

Original Questionnaire for the ‘SCALAR’ household surveys on private climate change adaptation Wave 3



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This panel survey contains data from households located in large, coastal urban centers in the United States (Houston, New Orleans and Miami greater areas), the Netherlands (Rotterdam greater area and the province of Zeeland), China (Shanghai greater area), and Indonesia (Jakarta greater area, other cities in Java). In each location we used the identical, translated questions in the respective languages of each country. These panel surveys conducted in five waves between 2020-2023 are focused on soliciting information on households' socio-economic background, perceptions, adaptive capacities, self-assessed resilience, place attachment, social influence, policy and other factors influencing individual climate change adaptation behavior surrounding private adaptation to climate change (here contextualized to floods). The surveys were conducted online with the help of YouGov, <https://yougov.co.uk/>. The third survey was conducted in April-May 2021.

Developing, distributing and analyzing these household surveys on private climate change adaptation was possible thanks to the funding from the **European Research Council project ‘SCALAR: Scaling up behavior and autonomous adaptation for macro models of climate change damage assessment’** (grant agreement no. 758014) under the European Union's Horizon 2020 Research and Innovation Program. Our ERC ‘SCALAR’ Team has been based at the University of Twente in 2018-2021; and from 2021 – at the Delft University of Technology, The Netherlands. This third wave of the survey was conducted from the University of Twente.

Related publications:

PhD Thesis of Dr. Brayton Noll (2023): <https://repository.tudelft.nl/islandora/object/uuid%3A0d49cb3e-6dd8-4a9e-abc6-b847de938aea?collection=research>

Noll, B., Filatova, T., Need, A., de Vries, P. (2023) ‘Uncertainty in individual risk judgments associates with vulnerability and curtailed climate adaptation’, *Journal of Environmental Management*, 325, 116462, <https://pubmed.ncbi.nlm.nih.gov/36272292/>

Noll, B., T.Filatova, A.Need (2022) ‘One and done? Exploring linkages between households’ intended adaptations to climate-induced floods’, *Risk Analysis*, 1-19, <https://doi.org/10.1111/risa.13897>

Noll B., Filatova, T., Need, A. & Taberna, A. (2021) ‘Contextualizing cross-national patterns in household climate change adaptation’, *Nature Climate Change* <https://doi.org/10.1038/s41558-021-01222-3>

Note: Below the green color codes the name of the corresponding variable in the dataset. The yellow color denotes the internal comments guiding the conditional questions order.

Dear Participants,

Thank you very much for your participation in our previous Survey back in September-October 2020 on flood risks and possible adaptation options. We know the past year has been a difficult one for everyone and we sincerely appreciate your responses. Your participation is helping us understand how people react to flooding and what one can do to reduce their devastating impacts. This time the survey is shorter than the previous one. We estimate it will take less than ten minutes of your time and you will receive XXX points for taking part.

This survey has four short sections containing:

- 1) Follow up questions on flood adaptations
- 2) Follow up questions on beliefs and perceptions
- 3) A few follow up questions on your household's economic comfort
- 4) Two questions regarding flooding experienced previously

Each of these sections is designed to better understand what affects human perceptions of risks and decision over time. Thus, your participation in this survey and the subsequent one later this year is VERY important and meaningful.

We sincerely thank you for your continued participation and help!

Follow Up Questions on Adaptations

This section contains some follow up questions from the previous survey regarding a few different flood protection actions and your attitudes towards flooding.

