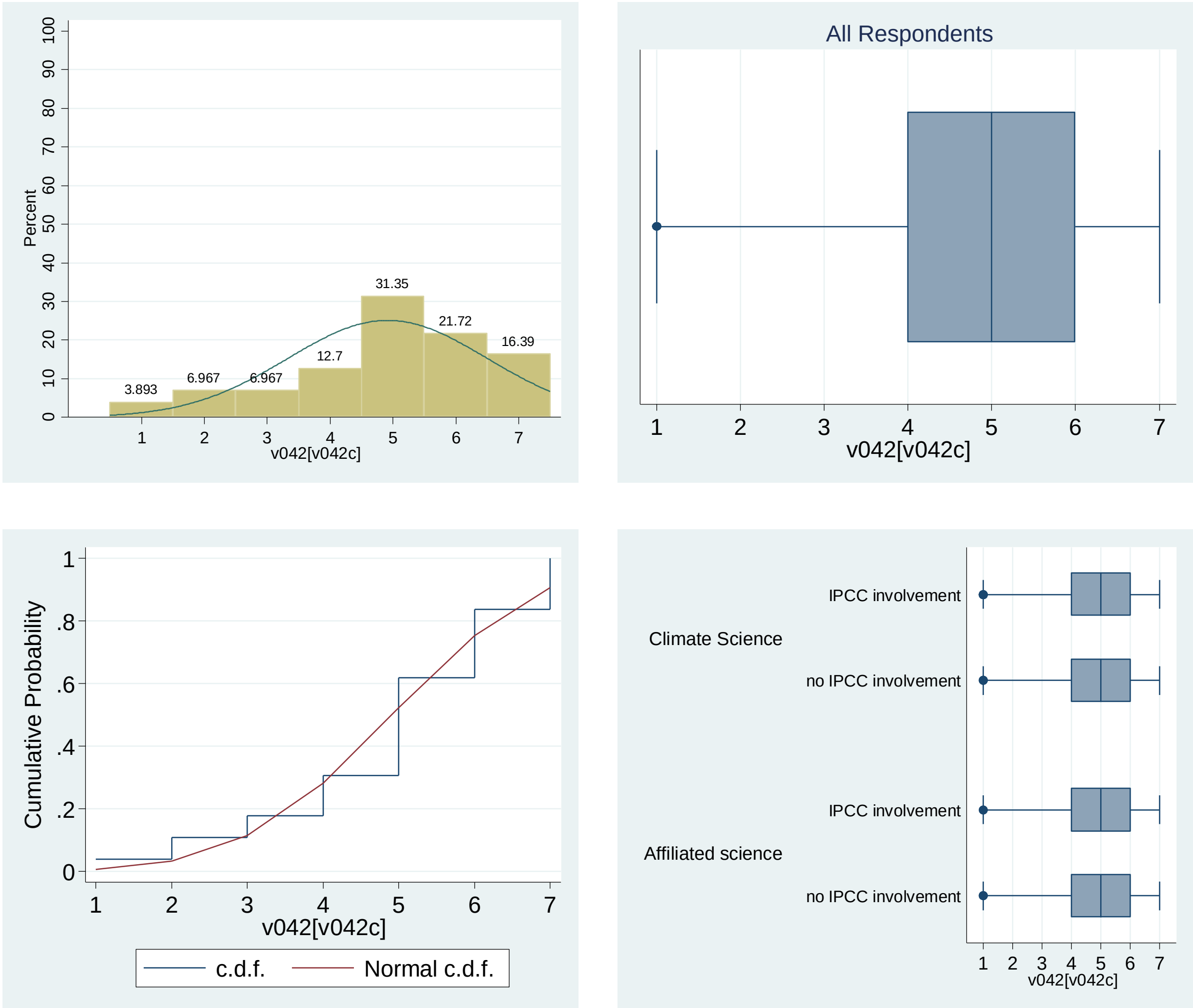
Mean estimation   Number of obs = 497

	Mean	Std. Err.	[95% Conf. Interval]	
v042b	5.229376	.0672194	5.097306	5.361446

Climate Science	IPCC Involvement	n=125
	No IPCC Involvement	n=228
Affiliated Science	IPCC Involvement	n=44
	No IPCC Involvement	n=92

Figure 87. (v042c) How much do you think the anthropogenic influence on the climate increases the frequency of an extreme event?

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



Mean estimation Number of obs = 488

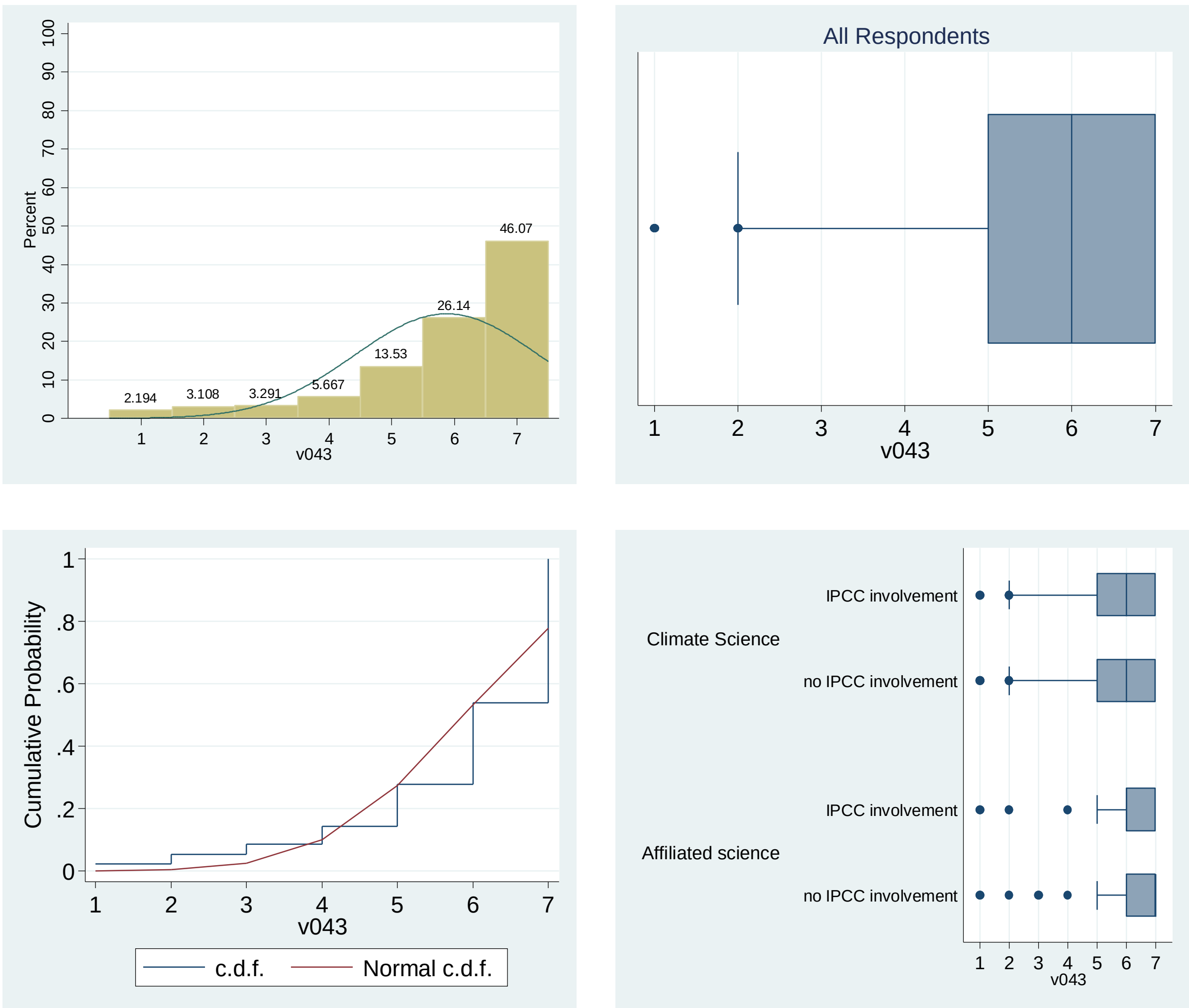
	Mean	Std. Err.	[95% Conf. Interval]	
v042c	4.913934	.0719525	4.772559	5.05531

Climate Science	IPCC Involvement	n=122
	No IPCC Involvement	n=223
Affiliated Science	IPCC Involvement	n=46
	No IPCC Involvement	n=89

Section 7. Climate and Society

Figure 88. (v043) 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*	*7 very much*



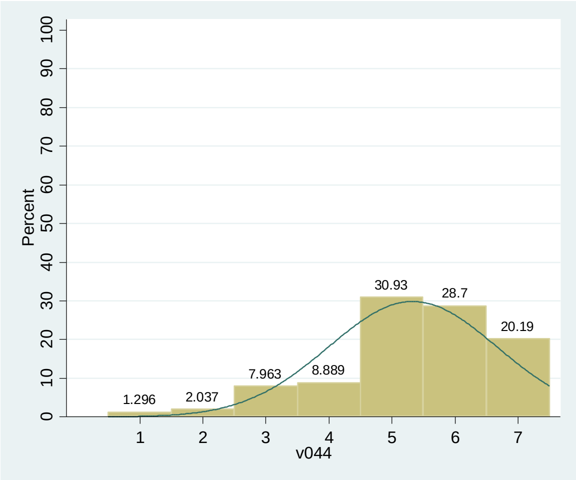
Mean estimation   Number of obs   =   547

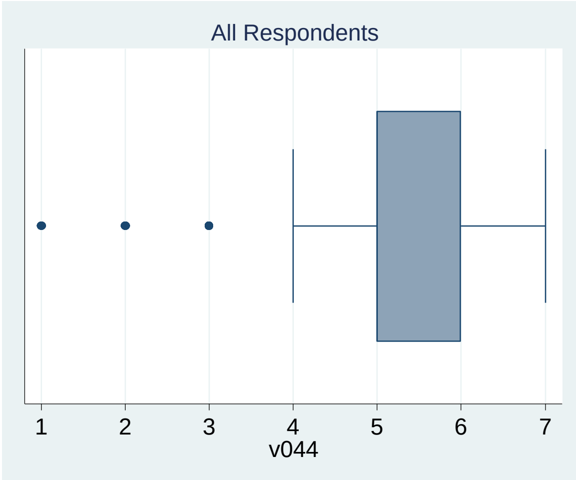
	Mean	Std. Err.	[95% Conf. Interval]	
v043	5.879342	.062751	5.756079	6.002605

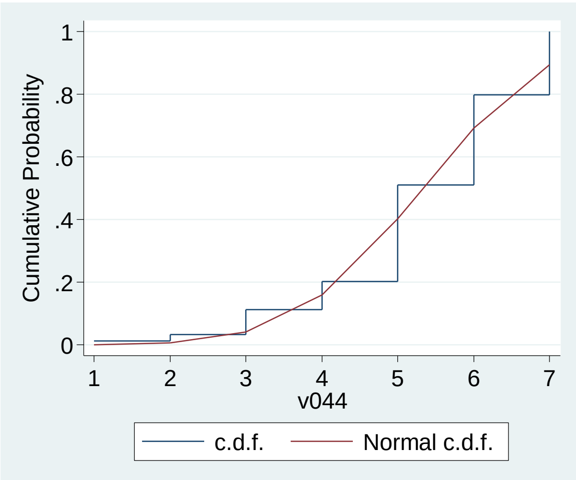
Climate Science	IPCC Involvement	n=135
	No IPCC Involvement	n=255
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=97

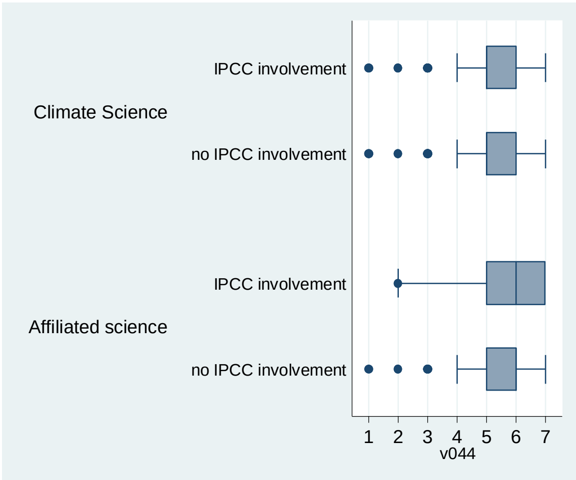
Figure 89. (v044) How much are we beginning to experience the more gradual impacts of climate change, anthropogenic or otherwise?

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









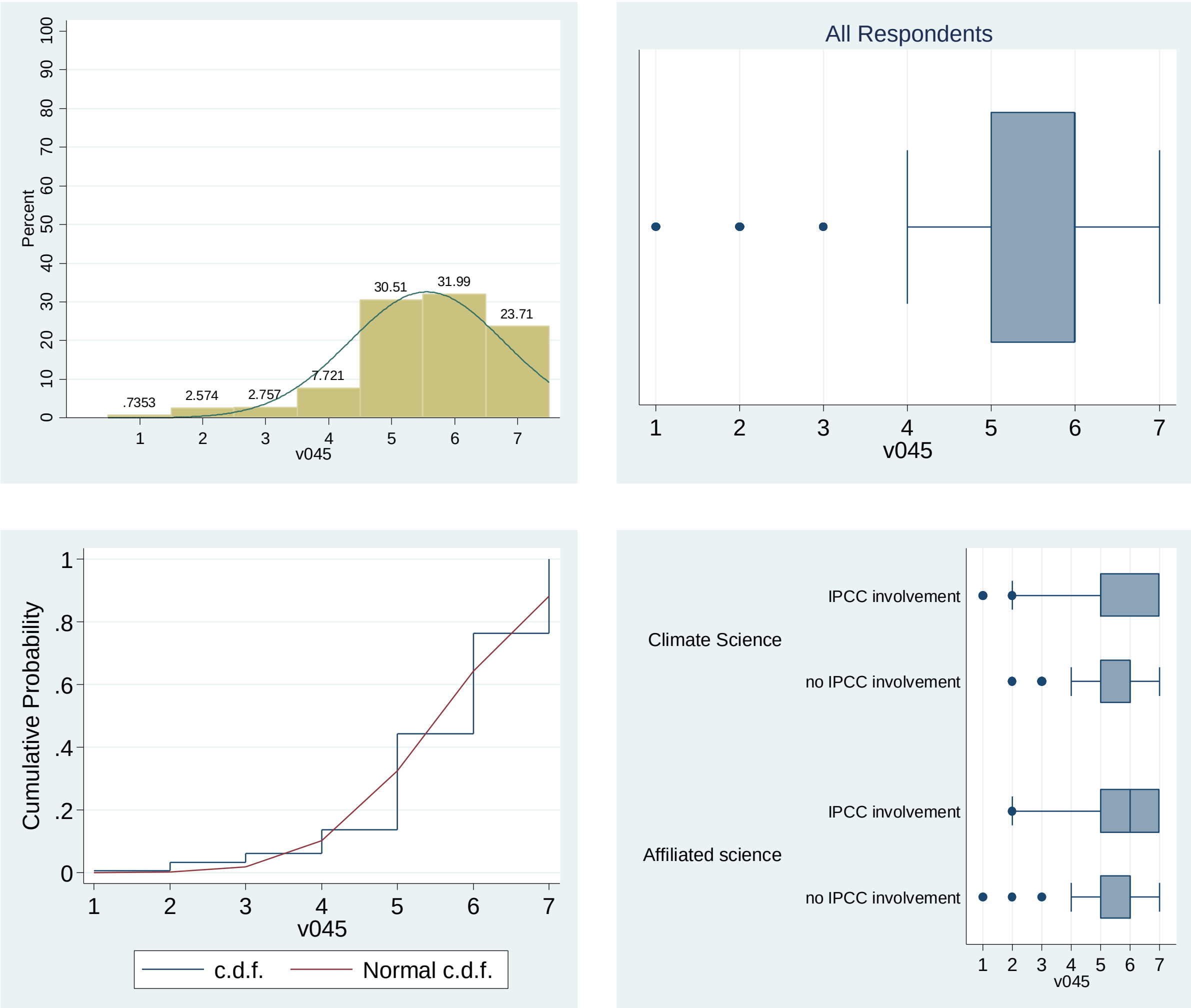
Mean estimation Number of obs = 540

	Mean	Std. Err.	[95% Conf. Interval]	
v044	5.32963	.0575301	5.216619	5.44264

Climate Science	IPCC Involvement	n=134
	No IPCC Involvement	n=253
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=93

