

## Introduction and Consent Statement

Recent flooding within Tompkins County has prompted both the City of Ithaca and Tompkins County Planning Departments to collaborate and build a more complete picture of flooding within our county. As the Tompkins County Environmental Management Council, we write seeking your participation in this initiative. You have been identified as a community leader whose work: 1) involves understanding flooding risk within Tompkins County (TC), 2) educates TC citizens on issues related to our water resources, or 3) influences county, town or village decisions concerning our communities' flooding risk. This survey will take approximately 15 minutes to complete. The purpose of this survey is threefold: **1)** to spatially map institutional knowledge of the existing flood damages across Tompkins County by organization to develop as complete a picture of county-level flooding as possible, **2)** to understand community leader perceptions and responses to historical flooding risks within Tompkins County, and **3)** to understand community perceptions with respect to possible future climate conditions and flooding risk.

We also want to better understand how you, as an important community leader, believe Tompkins County can best move towards climate resilience. Once this data is analyzed, we plan to extend this research to surrounding counties in New York State within the next 6 months. You can access the survey by checking the box below, which confirms that you have read this and agree to proceed. **Your participation in this research is voluntary and you may withdraw at any time.** Once you have checked the box, please press the continue button at the bottom right corner of this page. You will then be asked to identify your flood risk-relevant affiliation(s). **No results published from this research will reveal your identity or specific responses.** We are only interested in focusing broadly on how institutional knowledge overlaps. All published results will be aggregated to the organization level. If you have any technical difficulties or complaints, please contact Osamu Tsuda (ojt3@cornell.edu)

Otherwise, if you have any questions about this research, motivations, ethics, or this agreement form, please reach out to the contact information provided below. We thank you in advance for your participation.

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Telephone (607) 274-5560 Fax (607) 274-557  
email through here

OR

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I agree to all of the above and wish to proceed (1)

QA Do you know anyone who might be willing to take this survey? If so, please list their name and contact information below. We appreciate your cooperation.

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Page Break

QB How do you contribute to flood resiliency? Please choose the option that most accurately describes your role in the community.

- Education and outreach (1)
- Community planning (3)
- Policy development (4)
- Research / Engineering / Environmental Science (2)
- Public advocacy (5)
- Local government leadership (6)
- Other (explain) (7) \_\_\_\_\_

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QC For our record purposes, please enter your full name below. Please note that the information will not be used and is strictly for the purpose of keeping note of who completed the survey. However, if you do not want to reveal your identity, you may skip this question.

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**End of Block: Block 4**

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**Start of Block: Documentation of Historical Flooding Events**

Q1 What is a flood to you? Please check all that apply.

- loss of life (1)
  - damage to private structures (homes, businesses) (2)
  - displacement of people (3)
  - damage to vehicles (4)
  - damage to public property (roads) (5)
  - flooded road crossings (6)
  - flow of water across private property (7)
  - backed up culverts and inlets (8)
  - a loss of stream side vegetation & trees, streams flowing in the floodplain (i.e. out of bank, within stream side vegetated areas), (9)
  - substantial erosion within a stream (incision) (10)
  - minor erosion within a stream (11)
  - any flow in a stream above normal levels (12)
  - Other (explain) (13) \_\_\_\_\_
- 

Q3 If you don't know about flooding in your local area, do you know of a source (person/ place/ website) where you could get this information?

- Yes (1)
  - No (2)
  - I have a good understanding of flooding (3)
-

Q4 Does your community keep records of historical floods?

- Yes (1)
  - No (2)
  - I don't know (3)
- 

Q5 For as far back as you remember, how has your community responded to flooding? Please check all that apply.

- I'm not sure (8)
- do nothing (1)
- cleanups (2)
- temporary housing (3)
- rebuilt infrastructure (4)
- restored streams/ecology (5)
- sought external funding (6)
- something else (please explain) (7) \_\_\_\_\_

**End of Block: Documentation of Historical Flooding Events**

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**Start of Block: Flood info event form**

*Display This Question:*

*If Loop all: Would you like to add another flood event? != No*

Q23 Do you happen to know of any historical flooding events that occurred within your community's geographical area? If so please enter the information below for each flooding event. If you do not recall the exact value for each question, please enter an approximate. You may add as many of these events as you wish by responding "Yes" to the last question on this page. Otherwise, answer "No" to proceed with the survey.