1. **[R2_implementation_yes]** **[Note: only if applicable]** In a previous survey, you indicated that, at some point in the future, you intend to complete the following items. There are no ‘correct’ or ‘incorrect’ answers here; we just would like to better understand your decisions over time. Please select the option that most accurately portrays their status and your current intentions:

Possible flood protection and damage mitigation measures	I have implemented the measure	I still intend to implement the measure	I no longer intend to implement the measure
[Input measures selected on past survey that they intended to complete]	[]	[]	[]
[Input measures selected on past survey that they intended to complete]	[]	[]	[]
[Input measures selected on past survey that they intended to complete]	[]	[]	[]
etc	etc	etc	etc

2. **[Q2_no_action_reason]** **[Note: only show to those who marked they intended measures in 1 year in the first survey but haven’t followed through]** In the initial survey in March-April 2020 you indicated that within a year, you intend to complete the following measures. In the past two surveys we have understood that you have not (yet) undertaken these measures, but still intend to. Please help us understand your situation by selecting the **principle** reason that you have not (yet) taken this action.

[illegible]

3. [For respondents who have implemented 1 or more adaptations in since the beginning of the survey, please show 3a. For those who have not, show 3b. If respondents have neither implemented a measure, and don't intend to implement a measure, they can skip this question.]

- a. [Q3a_implementation_cost] For the adaptation measures that you have completed, can you please provide a rough estimate of how much each measure costs in _____ [Currency based on country]

Measures that you have reported you completed	Approximate cost in [Currency based on country]	
[Input measures they report completed on this survey or past survey]	Open ended	I don't know/ prefer not to say
[Input measures they report completed on this survey or past survey]	Open ended	I don't know/ prefer not to say
etc	Open ended	I don't know/ prefer not to say

- b. [Q3b_perc_cost] For the adaptation measures that you have earlier intended to implement, can you please provide a rough estimate of how much you think each measure costs in _____ [Currency based on country]

Measures that you have reported you intend to implemented	Approximate cost in _____ [Currency based on country]	
[Input measures they report as intended on this survey or past survey]	Open ended	I don't know/ prefer not to say
[Input measures they report as intended on this survey or past survey]	Open ended	I don't know/ prefer not to say
etc	Open ended	I don't know/ prefer not to say

4. [Q4_measure_loan] [NOTE: Only show to all people who have indicated they have undergone ANY structural measure, or NonStructual measure #6]
Previously you have mentioned that you implemented some flood mitigation measures [List Measures Here].

We are trying to understand how households, such as yours pay for these measures. What share of your costs for ALL of these adaptation measures did your household pay from its own savings versus borrowing? To the best of your knowledge, please indicate on a scale of 0 – 100 the share of which you financed these projects with borrowed money.

I borrowed nothing 0% _____ o _____ 100% I had to borrow everything

(funded everything
anything from
using my own savings and income)

(could not pay
my own resources)

Don't know / Prefer not to say

Beliefs and Perceptions

In this section we are following up on some questions we previously asked to understand if there have been any changes in your situation in the past months.

5. **[R02a_perc_prob_change]** In the last survey in September-November 2020, we asked you about how likely you thought it is that you would experience a flood. You responded with _____ / _____ % / I don't Know

Is this still the case?

Yes

No**

- a) ****[IF answer No]**

[R02_perc_prob] How often do you think a flood occurs on the property on which you live (e.g. due to rivers or heavy rain, storms and cyclones)? Which category is the most appropriate?

My house is completely safe

Less often than 1 in 500 years

Once in 500 years or a 0.2% chance annually

Once in 200 years or a .5% chance annually

Once in 100 years or 1% chance annually

Once in 50 years or a 2% chance annually

Once in 10 years or 10% chance annually

Annually

More frequent than once per year

Don't know

[R02_perc_prob_other] Other: Once in _____ Years

6. **[R03a_perc_damage_change]** In the last survey, we asked you how severe the physical damage you thought a flood on a similar scale to **[Name of flood depending on**

country** would affect your home. On a scale of 1: not at all severe – 5: Very severe, you responded with **/ I don't Know**

Is this still the case?

Yes

No**

a) ****[IF answer No]**

[R03_perc_damage] In the event of a future major flood in your area on a similar scale to **[Name of flood depending on country**]** how severe (or not) do you think the physical damage to your house would be?