Figure 90. (v045) Over the issue of climate change, the general public should be told to be:

unconcerned 1 2 3 4 5 6 7 very worried



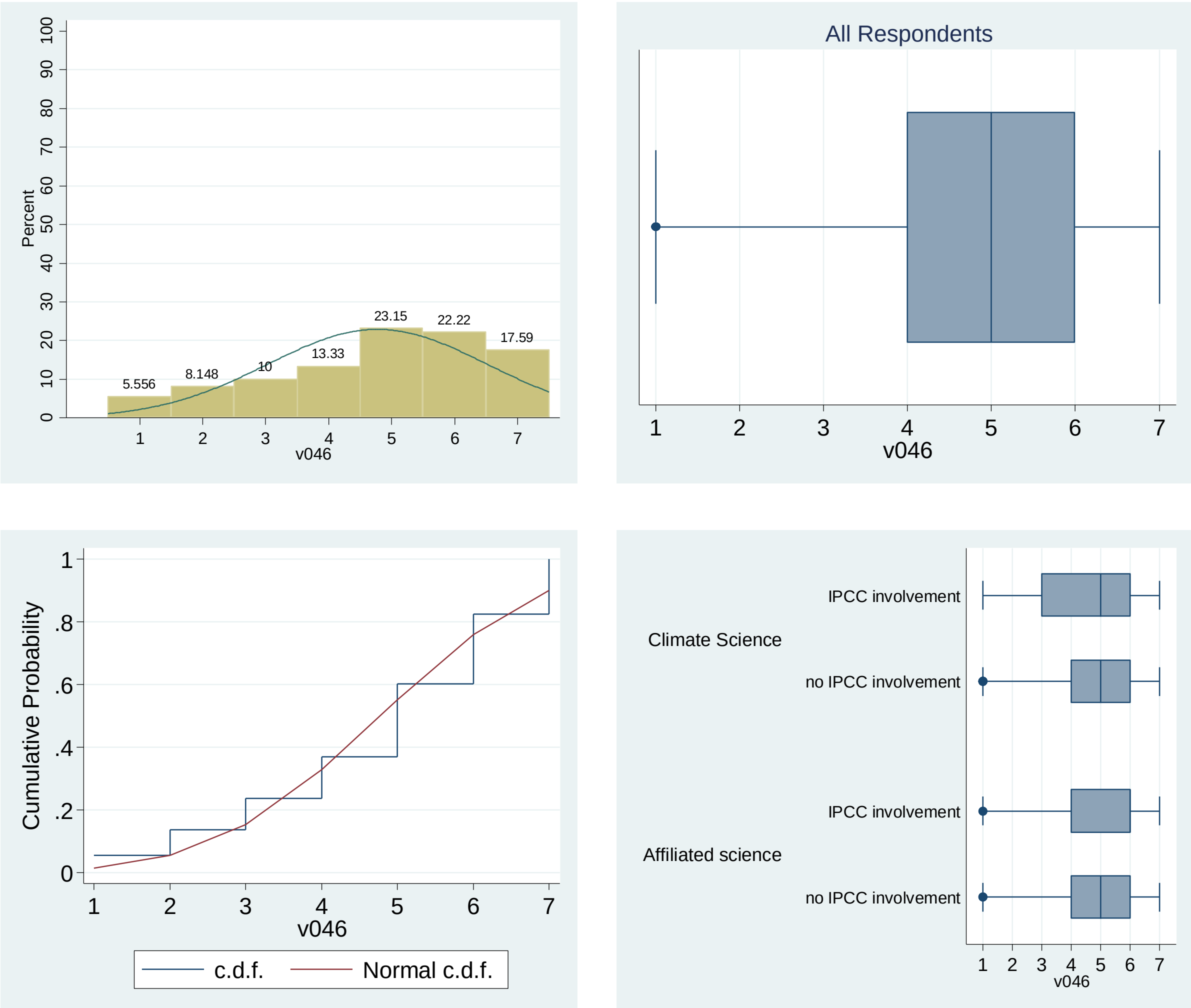

```
Mean estimation              Number of obs   =     544

    --------------------------------------------------------------
          |      Mean   Std. Err.     [95% Conf. Interval]
    -------------+------------------------------------------------
     v045 |  5.555147  .0525055      5.452008    5.658286
    --------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=130
	No IPCC Involvement	n=255
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=98

Figure 91. (v046) It should be the responsibility of climate scientists to tell the general public how much they should be concerned about climate change.

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



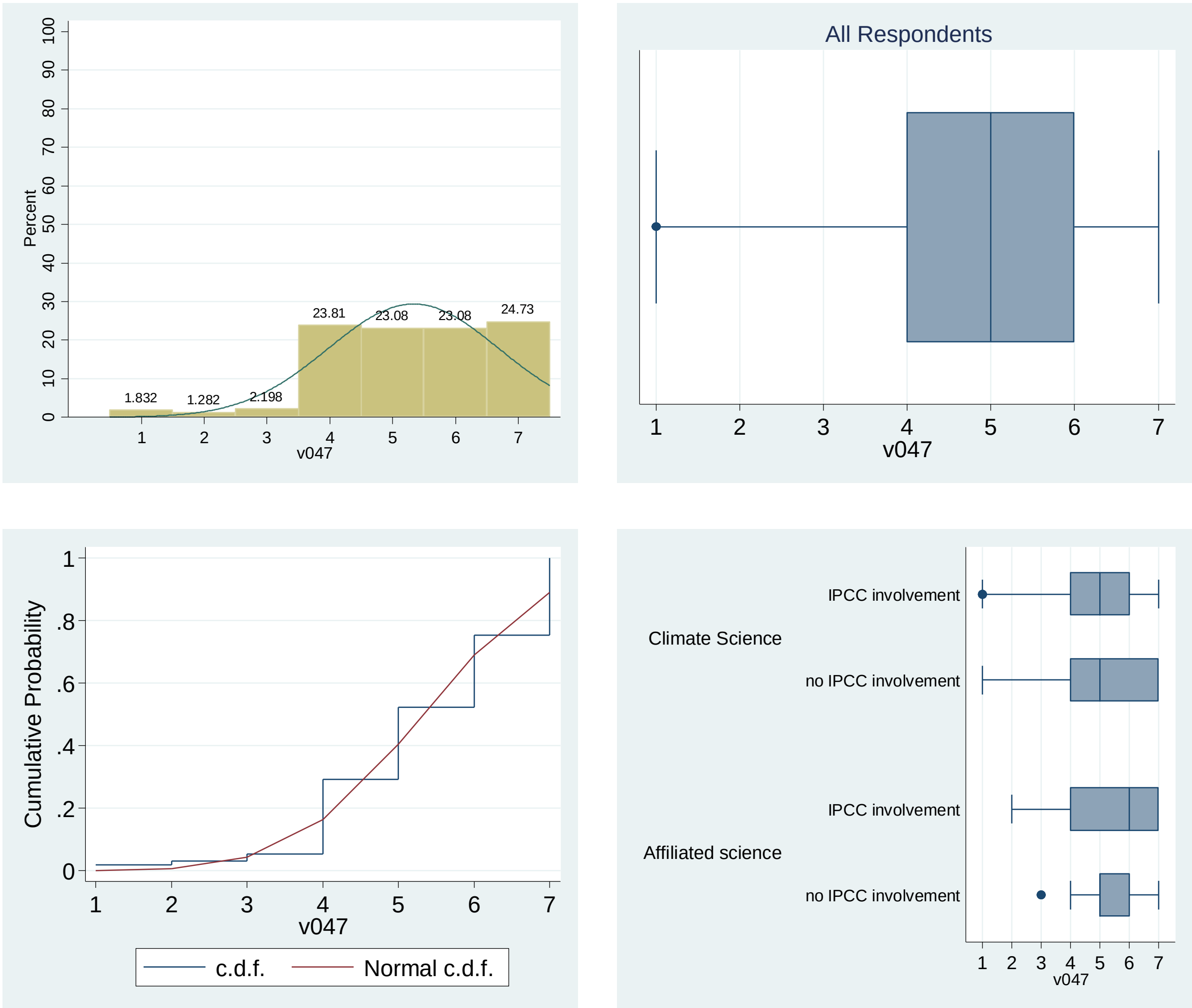
Mean estimation Number of obs = 540

```
--------------------------------------------------------------
             |     Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
        v046 |  4.774074  .0749822      4.626781    4.921367
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=133
	No IPCC Involvement	n=251
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=97

Figure 92. (v047)Considering the advances of the understanding of climate change in the last 5 years, would you say climate change has become?

1 a less urgent global issue
2
3
4 the level of urgency has not changed
5
6
7 a much more urgent global issue



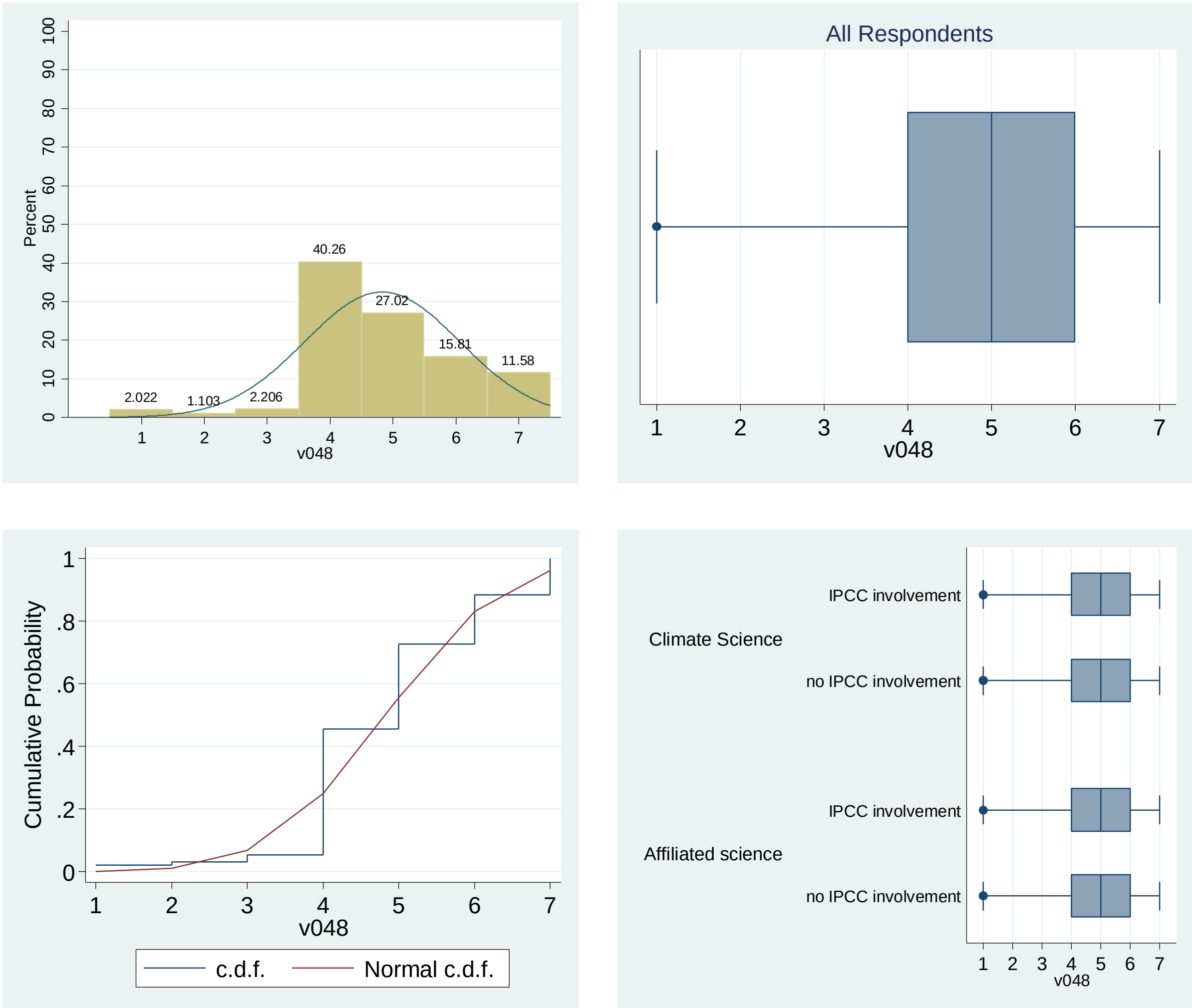
Mean estimation Number of obs = 546

	Mean	Std. Err.	[95% Conf. Interval]	
v047	5.331502	.0581728	5.217232	5.445772

Climate Science	IPCC Involvement	n=135
	No IPCC Involvement	n=255
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=95

Figure 93. (v048) Today, do you think the negative impacts of climate change will be

1 much less than you thought five years ago
2
3
4 the same as you thought five years ago
5
6
7 much more than you thought five years ago



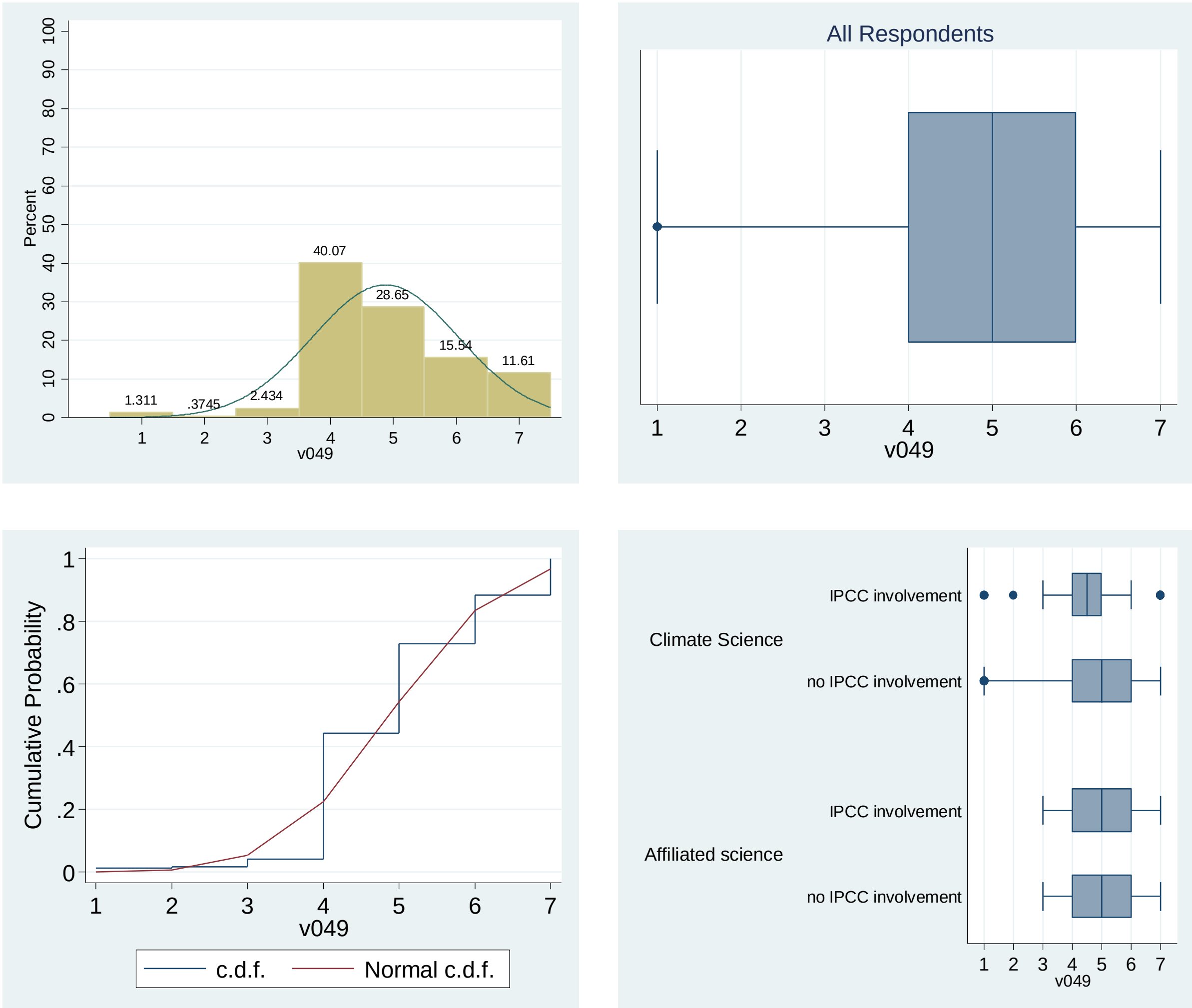
Mean estimation Number of obs = 544

	Mean	Std. Err.	[95% Conf. Interval]	
v048	4.829044	.0526586	4.725605	4.932484

Climate Science	IPCC Involvement	n=135
	No IPCC Involvement	n=251
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=97

Figure 94. (v049) Today, do you think the negative impacts of sea level rise will be

1 much less than you thought five years ago
2
3
4 the same as you thought five years ago
5
6
7 much more than you thought five years ago



