Data Article

Two-wave panel survey dataset on who feels affected by Hurricane Florence

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ABSTRACT

Feeling affected by climate change related natural disasters is an important predictor of engaging in climate change mitigation behavior. We therefore collected data to identify who felt affected by Hurricane Florence, which made landfall in the United States on September 14th, 2018. In the months before Hurricane Florence, we collected survey responses from a nationally representative sample of United States citizens. We measured their attitudes towards climate change, emotional predispositions, and demographic information. Then, in the days after the hurricane, we re-contacted respondents to identify whether or not they felt personally affected by Hurricane Florence. These data can be used first to identify variables associated with climate change attitudes, and second to identify the traits that predispose individuals to feel affected by climate change related disasters.

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Specifications Table

| Subject          | Social Sciences (General) |
|------------------|---------------------------|
| Specific subject area | Public Opinion |
| Type of data     | Text file |
|                  | Stata data file |
|                  | Stata .do file |
| How data were acquired | Data was acquired through online questionnaires delivered by YouGov. |
| Data format      | Raw |
| Parameters for data collection | Respondents were recruited from YouGov’s United States panel. The total panel includes over 2 million people in the United States. |
| Description of data collection | Wave 1 of the survey was fielded between May 04, 2018 and May 15, 2018. We collected respondent’s opinions about climate change, as well as their emotional predispositions. Respondents were then re-contacted for the second wave of the study. The second wave was fielded between September 21, 2018 and September 28, 2018, directly after Hurricane Florence dissipated on September 18th, 2018. Respondents were asked whether they had been personally affected by Hurricane Florence. YouGov interviewed a total of 2,244 respondents in Wave 1 who were then matched down to a sample of 1,500 to produce the final dataset. The respondents were matched to a sampling frame on gender, age, race, and education. |
| Data source location | Country: The United States of America |
| Data accessibility | Data are available with this article. |
| Related research article | [1] T.M. Andrews, O. Smirnov, Who feels the impacts of climate change?, Glob. Environ. Chang. (2020). https://doi.org/10.1016/j.gloenvcha.2020.102164 |

Value of the Data

- These data identify the characteristics, measured before Hurricane Florence, that predispose individuals to feel affected by the disaster.
- Because feeling affected by climate change related natural disasters is an important predictor of climate change mitigation behavior, these data are useful to those studying how to best mobilize mitigation.
- These data could be further used to identify sensitivity to climate change related disasters.
- Additionally, these data can be used to study the socio-demographic and geographic characteristics that are associated with belief in and concern about climate change.

1. Data Description

The data set includes the raw data from both Wave 1 and Wave 2 of our survey. Wave 1 includes responses for all 2,244 respondents who completed the first wave of the study, while the final panel includes those who completed both waves of the study, with some respondents removed by YouGov to ensure our final panel included a nationally representative 1,500-person panel.

Additionally, the pdf-file “Codebook” describes each of the variables and response options. Finally, the do-file includes the Stata code required to generate each of the scales included in the data, as well as the scree plots and factor analyses included below.

Respondents were recruited for the first wave of the panel through YouGov, a company which maintains an online panel of over 2 million respondents in the United States. Prior to completing either wave, YouGov collected each respondent’s socio-demographic information, their geographic location, and their political preferences. Fig. 1 shows the distribution of respondents’ ages, and Tables 1-6 show the distribution of respondent’s demographic and political characteristics.
Fig. 1. Distribution of respondent ages.

Table 1
Respondent gender.

|                | Wave 1 Freq. | Wave 1 Percent | Panel Freq. | Panel Percent |
|----------------|--------------|----------------|-------------|---------------|
| Male           | 1,020        | 45.5           | 693         | 46.2          |
| Female         | 1,224        | 54.6           | 807         | 53.8          |
| Total          | 2,244        | 100            | 1,500       | 100           |

Table 2
Respondent race.

|                | Wave 1 Freq. | Wave 1 Percent | Panel Freq. | Panel Percent |
|----------------|--------------|----------------|-------------|---------------|
| White          | 1,655        | 73.75          | 1,074       | 71.6          |
| Black          | 215          | 9.58           | 160         | 10.67         |
| Hispanic       | 225          | 10.03          | 156         | 10.4          |
| Asian          | 59           | 2.63           | 47          | 3.13          |
| Native American| 17           | 0.76           | 13          | 0.87          |
| Mixed          | 35           | 1.56           | 26          | 1.73          |
| Other          | 33           | 1.47           | 22          | 1.47          |
| Middle Eastern | 5            | 0.22           | 2           | 0.13          |
| Total          | 2,244        | 100            | 1,500       | 100           |

In the first wave of the panel we asked respondents about their attitudes surrounding climate change, including whether or not they believe in anthropogenic climate change, as well as how worried they are about climate change and how often they discuss the issue. A total of 2,244 respondents completed the first wave. The full question wording as well as distribution of the responses in the first wave of the data are presented in Table 7.