1= Not at all severe

2

3

4

5= Very severe

Don't know / Prefer not to say

**** Indonesia: "the 2020 Jakarta Floods"**

China: "the 2017 China Floods in Hunan"

USA: the flooding from Hurricane Harvey in Houston in 2017"

Netherlands: "the North Sea Flood of 1953"

7. **[R04a_perc_health_change]** In the last survey, we asked you to rate how likely you or another member of your household would suffer health consequences in the event of a flood in your area? You responded with

Is this still the case?

Yes

No**

a) ****[IF answer No]**

[R04_perc_health] In the event of a flood in your area, how likely or unlikely do you think it is that you or another member of your household would suffer health consequences?

1= not at all likely

2= hardly likely

3= somewhat likely

4= quite likely

5= almost certain

I don't know

8. **[R05a_worry_change]** In the last survey, we asked how worried you were about flooding. You responded with **/ I don't Know**

Is this still the case?

Yes

No**

- a. ****[IF answer No]**
[R05_worry] Please indicate How worried or not are you about the potential impact of flooding on your home?
 1= not at all worried
 2= A little worried
 3= somewhat worried
 4= quite worried
 5= very worried
 I don't know
9. **[R013_recent_flood_exp]** Between the last survey in September-October 2020 and now, have you experienced a flood from heavy rain fall, rivers overflowing, a storm surge, etc.?
 Yes**
 No
- a. **[If Yes,**]**
[R013a_recent_flood_damage] How severe was the damage caused by the flood?
 1= Not at all severe
 2
 3
 4
 5= Very severe
- b. **[If Yes,**]**
[R013b_recent_flood_health] How severe was the damage caused by this flood to your personal health?
 1= Not at all severe
 2
 3
 4
 5= Very severe
- c. **[If Yes,**]**
[R013c_recent_flood_cost] Please provide an estimate of the total costs to your property that this flood caused AND if any medical expenses resulted from this flood, please include them in the estimate as well.
 _____ **[insert currency]**
10. In the last six months how frequently have you read information about flooding and other hazards?
[R06a_media_freq] From the **general media**
 1= Very infrequently 2, 3, 4 , 5= Very frequently
- [R06b_social_media_freq]** From **Social Media** (i.e.) Facebook, Instagram, WeChat, Weibo, etc.
 1= Very infrequently 2, 3, 4 , 5= Very frequently

11. **[R010_flood_convo]** Since the last survey in September/October 2020, approximately how many times have you been involved in a conversation or contributed to a discussion (in person or on social media) involving the subject of flooding?
_____ times
12. **[R011_local_flood_convo]** Approximately how many of these conversations took place with someone who lived in your local area?
_____ times

Last time we interviewed you in September- October 2020, we asked you to agree or disagree with six statements regarding your household's ability to respond to challenges. Again, there are no 'correct' or 'incorrect' answers, we want to re-ask to understand if there have been any changes in your situation in the past months.

13. **[R01a_resilience_1_change]** In response to the statement: "My household can bounce back from any challenge that life throws at it" you responded with a **[]** on the scale of 1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree.
Is this still the case?
Yes
No**
- a. ****[IF answer NO]**
[R01_resilience_1] Please indicate what you currently think about the statement: My household can bounce back from any challenge that life throws at it.
1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree.
14. **[R01a_resilience_2_change]** In response to the statement: "During times of hardship, my household can change its primary income or source of livelihood if needed" you responded with a **[]** on the scale of 1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree.
Is this still the case?
Yes
No**
- a. ****[IF answer NO]**
[R01_resilience_2] Please indicate what you currently think about the statement: During times of hardship, my household can change its primary income or source of livelihood if needed
1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree

15. **[R01a_resilience_3_change]** In response to the statement: “If hardships or natural disasters became more frequent and intense, my household would still find a way to get by” you responded with a on the scale of 1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree.

Is this still the case?