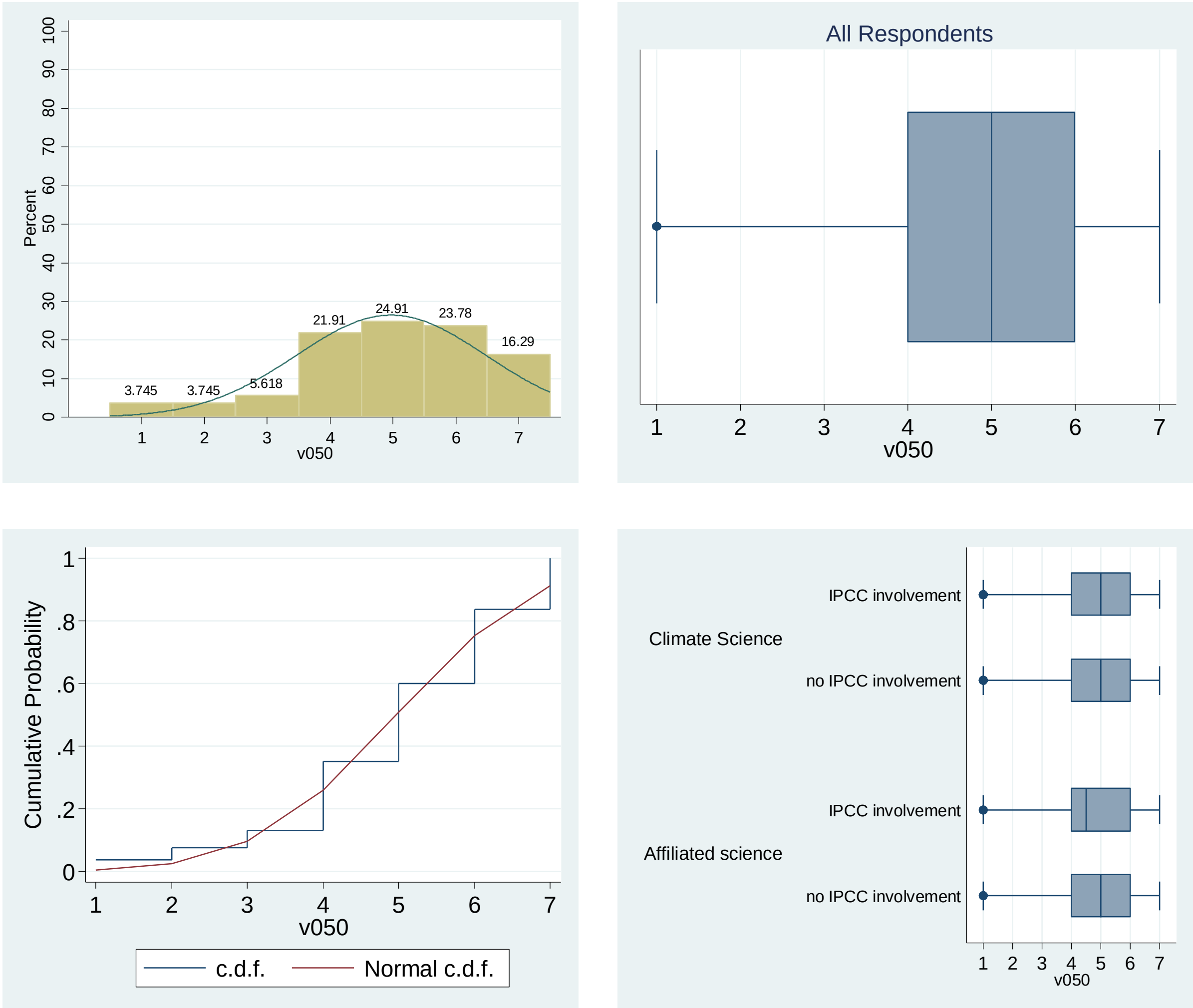
Mean estimation   Number of obs = 534

	Mean	Std. Err.	[95% Conf. Interval]	
v049	4.874532	.0502467	4.775826	4.973238

Climate Science	IPCC Involvement	n=132
	No IPCC Involvement	n=248
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=94

Figure 95. (v050) Climate change discourse in general (scientific, public, political) is driven by

scientific findings 1 2 3 4 5 6 7 public/political sentiment



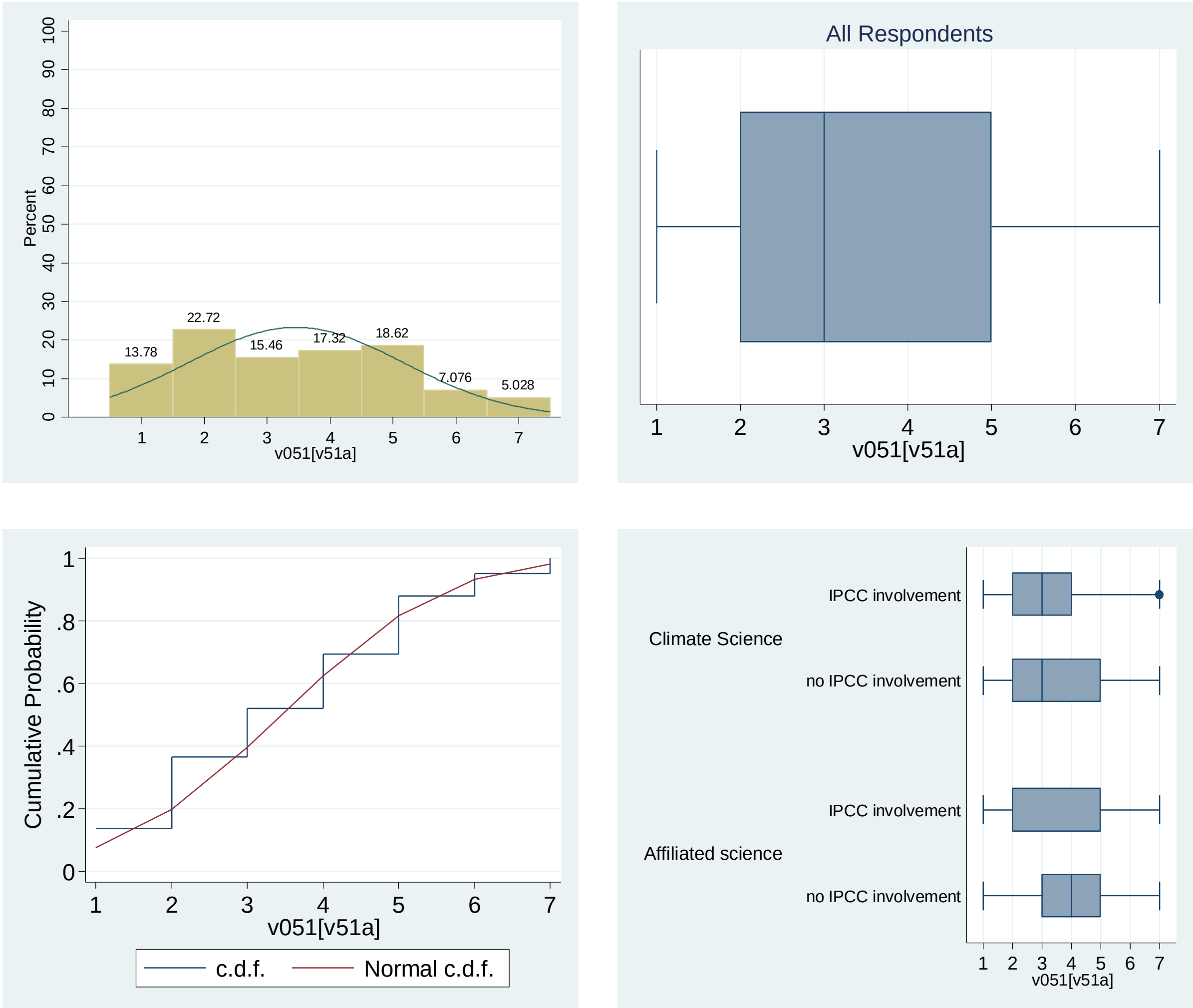
Mean estimation Number of obs = 534

	Mean	Std. Err.	[95% Conf. Interval]	
v050	4.970037	.0652426	4.841873	5.098202

Climate Science	IPCC Involvement	n=132
	No IPCC Involvement	n=249
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=93

Figure 96. (v051a) If we do not do anything towards adaptation or mitigation, the potential for catastrophe in the next 10 years resulting from climate change for the country in which you live is

none 1	*2*	*3*	*4*	*5*	*6*	*7 great*



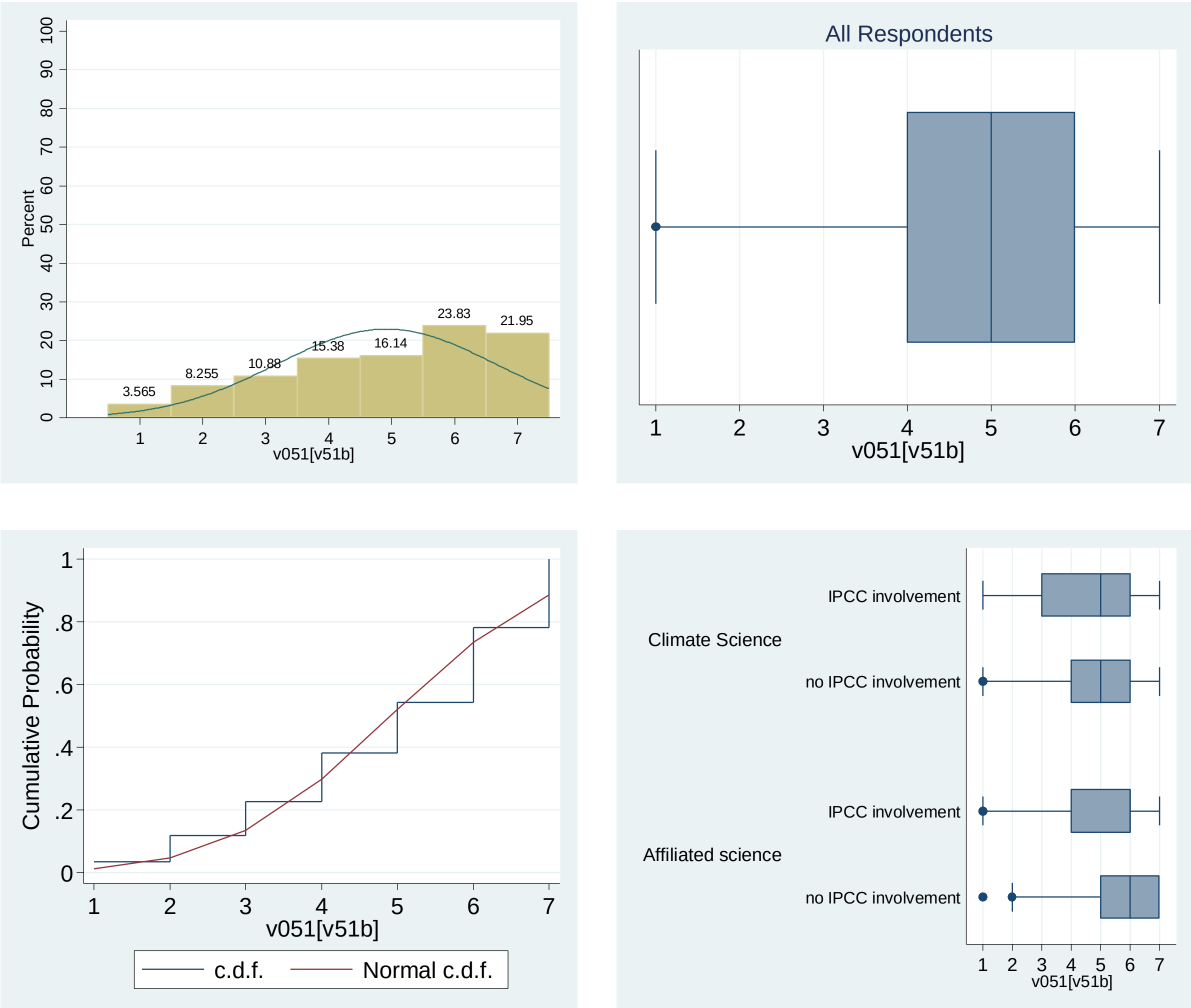
Mean estimation Number of obs = 537

	Mean	Std. Err.	[95% Conf. Interval]	
v051a	3.456238	.0739308	3.311009	3.601468

Climate Science	IPCC Involvement	n=134
	No IPCC Involvement	n=247
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=95

Figure 97. (v051b) If we do not do anything towards adaptation or mitigation, the potential for catastrophe in the next 50 years resulting from climate change for the country in which you live is

none 1 2 3 4 5 6 7 great



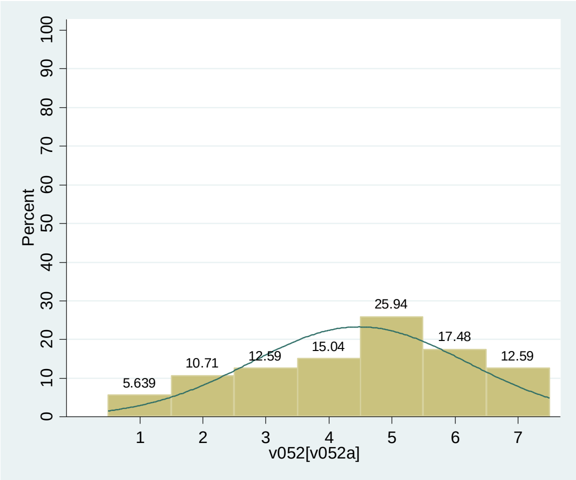
Mean estimation Number of obs = 533

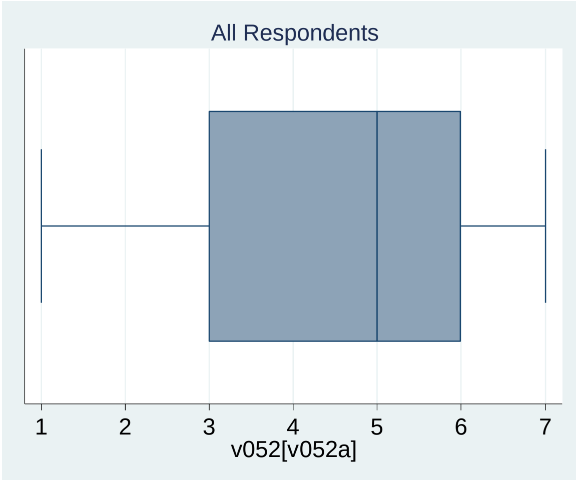
	Mean	Std. Err.	[95% Conf. Interval]	
v051b	4.915572	.0752394	4.767769	5.063375

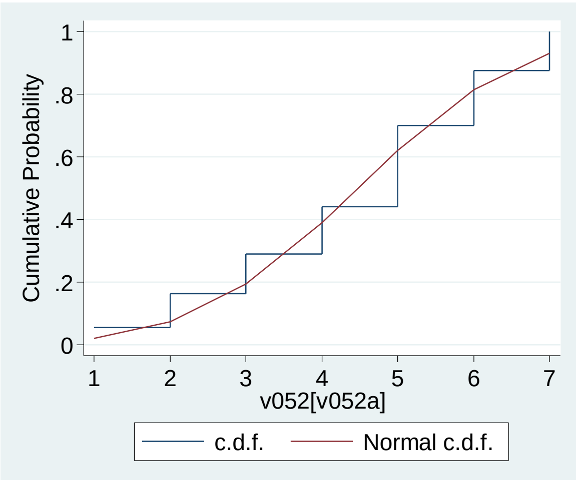
Climate Science	IPCC Involvement	n=132
	No IPCC Involvement	n=245
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=95

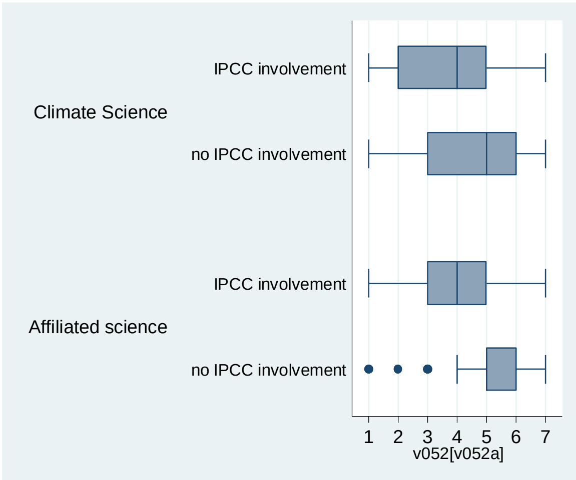
Figure 98. (v052a) If we do not do anything towards adaptation and mitigation, the potential for catastrophe in the next 10 years resulting from climate change for other parts of the world is

none 1 2 3 4 5 6 7 great









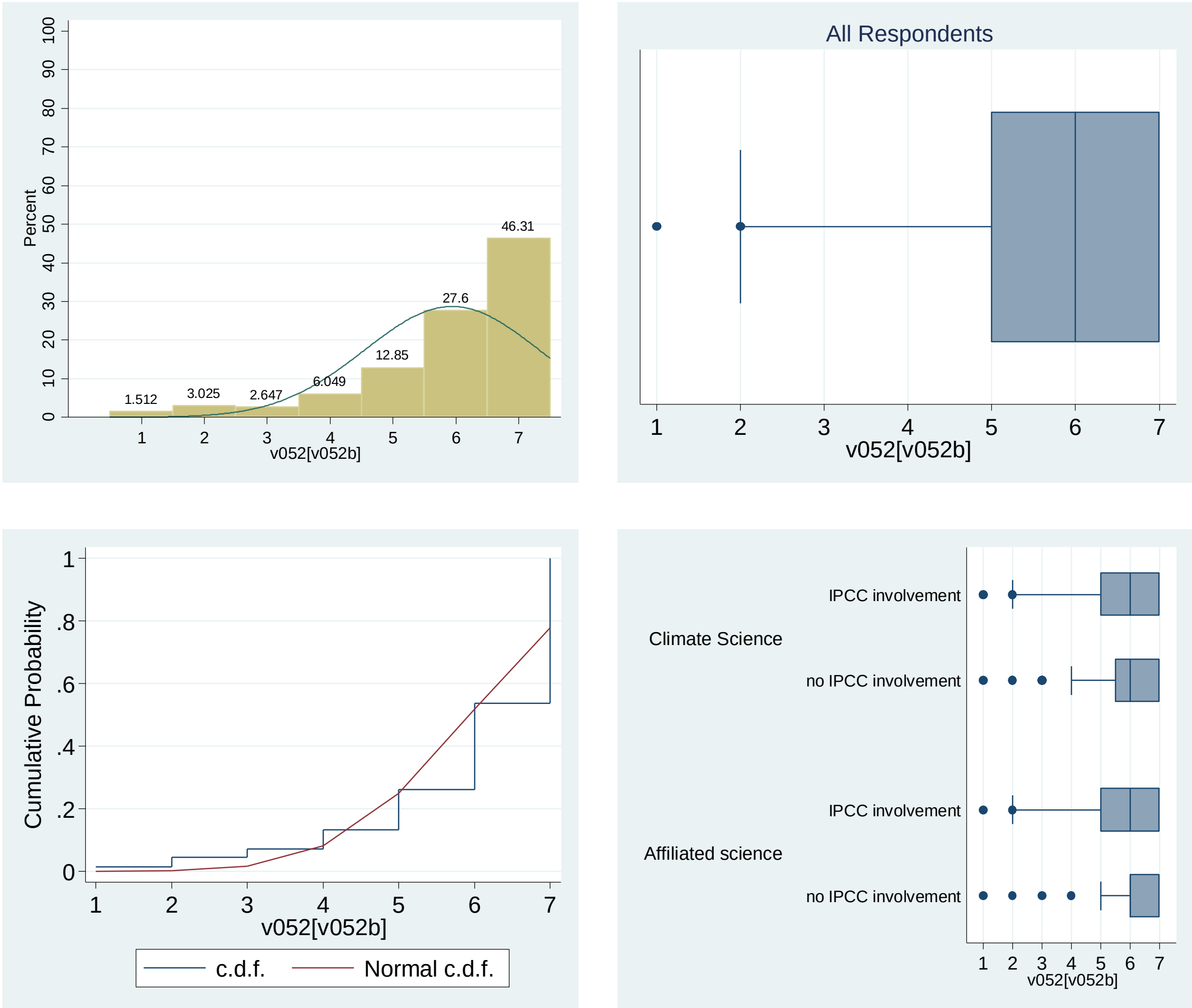
Mean estimation Number of obs = 532

	Mean	Std. Err.	[95% Conf. Interval]	
v052a	4.477444	.0742341	4.331615	4.623272

Climate Science	IPCC Involvement	n=133
	No IPCC Involvement	n=245
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=93