In the first wave, we additionally ascertained each respondent’s emotional predispositions. First, we measure perspective taking abilities, or the propensity to automatically adopt the per-
**Table 3**

Respondent education.

|                  | Wave 1 Freq. | Wave 1 Percent | Panel Freq. | Panel Percent |
|------------------|--------------|----------------|-------------|---------------|
| No HS            | 183          | 8.16           | 108         | 7.2           |
| High school graduate | 758         | 33.78          | 515         | 34.33         |
| Some college     | 435          | 19.39          | 294         | 19.6          |
| 2-year           | 255          | 11.36          | 173         | 11.53         |
| 4-year           | 392          | 17.47          | 263         | 17.53         |
| Post-grad        | 221          | 9.85           | 147         | 9.8           |
| Total            | 2,244        | 100            | 1,500       | 100           |

**Table 4**

Respondent marital status.

|                  | Wave 1 Freq. | Wave 1 Percent | Panel Freq. | Panel Percent |
|------------------|--------------|----------------|-------------|---------------|
| Married          | 1,095        | 48.8           | 709         | 47.27         |
| Separated        | 35           | 1.56           | 22          | 1.47          |
| Divorced         | 237          | 10.56          | 150         | 10            |
| Widowed          | 115          | 5.12           | 79          | 5.27          |
| Never married    | 682          | 30.39          | 490         | 32.67         |
| Domestic / civil partnership | 80 | 3.57          | 50          | 3.33          |
| Total            | 2,244        | 100            | 1,500       | 100           |

**Table 5**

Respondent religion.

| Religion                        | Wave 1 Freq. | Wave 1 Percent | Panel Freq. | Panel Percent |
|---------------------------------|--------------|----------------|-------------|---------------|
| Protestant                      | 797          | 35.52          | 523         | 34.87         |
| Roman Catholic                  | 423          | 18.85          | 284         | 18.93         |
| Mormon                          | 31           | 1.38           | 21          | 1.4           |
| Eastern or Greek Orthodox       | 17           | 0.76           | 9           | 0.6           |
| Jewish                          | 47           | 2.09           | 29          | 1.93          |
| Muslim                          | 21           | 0.94           | 10          | 0.67          |
| Buddhist                        | 25           | 1.11           | 17          | 1.13          |
| Hindu                           | 6            | 0.27           | 5           | 0.33          |
| Atheist                         | 140          | 6.24           | 108         | 7.2           |
| Agnostic                        | 124          | 5.53           | 80          | 5.33          |
| Nothing in particular           | 505          | 22.5           | 335         | 22.33         |
| Something else                  | 108          | 4.81           | 79          | 5.27          |
| Total                           | 2,244        | 100            | 1,500       | 100           |

spective of others [2–4]. Each question in the perspective taking scale, as well as a principal factor analysis of the scale, is presented in Table 8. Additionally, the scree plot for the scale, suggesting the scale captures a single dimension, is presented in Fig. 2.

Second, we measured levels of empathic concern. Though empathic concern is similar to perspective taking in that it is an emotional response to the affective state of another person, it is different in that it is subject to conscious regulation [3,5–7]. The items of the empathic concern scale, as well as a principal factor analysis, are in Table 9. Fig. 3 shows the scree plot for the empathic concern scale.

Finally, we constructed a novel scale to measure respondent’s willingness to help victims of a hurricane. The scale items and principal factor analysis are presented in Table 10, and the scree plot is presented in Fig. 4.