Yes

No**

- a. ****[IF answer NO]**

[R01_resilience_3] Please indicate what you currently think about the statement: If hardships or natural disasters became more frequent and intense, my household would still find a way to get by.

1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree

16. **[R01a_resilience_4_change]** In response to the statement: “During times of hardship, my household can access the financial support I need (e.g. such as access to credit at a bank)”, you responded with a on the scale of 1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree.

Is this still the case?

Yes

No**

- a. ****[IF answer NO]**

[R01_resilience_4] Please indicate what you currently think about the statement: During times of hardship, my household can access the financial support I need (e.g. such as access to credit at a bank)

1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree

17. **[R01a_resilience_5_change]** In response to the statement: “My household can rely on the support of family and friends when I need help.” you responded with a on the scale of 1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree.

Is this still the case?

Yes

No**

- a. ****[IF answer NO]**

[R01_resilience_5] Please indicate what you currently think about the statement: My household can rely on the support of family and friends when I need help

1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree

18. **[R01a_resilience_6_change]** In response to the statement: “My household can rely on the support from my government when I need help (e.g. receiving funding or support in the event of a natural disaster)” you responded with a on the scale of 1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree.

Is this still the case?

Yes
No**

a. **[IF answer NO]

[R01_resilience_6] Please indicate what you currently think about the statement: My household can rely on the support from my government when I need help (e.g. receiving funding or support in the event of a natural disaster)

1= Strongly Agree, 2, 3, 4, 5= Strongly Disagree

Economic Comfort

19. **[R09a_savings_change]** Since the last survey, in September-October 2020, how has your total household finances/ savings changed?

Increased**

Decreased **

Stayed the Same

a. **[**If answer is Increased or Decreases]**

[R09_savings_change_frac] By what percentage has your household finances/savings increased/decreased

____%

20. **[R08a_economic_comfort_change]** In the last survey in September-November 2020, we asked you to indicate your level of economic comfort. Your response was ____

Is this still the case?

Yes

No**

a) **[**If answer No]**

[R08_economic_comfort] When considering your salary along with your expenses, how would you describe your level of “economic comfort”?

1= Very difficult to live

2= Difficult to live

3= Coping

4= Living comfortably

5= Living very comfortably

98= Don't know/Prefer not to say

21. **[R012_lost_job]** In the last 6 months or since the last survey in September/October 2020, have you or another financially contributing member of your household lost their job?

Yes*

No

a. **[**If answer Yes]**

[R012a_lost_job_impact] How much has this job loss impacted you financially

1: Very little, 2, 3, 4, 5: A considerable amount

Flooding consequences

[Only show this questions to respondents, who at any time, have indicated they have experienced a flood]

In one of the surveys in the past, you have indicated you experienced a flood. In our research, we are actively trying to better understand the experiences of those who have experienced floods. We have a few more questions for you to help us better understand your experience.

22. **[Q22_recovery_time]** Please think for a moment about the most severe flood you have experienced in your lifetime. How long did it take for your household to financially recover from this event and have the same “lifestyle” as before the flood? Specifically, in how many months or years after that flood could your households spend the same amount of money on food, education, recreation and housing as you did before the flood?

My Household Recovered in:

Less than 1 month

Less than 6 months

Within 1 year

Within 2 year

Within 3 years

Within 4 years

Within 5 years

5 or *more* years

My household has not recovered***

Don't know / can't remember

- a. **[***If this response is selected]**

[Q22a_no_recovery_since] Please write the year of the flood which you are thinking of

23. **[Q23_disrupted_services]** Again, please think back on the most severe flood you have ever experienced in your life. What services were disrupted for your household?

Electricity and/or **heating** source

Access to **potable water**

Waste collection

Ability to **travel/ commute** to or from the area where we live

Internet / Phone access

Access to **food**

None of the above

Thank you very much for your continued participation in this survey. We sincerely appreciate your effort and look forward to hearing from you again in about 6 months!