Figure 99. (v052b) If we do not do anything towards adaptation and mitigation, the potential for catastrophe in the next 50 years resulting from climate change for other parts of the world is

none 1 2 3 4 5 6 7 great



Mean estimation Number of obs = 529

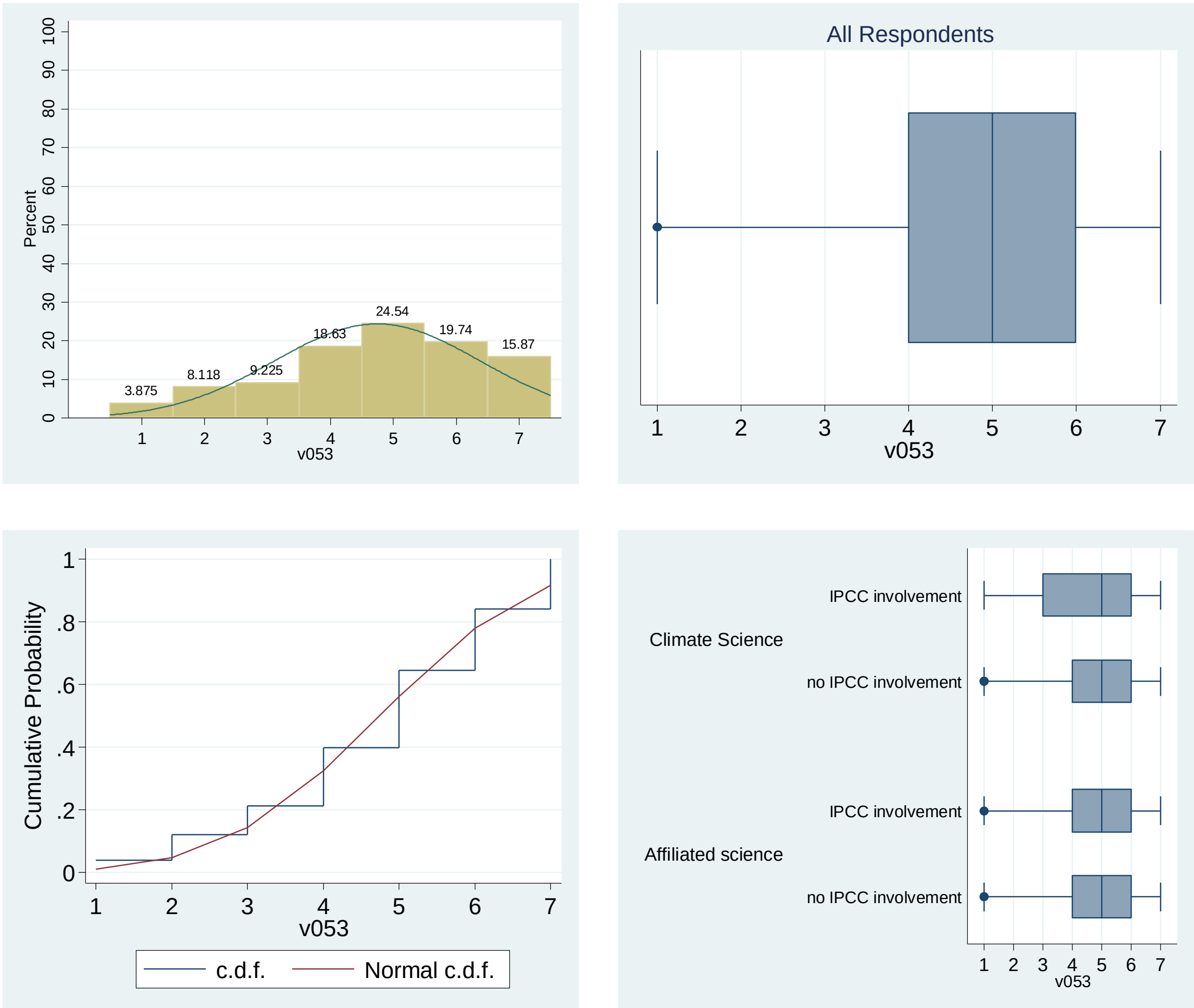
	Mean	Std. Err.	[95% Conf. Interval]	
v052b	5.937618	.0604583	5.81885	6.056386

Climate Science	IPCC Involvement	n=131
	No IPCC Involvement	n=244
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=93

Section 8. Climate Science and Society

Figure 100. (v053) Science should be for the people, and governments should direct scientific resources into area that would prove to be of the greatest benefit for society.

strongly disagree 1 2 3 4 5 6 7 strongly agree



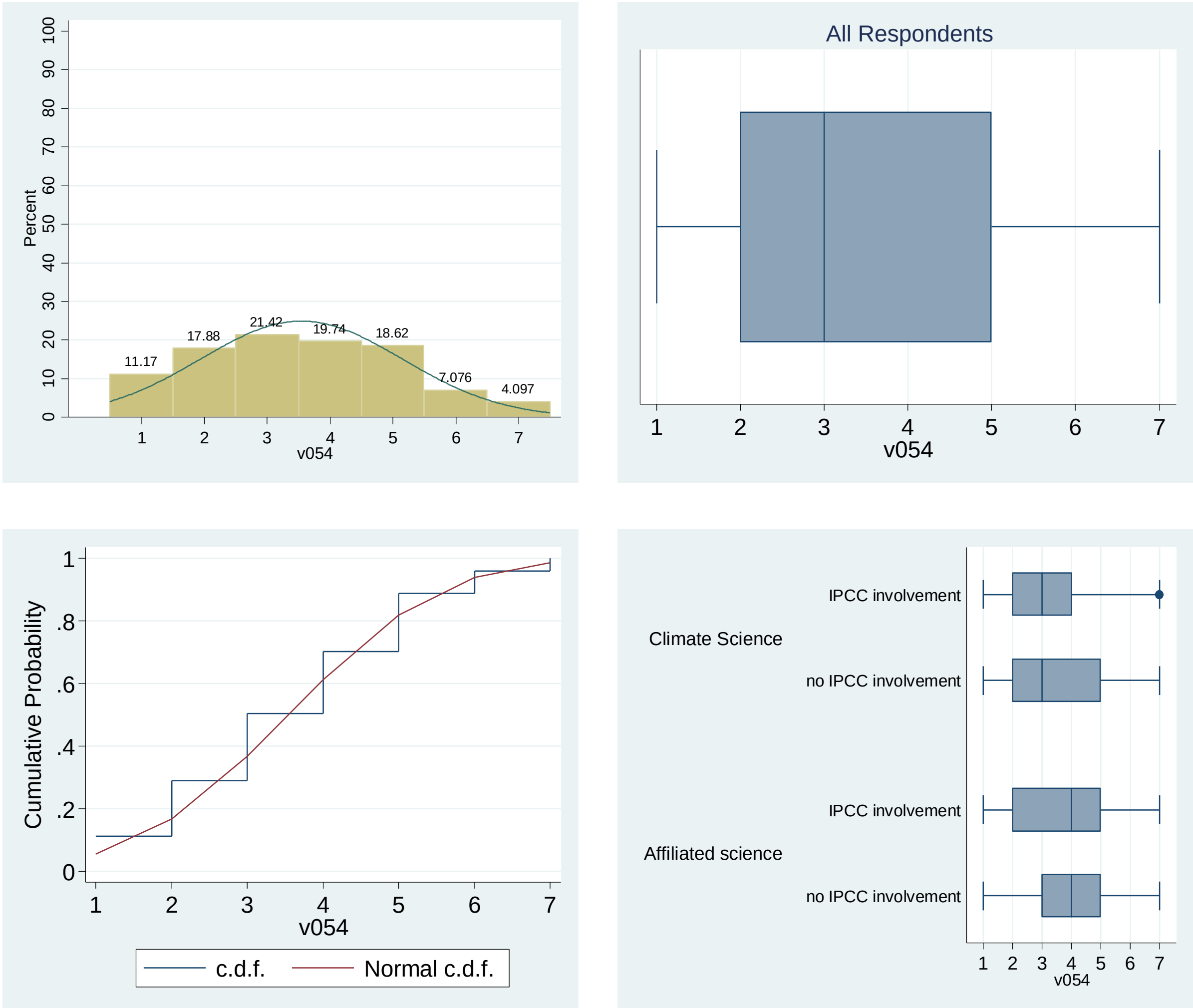
Mean estimation Number of obs = 542

	Mean	Std. Err.	[95% Conf. Interval]	
v053	4.745387	.0702935	4.607306	4.883469

Climate Science	IPCC Involvement	n=134
	No IPCC Involvement	n=252
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=96

Figure 101. (v054) Rather than being designed within science, research priorities should be put forward by individuals and groups who are in touch with genuine social needs.

strongly disagree 1 2 3 4 5 6 7 strongly agree



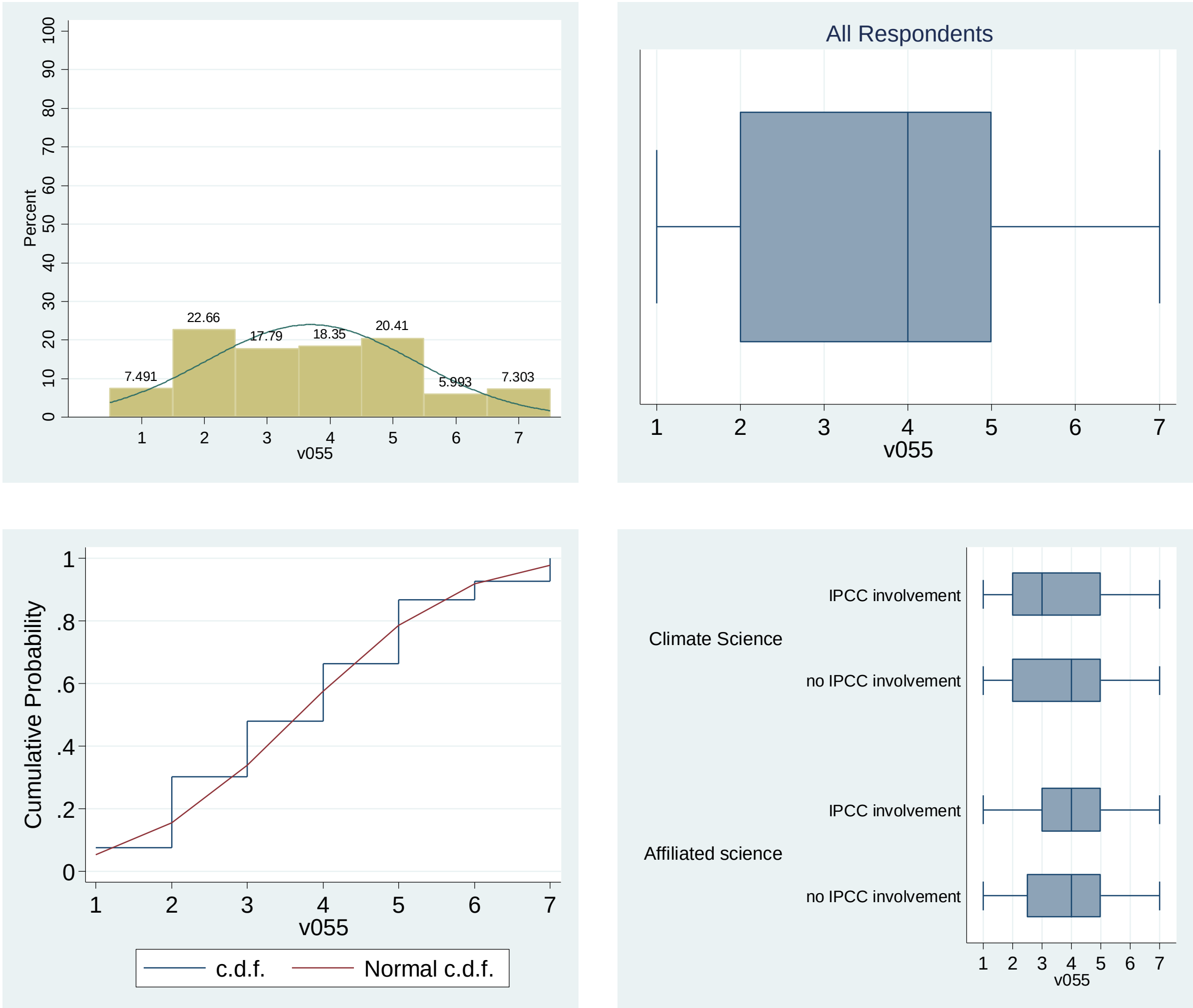

```
Mean estimation                Number of obs    =      537

    --------------------------------------------------------------
             |      Mean   Std. Err.     [95% Conf. Interval]
    -------------+------------------------------------------------
        v054 |  3.543762   .0691723      3.40788    3.679644
    --------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=132
	No IPCC Involvement	n=252
Affiliated Science	IPCC Involvement	n=52
	No IPCC Involvement	n=93

Figure 102. (v055) Citizens should participate directly in the scientific research process.

strongly disagree 1 2 3 4 5 6 7 strongly agree



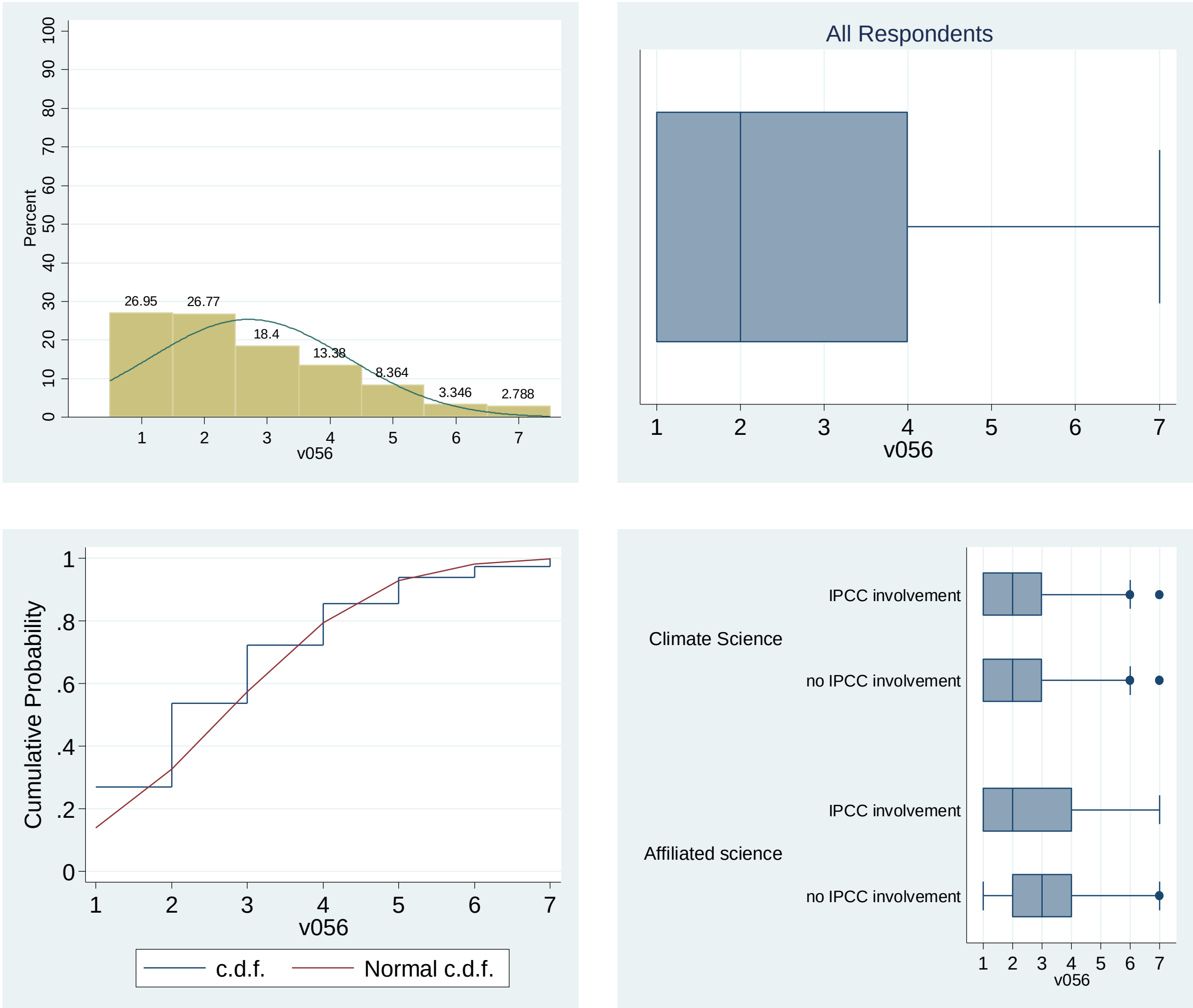
Mean estimation   Number of obs = 534