In the second wave of the panel, we re-contacted respondents and asked them whether they were personally affected by Hurricane Florence. In total, 1,500 respondents completed both the first and second wave of the panel. Hurricane Florence made landfall in the United States on
Table 6
Respondent partisan identification.

|                  | Wave 1 Freq. | Wave 1 Percent | Panel Freq. | Panel Percent |
|------------------|--------------|----------------|-------------|--------------|
| Democrat         | 755          | 33.65          | 508         | 33.87        |
| Republican       | 535          | 23.84          | 351         | 23.4         |
| Independent      | 677          | 30.17          | 445         | 29.67        |
| Other            | 114          | 5.08           | 86          | 5.73         |
| Not sure         | 163          | 7.26           | 110         | 7.33         |
| Total            | 2,244        | 100            | 1,500       | 100          |

Table 7
Full question wording for each climate change attitude question is presented in the first column. The second column shows each response option, as well as the number of respondents who selected each option out of the total number who completed the first wave of the study (n=2,244).

| Question                                                                 | Response Options                                                                 |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Do you think that global warming is happening?                          | Yes: 1,399                                                                       |
|                                                                          | No: 511                                                                          |
|                                                                          | Don’t Know: 334                                                                  |
| Assuming global warming is happening, do you think it is...?            | Caused mostly by human activities: 1,166                                           |
|                                                                          | Caused mostly by natural changes in the environment: 660                          |
|                                                                          | Other: 128                                                                       |
|                                                                          | None of the above because global warming isn’t happening: 290                    |
| How worried are you about global warming?                                | Very worried: 620                                                                 |
|                                                                          | Somewhat worried: 711                                                             |
|                                                                          | Not very worried: 438                                                             |
|                                                                          | Not at all worried: 475                                                           |
| How often do you discuss global warming with your friends and family?   | Often: 223                                                                       |
|                                                                          | Occasionally: 791                                                                |
|                                                                          | Rarely: 700                                                                      |
|                                                                          | Never: 530                                                                       |

Table 8
Principal factor analysis for the perspective taking scale. Scale reliability coefficient Cronbach’s alpha = 0.772.

|                                                                                   | Factor 1 | Factor 2 |
|-----------------------------------------------------------------------------------|----------|----------|
| I sometimes find it difficult to see things from the “other guy’s” point of view. | 0.347    | 0.370    |
| I try to look at everybody’s side of a disagreement before I make a decision.     | 0.673    | 0.047    |
| I sometimes try to understand my friends better by imagining how things look from their perspective. | 0.696 | -0.062 |
| If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments. | 0.322 | 0.345 |
| I believe that there are two sides to every question and try to look at them both. | 0.633 | 0.010 |
| When I’m upset at someone, I usually try to “put myself in his shoes” for a while. | 0.683 | -0.172 |
| Before criticizing somebody, I try to imagine how I would feel if I were in their place. | 0.720 | -0.163 |

Table 9
Principal factor analysis for the empathic concern scale. Scale reliability coefficient Cronbach’s alpha = 0.806.

|                                                                                   | Factor 1 | Factor 2 |
|-----------------------------------------------------------------------------------|----------|----------|
| I often have tender, concerned feelings for people less fortunate than me.        | 0.723    | -0.149   |
| Sometimes I don’t feel very sorry for other people when they are having problems. | 0.486    | 0.318    |
| When I see someone being taken advantage of, I feel kind of protective towards them. | 0.664 | -0.177 |
| Other people's misfortunes do not usually disturb me a great deal.               | 0.633    | 0.316    |
| When I see someone being treated unfairly, I sometimes don’t feel very much pity for them. | 0.541 | 0.348 |
| I am often quite touched by things that I see happen.                             | 0.694    | -0.267   |
| I would describe myself as a pretty soft-hearted person.                          | 0.587    | -0.226   |
Fig. 2. Scree plot for perspective taking scale items.

Table 10
Principal factor analysis for the help scale. Scale reliability coefficient Cronbach’s alpha = 0.787.

| Item                                                                 | Factor 1 |
|----------------------------------------------------------------------|----------|
| How likely would you help victims of a hurricane?                    | 0.632    |
| How likely would you assist victims of a hurricane by donating material items such as food and clothes? | 0.803    |
| How likely would you assist victims of a hurricane by donating money? | 0.677    |
| How likely would you assist victims of a hurricane by volunteering?  | 0.650    |

September 14th, 2018 and primarily impacted North Carolina, South Carolina, and Virginia [8]. Table 11 shows how many respondents completed the second wave of the study in each state, as well as the number of respondents who stated they were personally affected by Hurricane Florence.