```
--------------------------------------------------------------
        |      Mean   Std. Err.    [95% Conf. Interval]
-------------+------------------------------------------------
v055 |  3.687266  .0719827      3.545861    3.828671
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=131
	No IPCC Involvement	n=249
Affiliated Science	IPCC Involvement	n=50
	No IPCC Involvement	n=96

Figure 103. (v056) Citizens should shape the subjects and contents of what is considered to be scientific knowledge.

strongly disagree 1 2 3 4 5 6 7 strongly agree



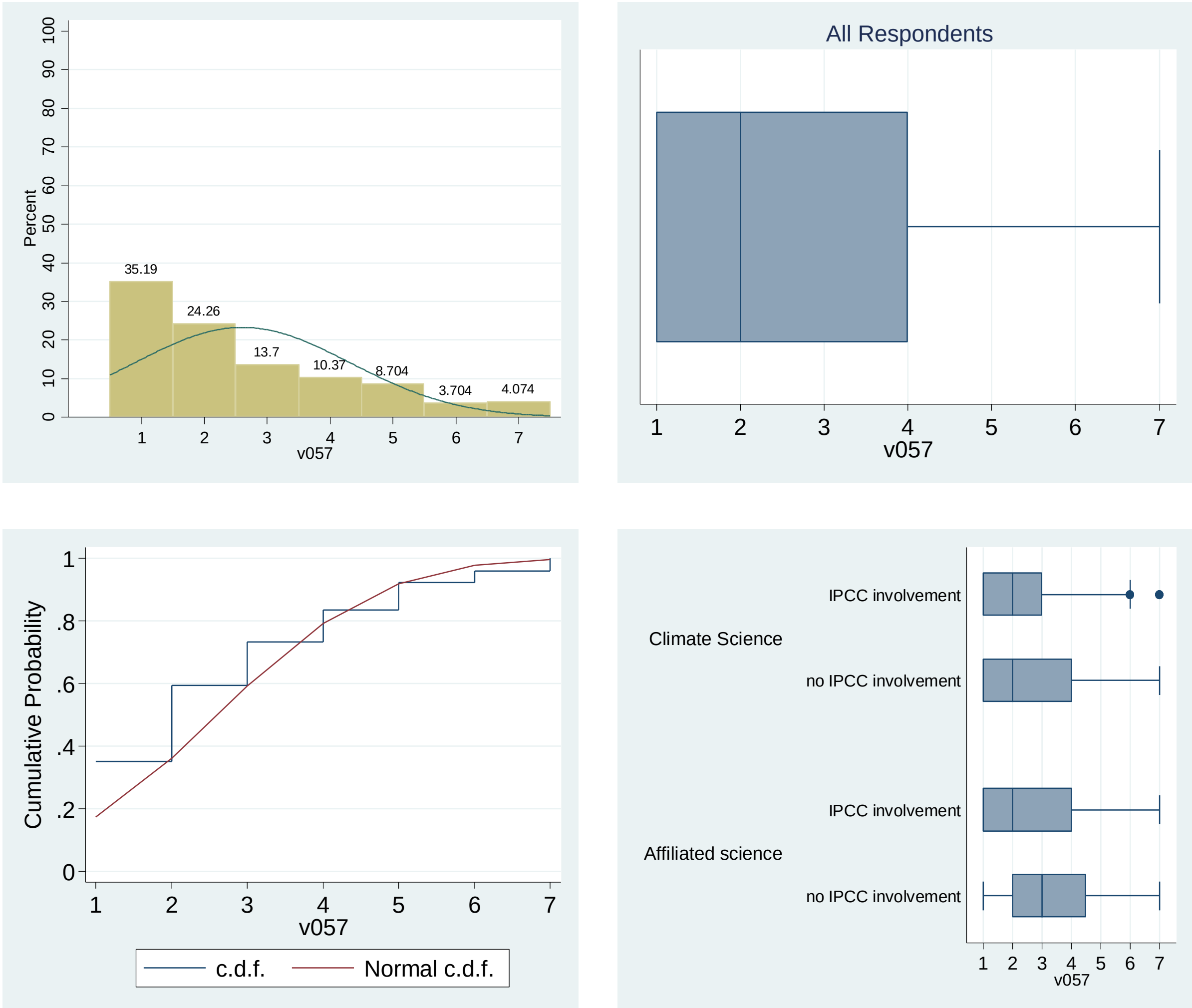
Mean estimation Number of obs = 538

	Mean	Std. Err.	[95% Conf. Interval]	
v056	2.70632	.0678904	2.572956	2.839683

Climate Science	IPCC Involvement	n=133
	No IPCC Involvement	n=252
Affiliated Science	IPCC Involvement	n=50
	No IPCC Involvement	n=95

Figure 104. (v057) Science should be reorganized so that citizens directly determine how knowledge is produced.

strongly disagree 1 2 3 4 5 6 7 strongly agree



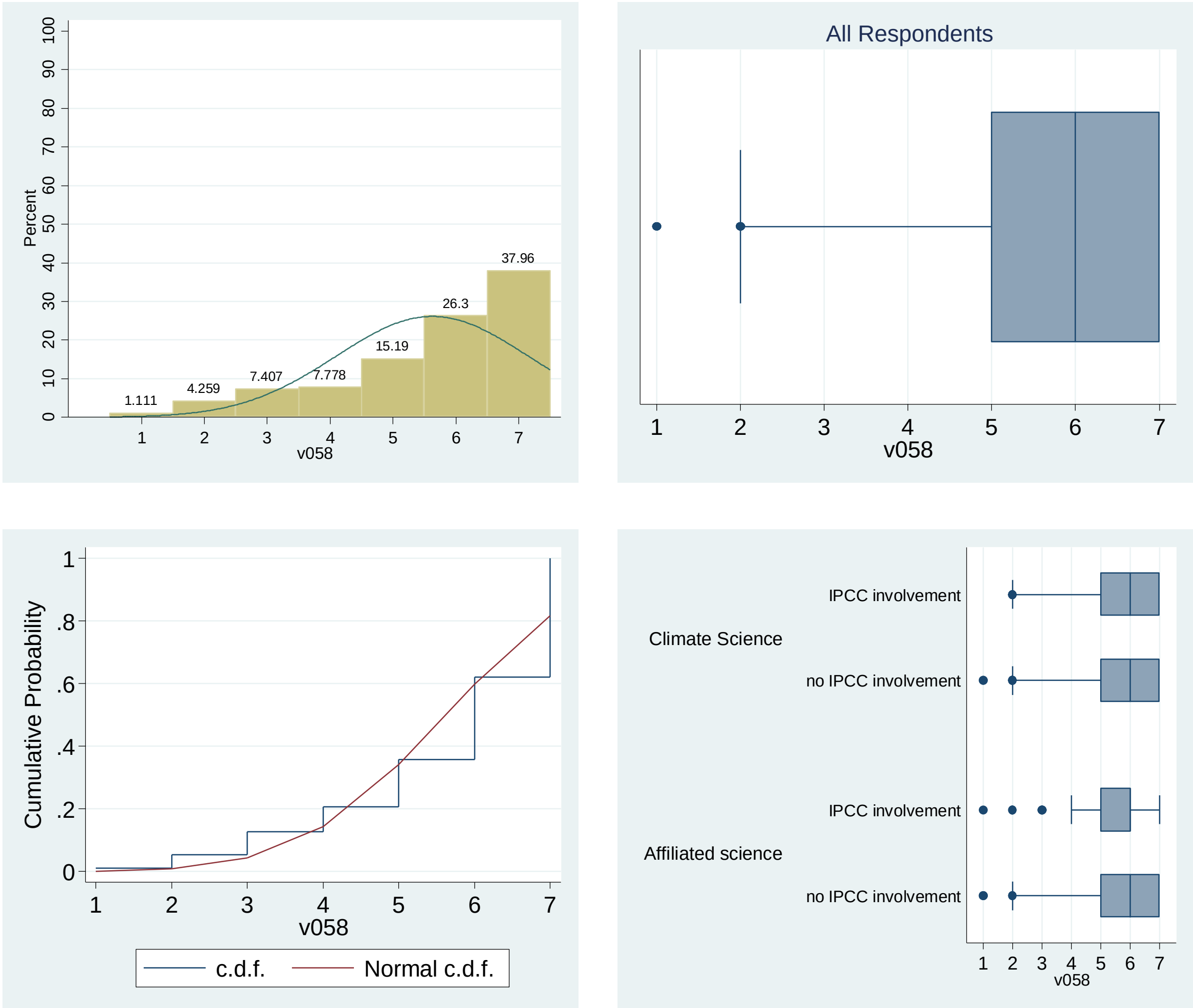
Mean estimation Number of obs = 540

	Mean	Std. Err.	[95% Conf. Interval]	
v057	2.605556	.0737474	2.460688	2.750423

Climate Science	IPCC Involvement	n=134
	No IPCC Involvement	n=252
Affiliated Science	IPCC Involvement	n=50
	No IPCC Involvement	n=96

Figure 105. (v058) Science should deliver facts not policies.

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



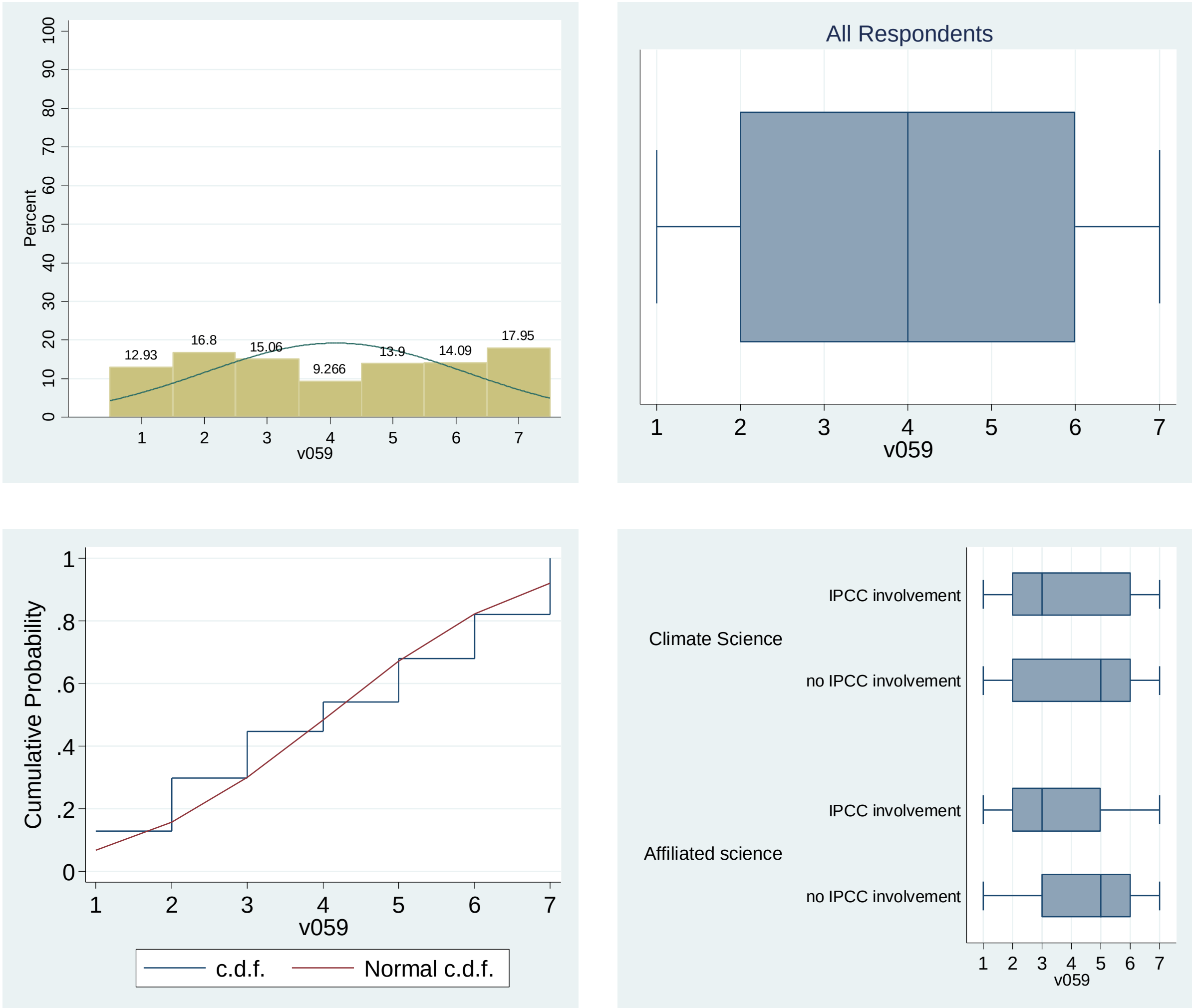
Mean estimation Number of obs = 540

	Mean	Std. Err.	[95% Conf. Interval]	
v058	5.624074	.0657086	5.494998	5.75315

Climate Science	IPCC Involvement	n=132
	No IPCC Involvement	n=250
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=97

Figure 106. (v059) Scientists should not consider the moral implications of their work as this prevents facts from being distorted by ideologies.

strongly disagree 1 2 3 4 5 6 7 strongly agree



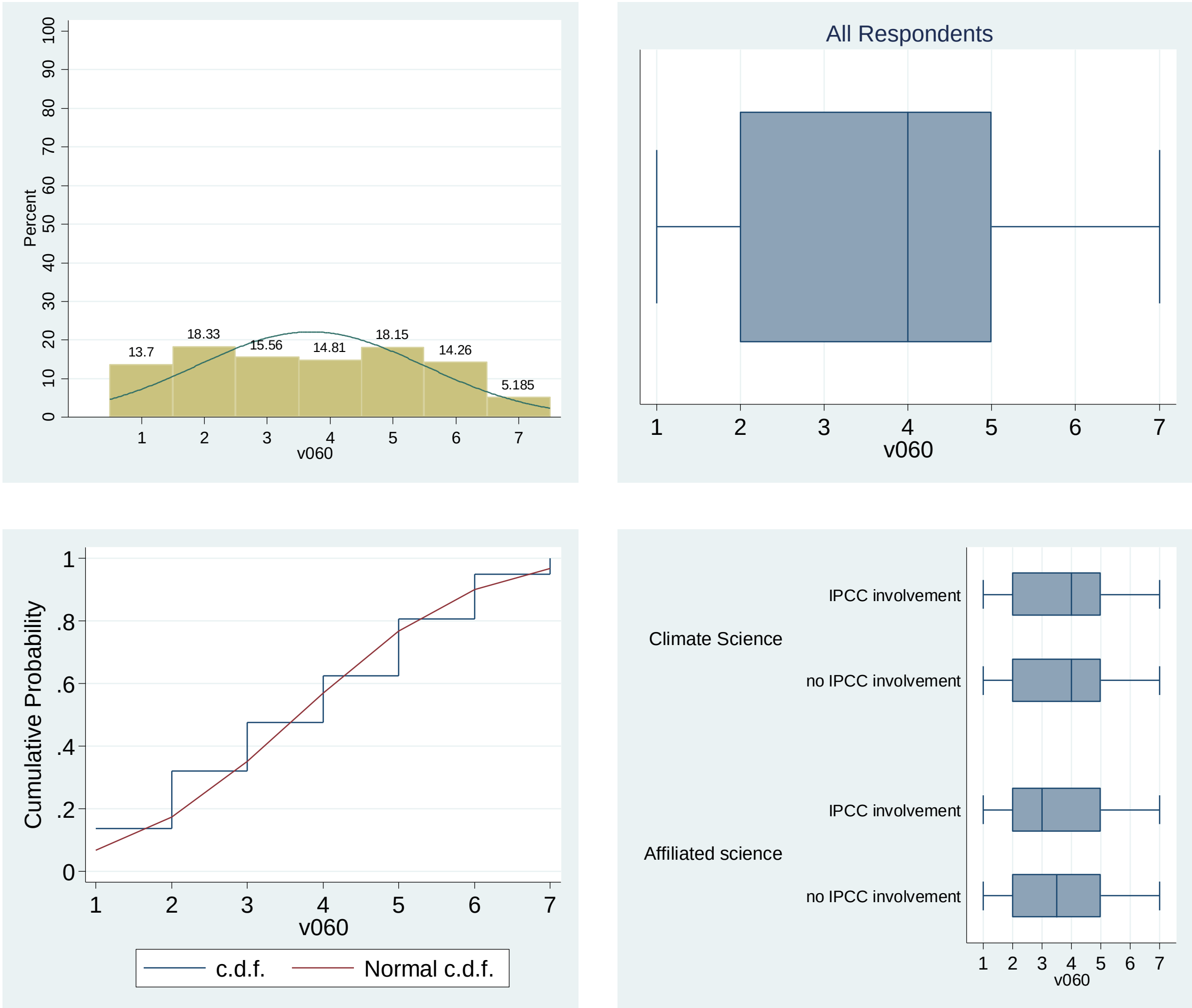
Mean estimation Number of obs = 518

	Mean	Std. Err.	[95% Conf. Interval]	
v059	4.084942	.0911755	3.905822	4.264062

Climate Science	IPCC Involvement	n=131
	No IPCC Involvement	n=239
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=89

Figure 107. (v060) Science should be conducted only within the closed community of scientists and only by those trained in scientific disciplines.

strongly disagree 1   2   3   4   5   6   7 strongly agree



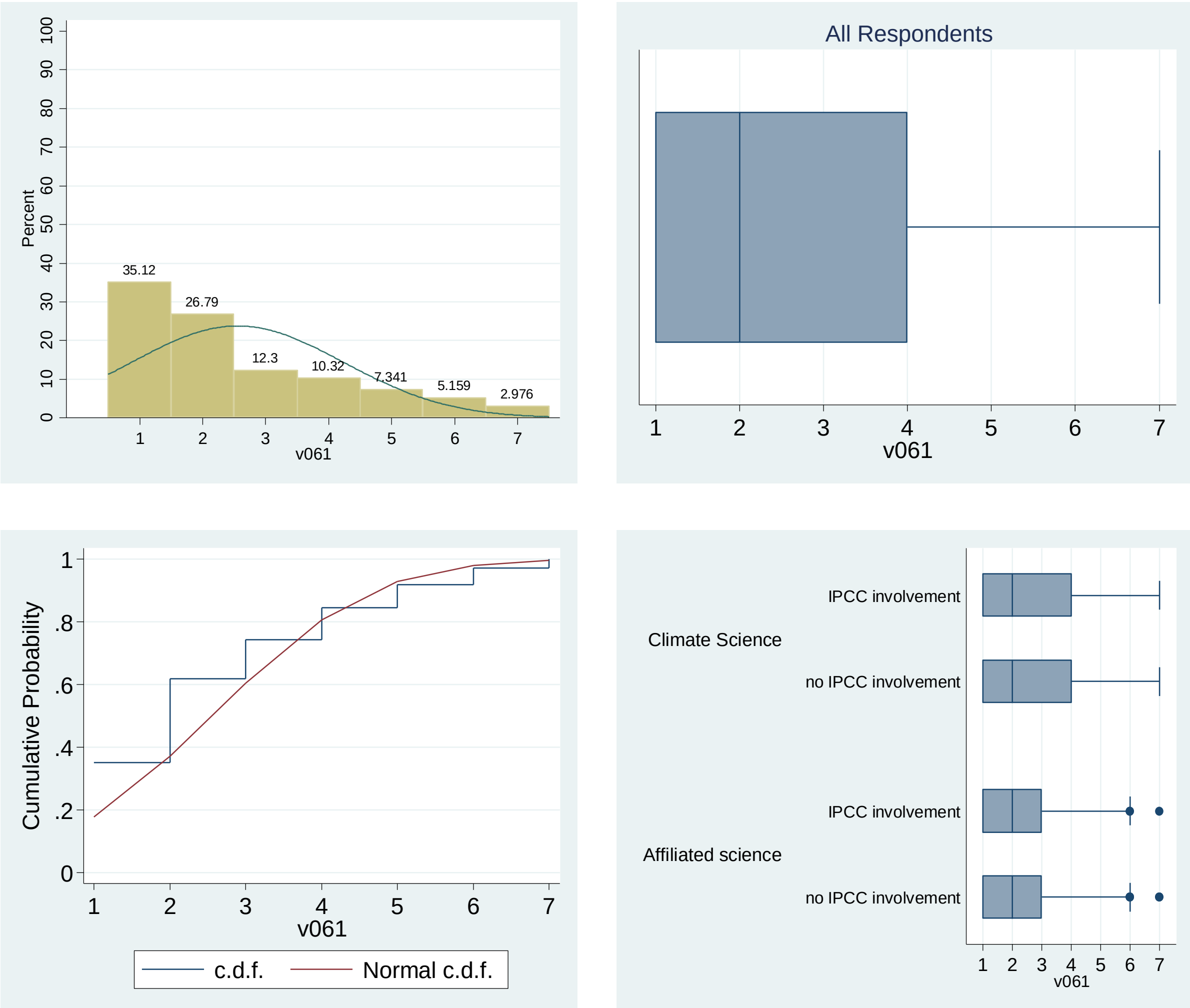
Mean estimation   Number of obs = 540

	Mean	Std. Err.	[95% Conf. Interval]	
v060	3.688889	.0775787	3.536495	3.841283

Climate Science	IPCC Involvement	n=134
	No IPCC Involvement	n=249
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=96

Figure 108. (v061) Scientists should focus on knowledge according their own moral and political commitments.

strongly disagree 1 2 3 4 5 6 7 strongly agree



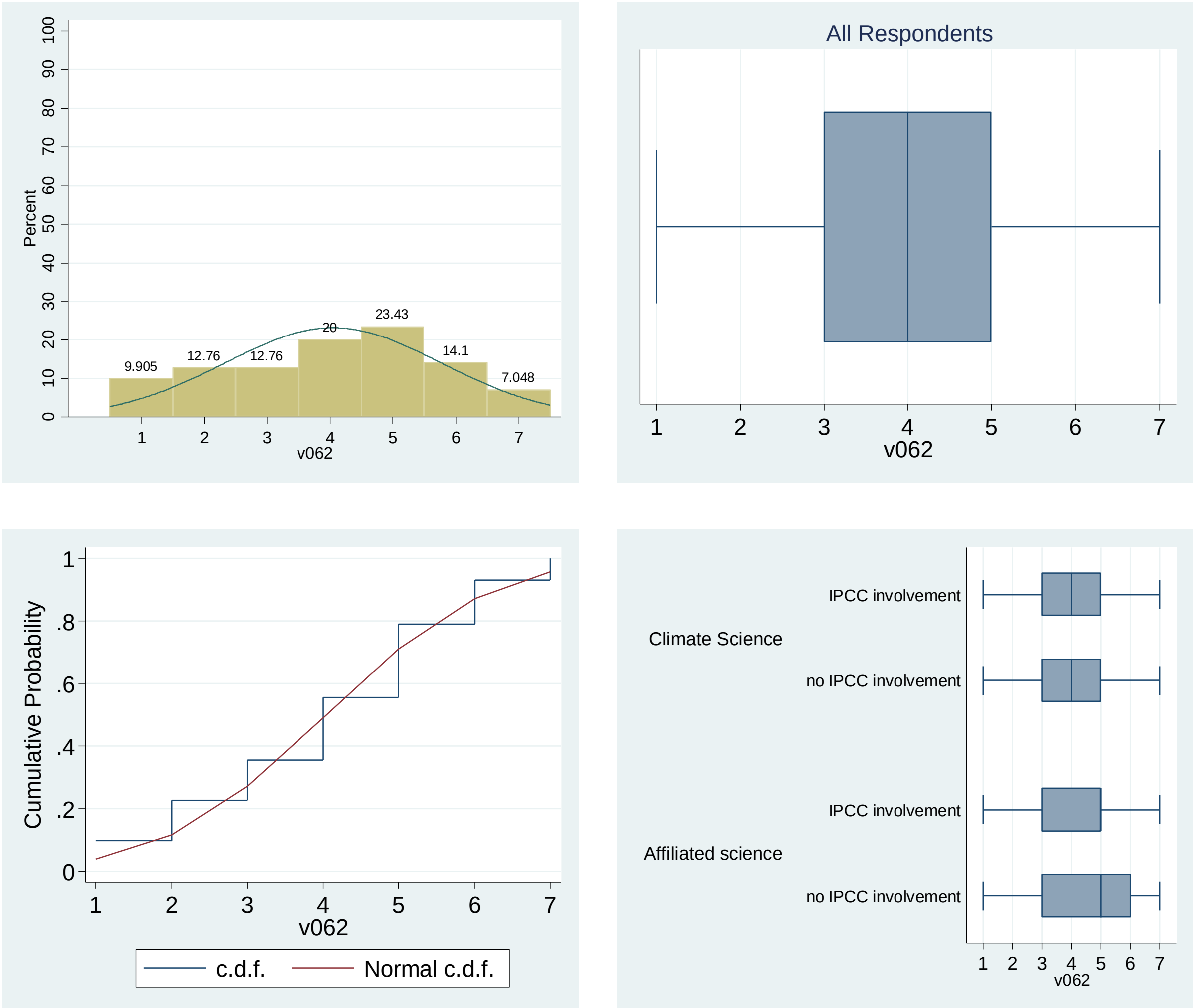
Mean estimation Number of obs = 504

	Mean	Std. Err.	[95% Conf. Interval]	
v061	2.553571	.074751	2.406709	2.700434

Climate Science	IPCC Involvement	n=127
	No IPCC Involvement	n=231
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=89

Figure 109. (v062) Scientists should work to link science with public moral and political concerns.

strongly disagree 1 2 3 4 5 6 7 strongly agree



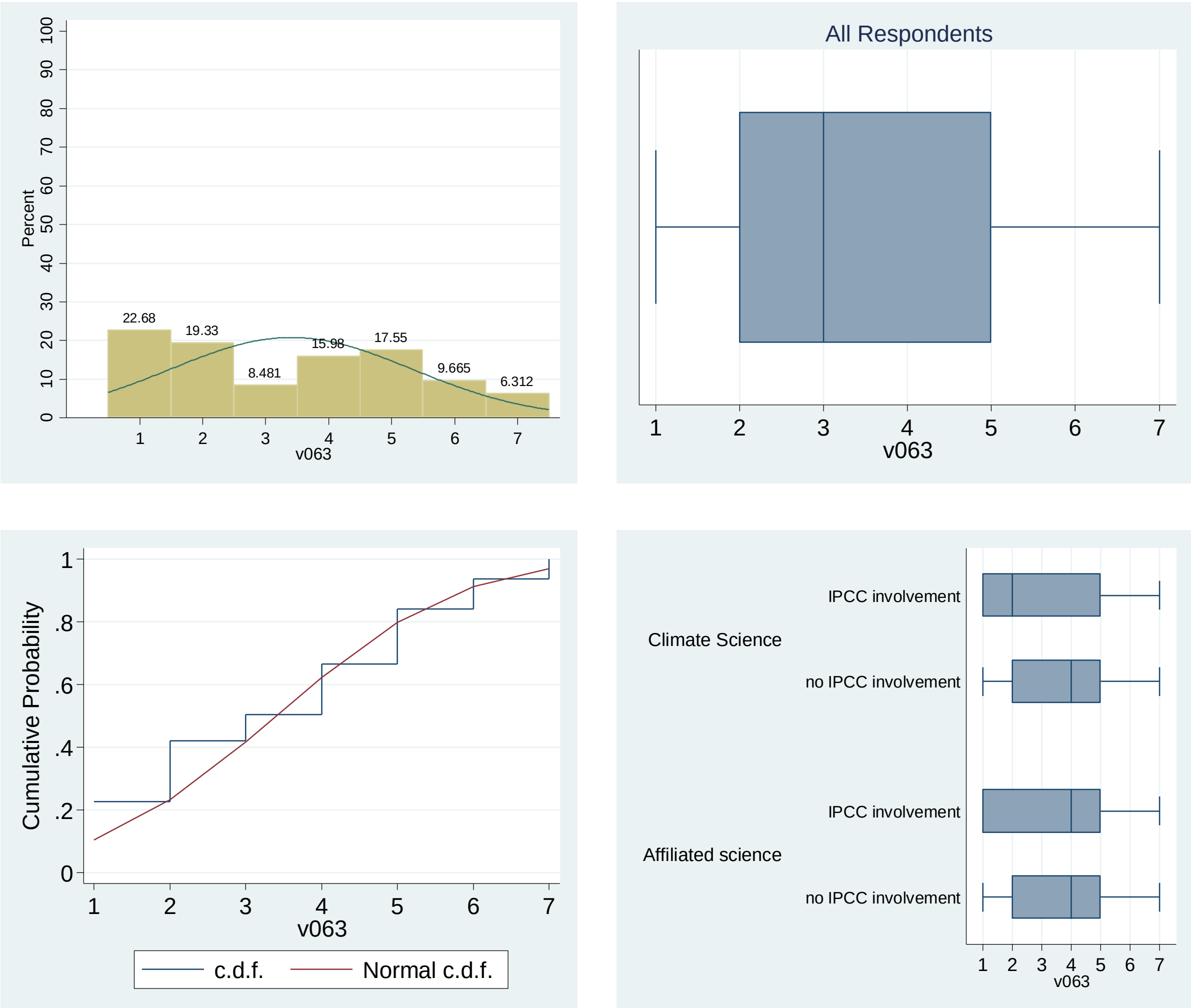
Mean estimation Number of obs = 525

	Mean	Std. Err.	[95% Conf. Interval]	
v062	4.047619	.0751543	3.899978	4.19526

Climate Science	IPCC Involvement	n=130
	No IPCC Involvement	n=245
Affiliated Science	IPCC Involvement	n=51
	No IPCC Involvement	n=91

Figure 110. (v063) The credibility of scientific claims is partly determined by the moral qualities of the author.

strongly disagree 1 2 3 4 5 6 7 strongly agree



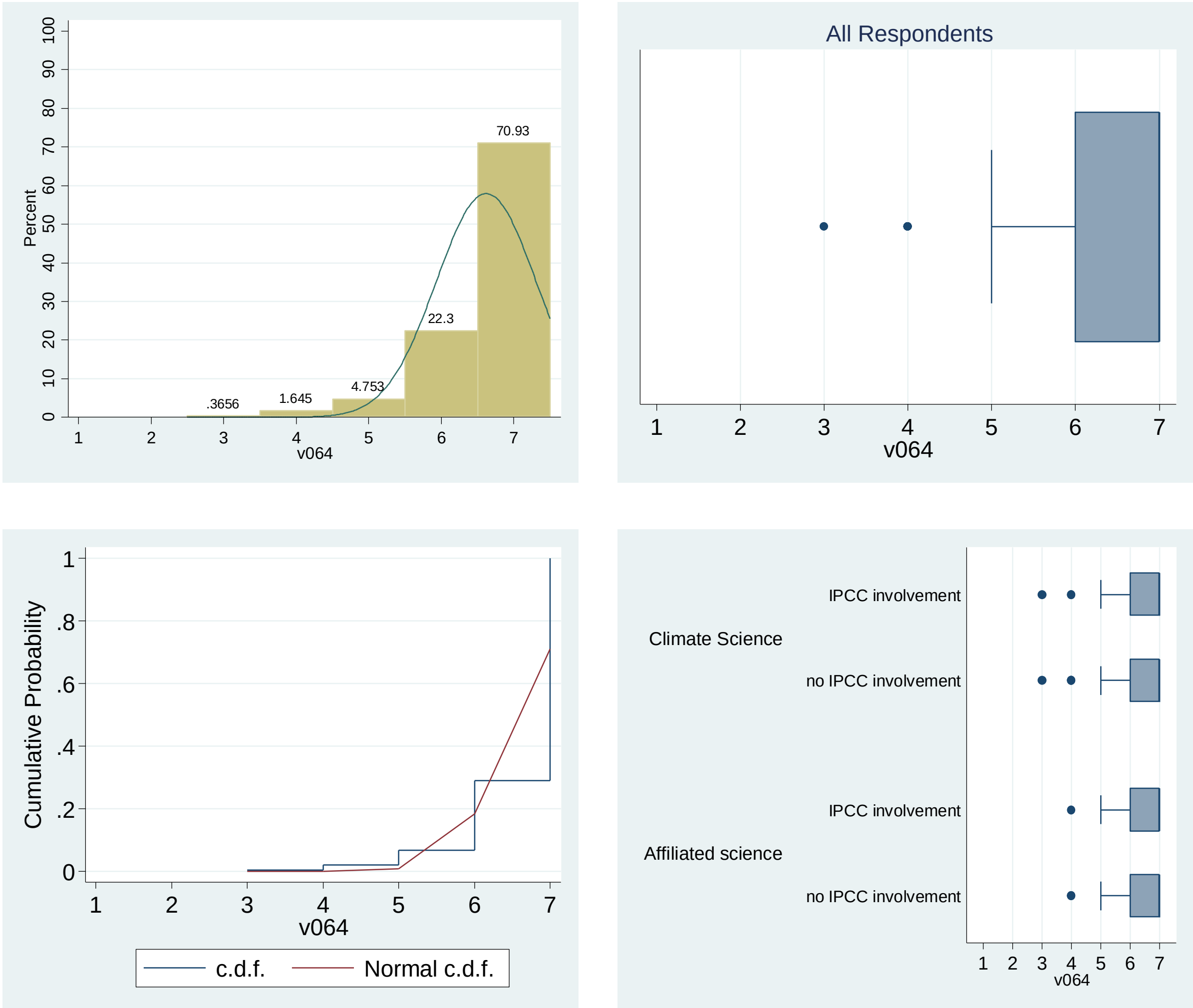
Mean estimation Number of obs = 507

	Mean	Std. Err.	[95% Conf. Interval]	
v063	3.406312	.0852469	3.23883	3.573793

Climate Science	IPCC Involvement	n=126
	No IPCC Involvement	n=234
Affiliated Science	IPCC Involvement	n=50
	No IPCC Involvement	n=90