A detailed description of all other variables included in the questionnaires are available in the codebook in the supplementary files of this data article. Respondent’s responses are included in the Stata file, and the included do-file has the code necessary to construct each of the scales in these data.

2. Experimental Design, Materials and Methods

Respondents were recruited for the first wave of the study through YouGov, a company which maintains an online panel of over 2 million respondents in the United States. Prior to completing either wave of our study, YouGov collected each respondent’s socio-demographic information, their geographic location, and their political preferences.

Wave I was fielded between May 04, 2018 and May 15, 2018, before hurricane season. After agreeing to participate, respondents were randomly assigned to one of three experimental conditions. In the control condition, respondents read a brief paragraph about damages caused by Hurricane Harvey, which hit the United States in the fall of 2017. In the certain attribution condi-
Fig. 3. Scree plot for empathic concern scale items.

Table 11
Geographic distribution of survey respondents and who felt affected by Hurricane Florence. The table lists first the total number of respondents from each state in the dataset, and then the total number who report being personally affected by Hurricane Florence. The results only include those who completed both Wave 1 and Wave 2 of the study.

| State           | Total | Aff. | State       | Total | Aff. | State       | Total | Aff. |
|-----------------|-------|------|-------------|-------|------|-------------|-------|------|
| Alabama         | 23    | 1    | Kentucky    | 26    | 6    | North Dakota| 2     | 0    |
| Alaska          | 1     | 1    | Louisiana   | 12    | 1    | Ohio        | 65    | 9    |
| Arizona         | 36    | 0    | Maine       | 12    | 0    | Oklahoma    | 11    | 0    |
| Arkansas        | 17    | 3    | Maryland    | 26    | 8    | Oregon      | 34    | 1    |
| California      | 114   | 10   | Massachusetts| 36    | 3    | Pennsylvania| 92    | 10   |
| Colorado        | 35    | 4    | Michigan    | 53    | 3    | Rhode Island| 1     | 0    |
| Connecticut     | 19    | 0    | Minnesota   | 25    | 0    | South Carolina| 33   | 20   |
| Delaware        | 8     | 1    | Mississippi | 11    | 3    | South Dakota| 6     | 1    |
| D.C.            | 4     | 2    | Missouri    | 29    | 3    | Tennessee   | 32    | 5    |
| Florida         | 79    | 9    | Montana     | 8     | 1    | Texas       | 32    | 7    |
| Georgia         | 39    | 9    | Nebraska    | 5     | 0    | Utah        | 5     | 0    |
| Hawaii          | 6     | 0    | Nevada      | 19    | 0    | Vermont     | 6     | 0    |
| Idaho           | 9     | 0    | New Hampshire| 9    | 1    | Virginia    | 36    | 14   |
| Illinois        | 69    | 2    | New Jersey  | 43    | 5    | Washington  | 39    | 5    |
| Indiana         | 34    | 2    | New Mexico  | 12    | 1    | West Virginia| 9    | 0    |
| Iowa            | 23    | 2    | New York    | 97    | 10   | Wisconsin   | 40    | 2    |
| Kansas          | 16    | 0    | North Carolina| 46   | 37   | Wyoming     | 3     | 1    |

For the second wave of the study, YouGov re-contacted those who had completed Wave 1. The final sample of 1,500 included all respondents who completed both waves of the study, and then was matched down to a sampling frame on gender, age, race, and education. While this
reduced the total size of our final data set, it ensures the data is as representative of the U.S. population as possible. Wave II was fielded from September 21, 2018 to September 28, 2018, after Hurricane Florence dissipated on September 18th.

After agreeing to participate, respondents were again randomly assigned to one of three experimental conditions. In all three conditions, respondents read a short paragraph about the damages caused by Hurricane Florence. In the certain attribution condition, respondents additionally read about how these damages were exacerbated by climate change. In the uncertain attribution condition, respondents read about the hurricane damages, as well as how it was uncertain whether climate change contributed to the severity of the storm. All respondents then reported whether they had been personally affected by the hurricane.

All survey questions and text from the experiments are included in the codebook in the supplemental information included with this paper.

Ethics Statement

Informed consent was obtained from all participants before their participation in this study. The work was conducted with the approval of the authors’ Institutional Review Board.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have, or could be perceived to have, influenced the work reported in this article.

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Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2020.106361.

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