Figure 111. (v064) The main form of scientific debate among scientists should be based on:

emotions and values 1 2 3 4 5 6 7 reason and logic



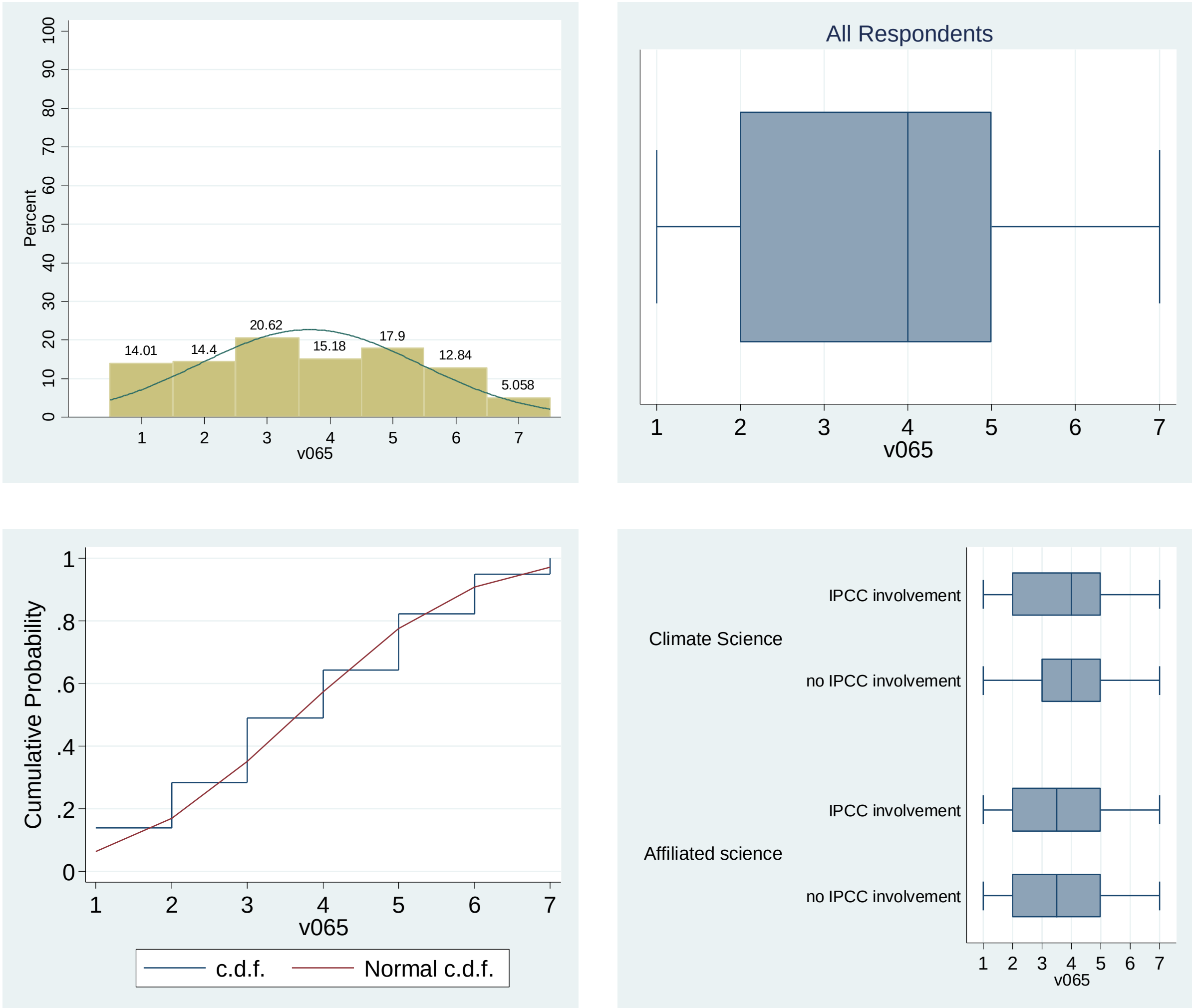
Mean estimation Number of obs = 547

```
--------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
        v064 |   6.617916   .0294565      6.560054    6.675778
--------------------------------------------------------------
```

Climate Science	IPCC Involvement	n=136
	No IPCC Involvement	n=255
Affiliated Science	IPCC Involvement	n=53
	No IPCC Involvement	n=95

Figure 112. (v065) Science is a defined set of practices and ideas that are not generally found or used outside of science.

strongly disagree 1 2 3 4 5 6 7 strongly agree



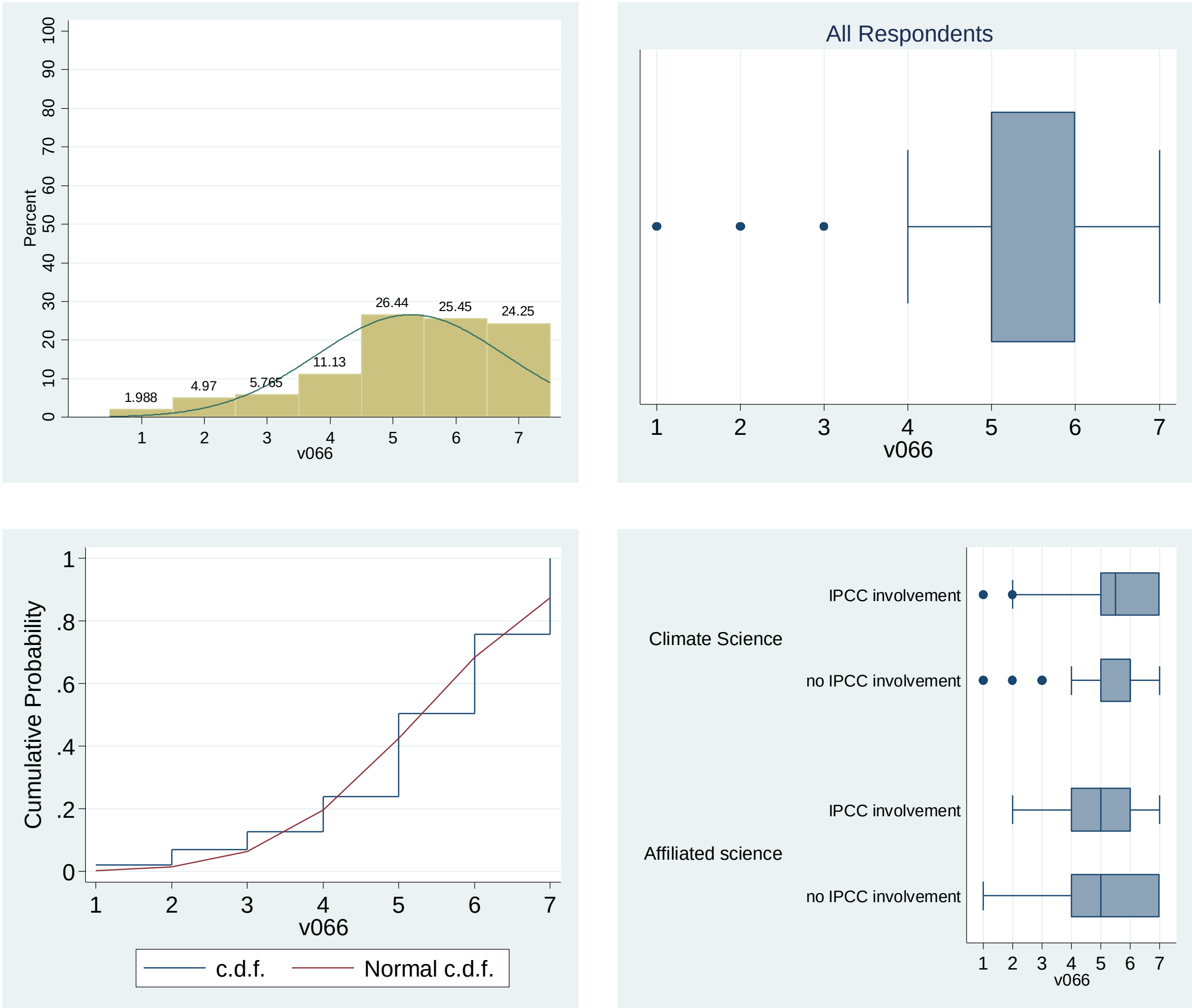
Mean estimation Number of obs = 514

	Mean	Std. Err.	[95% Conf. Interval]	
v065	3.673152	.077533	3.52083	3.825473

Climate Science	IPCC Involvement	n=128
	No IPCC Involvement	n=238
Affiliated Science	IPCC Involvement	n=50
	No IPCC Involvement	n=90

Figure 113. (v066) As the values of non-scientists are taken into account, how much have scientific ideas been distorted to service political arguments concerning climate change?

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



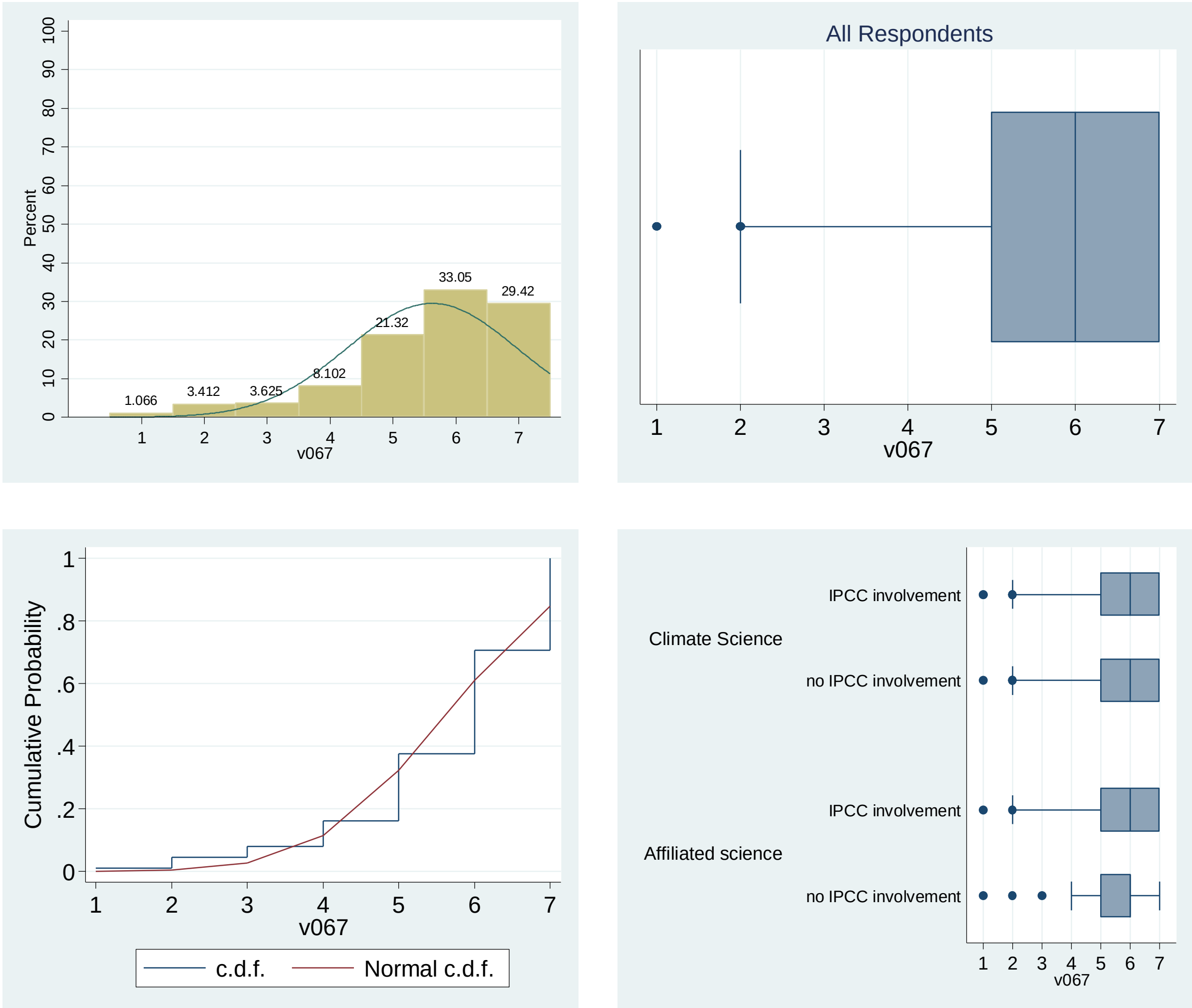
Mean estimation Number of obs = 503

	Mean	Std. Err.	[95% Conf. Interval]	
v066	5.284294	.0669659	5.152726	5.415862

Climate Science	IPCC Involvement	n=128
	No IPCC Involvement	n=228
Affiliated Science	IPCC Involvement	n=48
	No IPCC Involvement	n=91

Figure 114. (v067) The seriousness of potential environmental scares needs to be investigated before doomsday stories get out of hand.

strongly disagree 1 2 3 4 5 6 7 strongly agree



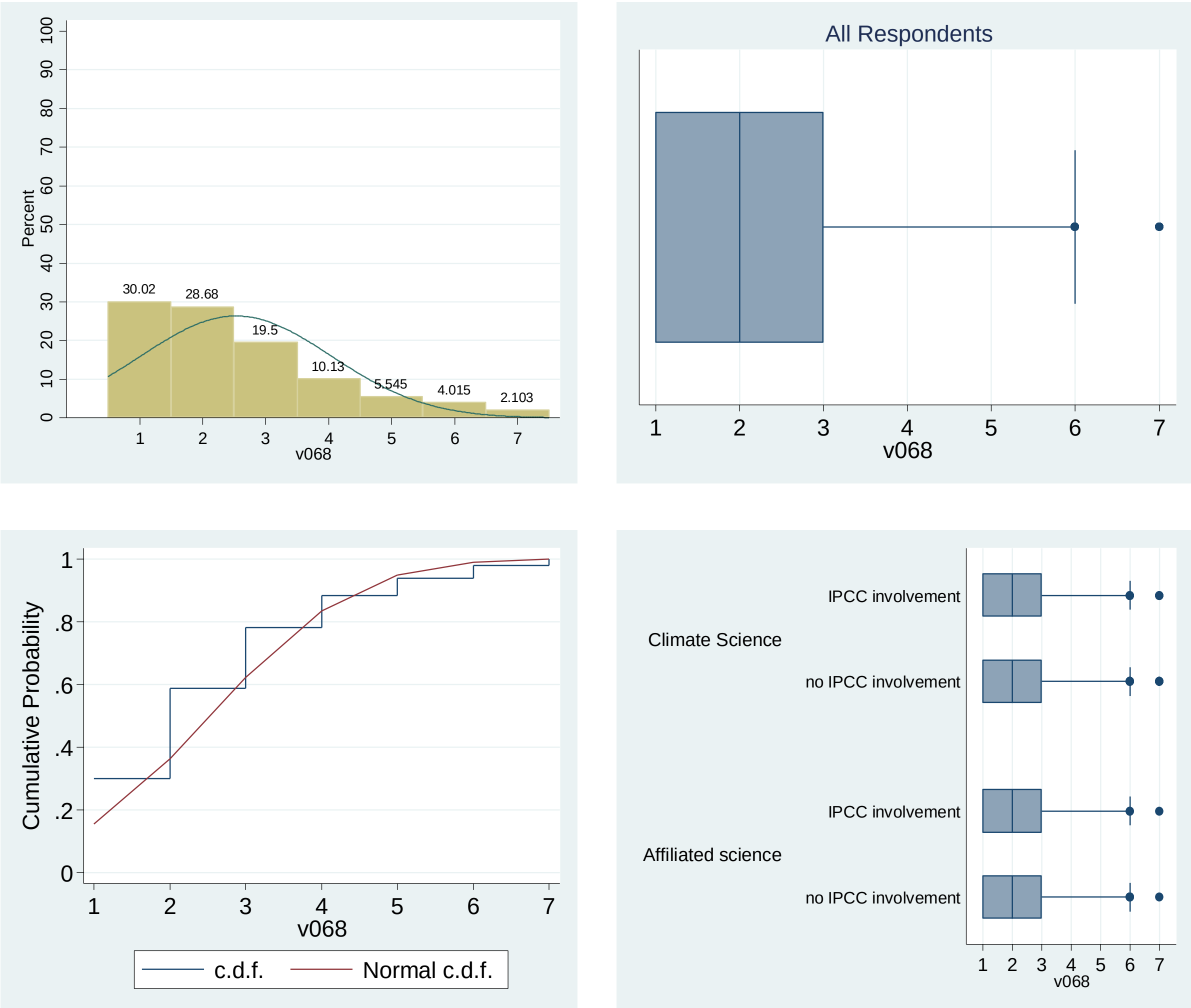
Mean estimation Number of obs = 469

	Mean	Std. Err.	[95% Conf. Interval]	
v067	5.620469	.0624655	5.497722	5.743217

Climate Science	IPCC Involvement	n=118
	No IPCC Involvement	n=218
Affiliated Science	IPCC Involvement	n=41
	No IPCC Involvement	n=85

Figure 115. (v068) Science should be kept separate from the concerns of ordinary people.

strongly disagree 1   2   3   4   5   6   7 strongly agree



Mean estimation   Number of obs = 523

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--------------------------------------------------------------
             |       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
        v068 |   2.529637   .0661961      2.399593     2.65968
--------------------------------------------------------------
```
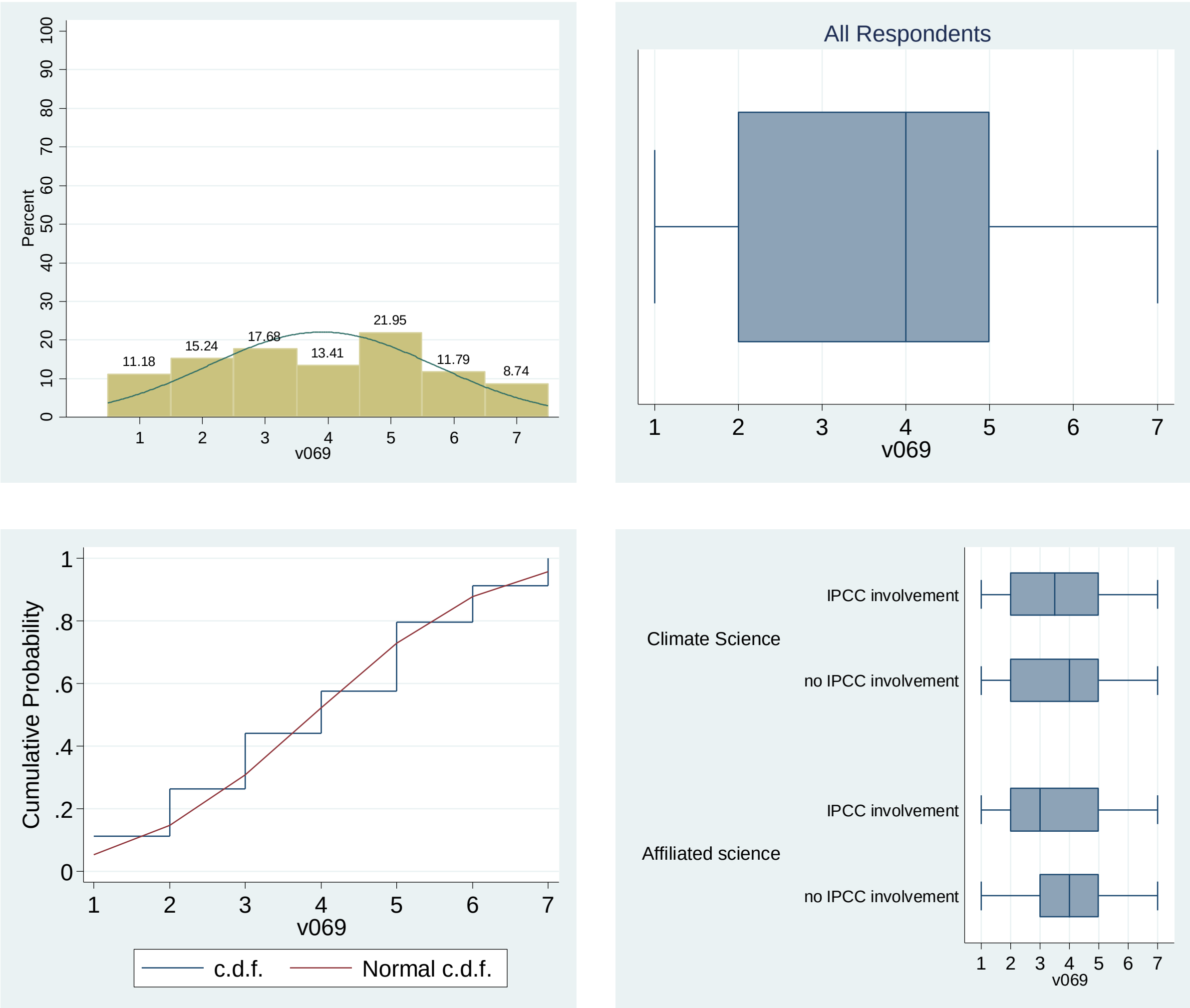

Climate Science	IPCC Involvement	n=132
	No IPCC Involvement	n=240
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=94

Figure 116. (v 69) The collective authority of a consensus culture of science paralyzes new thought.

strongly disagree 1 2 3 4 5 6 7 strongly agree



Mean estimation Number of obs = 492

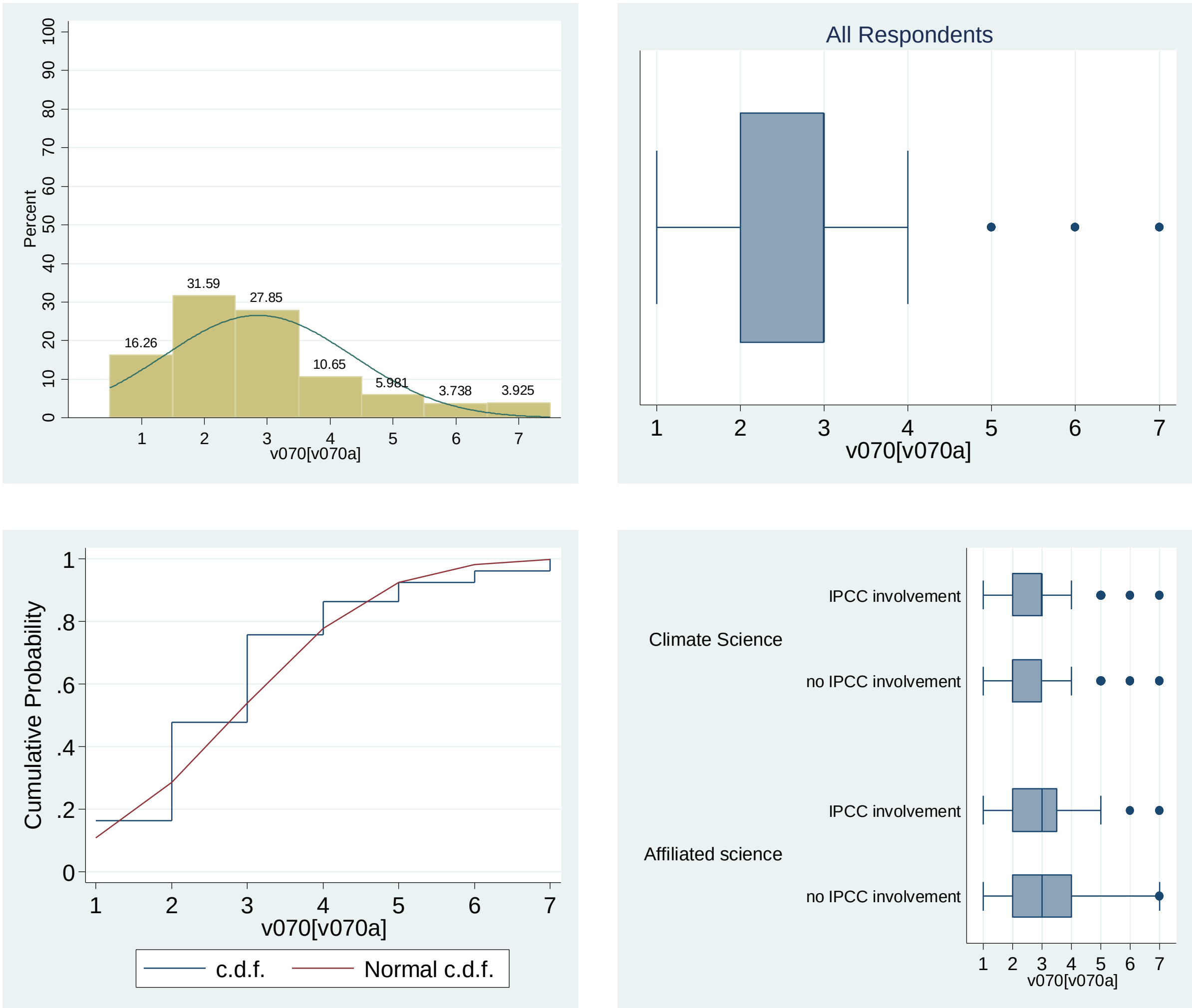
	Mean	Std. Err.	[95% Conf. Interval]	
v069	3.900407	.0814883	3.740298	4.060515

Climate Science	IPCC Involvement	n=126
	No IPCC Involvement	n=227
Affiliated Science	IPCC Involvement	n=47
	No IPCC Involvement	n=84

In 1996, climate science was described as being a post-normal science. This meant that: 1. the scientific claims had a high level of uncertainty, 2. there was much at stake, and 3. the risks posed by climate change were very high.

Figure 117. (v070a) Since 1996 the level of uncertainty in climate science has

dropped considerably 1   2   3   4 remained the same 5   6   7 increased considerably



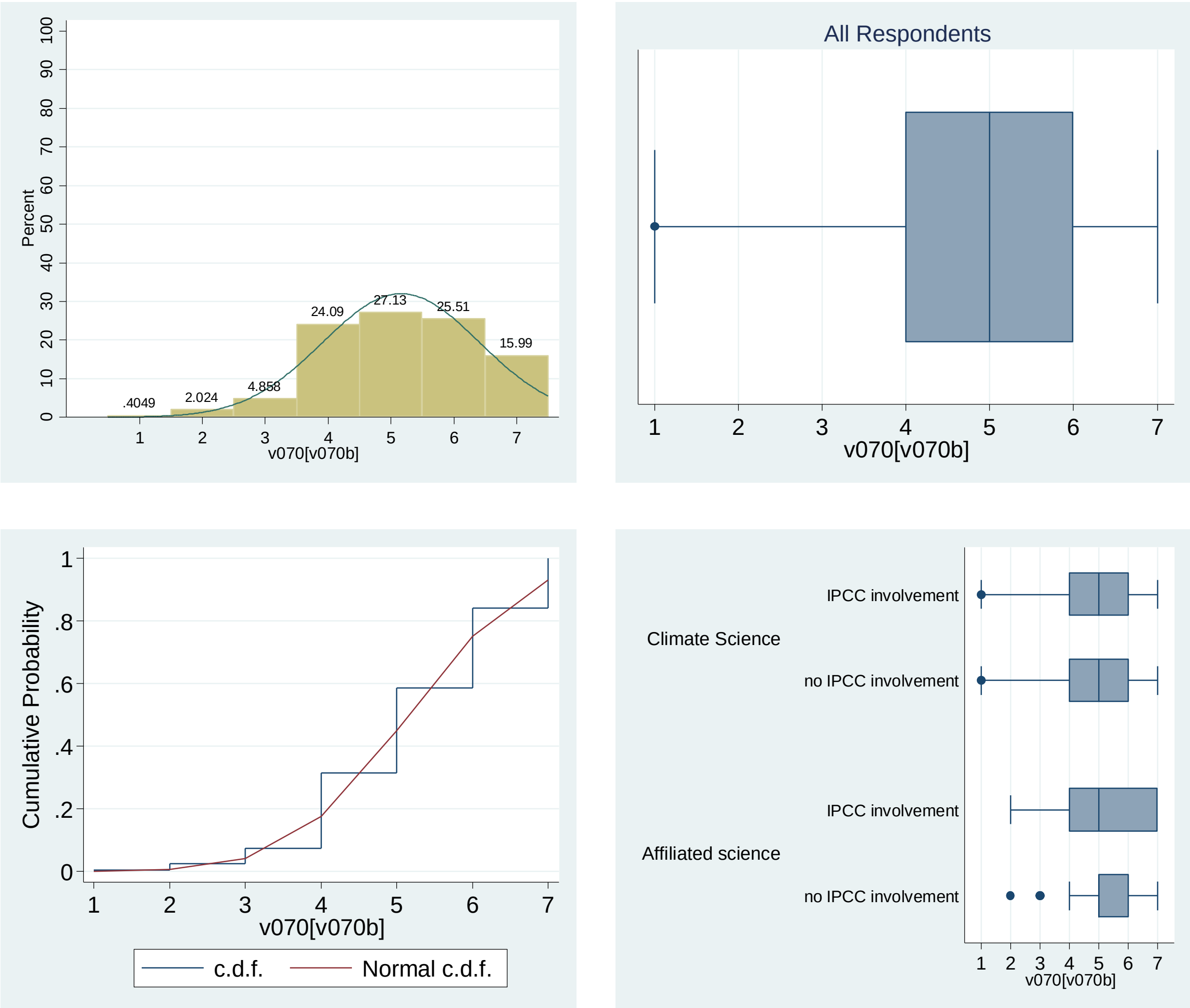
Mean estimation   Number of obs   =   535

	Mean	Std. Err.	[95% Conf. Interval]	
v070a	2.854206	.0649889	2.72654	2.981871

Climate Science	IPCC Involvement	n=136
	No IPCC Involvement	n=248
Affiliated Science	IPCC Involvement	n=48
	No IPCC Involvement	n=95

Figure 118. (v070b) What was considered to be at stake has

dropped considerably 1 2 3 4 remained the same 5 6 7 increased considerably



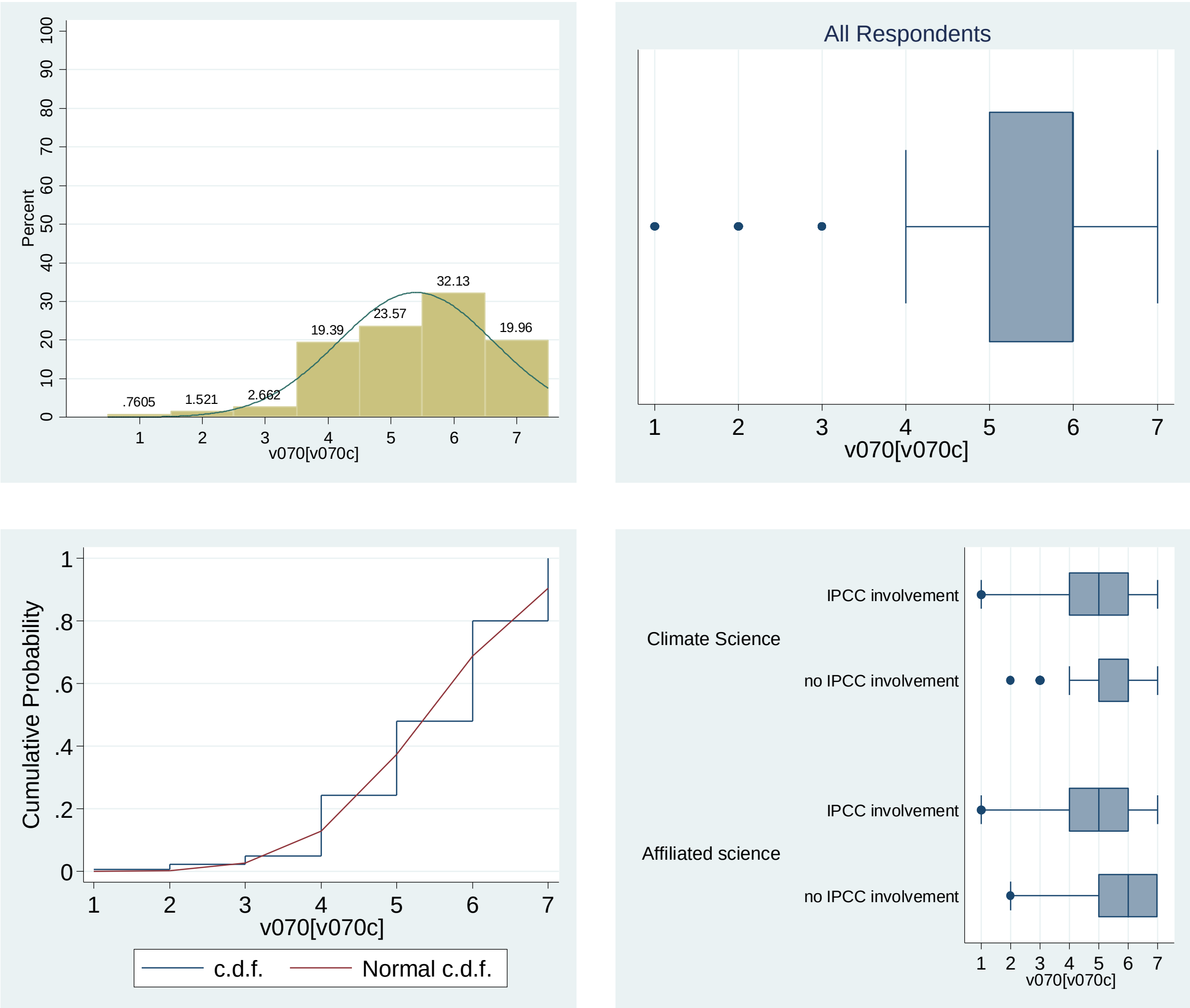
Mean estimation Number of obs = 494

	Mean	Std. Err.	[95% Conf. Interval]	
v070b	5.159919	.0560959	5.049702	5.270136

Climate Science	IPCC Involvement	n=126
	No IPCC Involvement	n=229
Affiliated Science	IPCC Involvement	n=44
	No IPCC Involvement	n=87

Figure 119. (v070c) The level of risk associated with climate change has

dropped considerably 1 2 3 4 remained the same 5 6 7 increased considerably



Mean estimation Number of obs = 526

	Mean	Std. Err.	[95% Conf. Interval]	
v070c	5.397338	.0538221	5.291605	5.503072

Climate Science	IPCC Involvement	n=135
	No IPCC Involvement	n=241
Affiliated Science	IPCC Involvement	n=49
	No IPCC Involvement	n=93