Locations (approximate intersections within TC) (1)  
\_\_\_\_\_

Date of Flood (2) \_\_\_\_\_

High water marks (3) \_\_\_\_\_

Which watershed/stream/hillside generated the flood waters? (4)  
\_\_\_\_\_

What season was the flooding? (5) \_\_\_\_\_

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*Display This Question:*

*If Loop all: Would you like to add another flood event? != No*

Q24 What was the flooding damage caused by the storm. Check all that apply.

- loss of life (1)
- damage to private structures (homes, businesses) (2)
- displacement of people (3)
- damage to vehicles (4)
- damage to public property (roads) (5)
- flooded road crossings (6)
- flow of water across private property (7)
- backed up culverts and inlets (8)
- a loss of stream-side vegetation & trees (9)
- streams flowing in the floodplain (i.e. out of bank, within stream-side vegetated areas) (10)
- substantial erosion within a stream (incision) (11)
- minor erosion within a stream (12)
- any flow in a stream above normal levels (13)
- something else (please list) (14) \_\_\_\_\_

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*Display This Question:*

*If Loop all: Would you like to add another flood event? != No*

Q28 Would you like to add another flood event?

- Yes (1)
- No (2)

Start of Block: Current Issues Surrounding Flooding

Q7 Generally, how often does flooding (that is your definition of a flood) occur within your community's geographical area (e.g. about once every  $n$  years)?

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Q8 Is there a perception in your community that flooding in your area is frequent enough and that it needs to be mitigated?

- I'm not sure (5)
- Yes, I frequently hear of flood complaints (1)
- Sometimes (2)
- Not really, there is almost no one who talks about it (3)
- Not at all (4)
- Something else (give further explanation) (10)

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Q9 If you could reduce flooding in your area, but not stop it completely, what frequency of flooding would be manageable to your community? Please select from the drop-down list below.

▼ I'm not sure (17) ... greater than 100 years (16)
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Q10 Is there any discussion or consideration of implementing ordinances to limit development in flood prone areas?

- I'm not sure (6)
  - yes, this is being considered/has been done (1)
  - we are hoping to have a discussion on this topic (2)
  - not sure (3)
  - barely any discussion (4)
  - not at all (5)
- 

Q11 Has flooding ever been associated with unmaintained infrastructure, infrastructure failures, or a lack of infrastructure? Please check all that apply

- culvert or bridge blockage (1)
  - undersized culvert (2)
  - backed up storm drains (3)
  - no drainage system present (4)
  - channelized stream (5)
  - lack of a setback (6)
  - flooding not related to infrastructure (7)
  - I'm not sure (8)
- 



Q12 Has flooding ever been associated with changes in land use/ development within your community? If so, what?

- No (1)
  - Increased paved areas (2)
  - Deforestation (3)
  - Changing land forms (4)
  - Restoration of land (5)
  - increased agriculture (6)
  - Other (explain) (7) \_\_\_\_\_
- 

Q13 Do you know if there are any actions that can be taken at the individual level to reduce flooding risks? If so, what?

- Yes (please explain) (1) \_\_\_\_\_
  - No (2)
-

Q14 What local, state or federal agencies are working on flooding-related issues in your community?

- Federal Emergency Management Agency (FEMA) (1)
- National Oceanic and Atmospheric Administration (NOAA) (2)
- US Geological Survey (USGS) (3)
- US Army Corps of Engineers(USACoE) (4)
- New York State Department of Environmental Conservation (NYDEC) (5)
- Tompkins County (TC) (6)
- Village/Town/City government (please give name below) (7)  
\_\_\_\_\_
- Other (explain) (8) \_\_\_\_\_

**End of Block: Current Issues Surrounding Flooding**

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**Start of Block: Future Climate and Flooding Risk**

Q16 What kind of weather events cause flooding in your area? Please check all that apply.

- frontal systems (aka Cold Front/Warm Front or a combination of both in a single area) (1)
  - convective storms (thunderstorms) (2)
  - tropical storms or hurricanes (3)
  - snowmelt events (4)
  - release of ice jams (7)
  - not sure (5)
  - other (explain) (6) \_\_\_\_\_
-

Q17 How confined is the flooding effect? Is there a perception that the same storms affect and or cause flooding across (check all that apply):

- Individual catchments (watersheds or streams) (5)
  - the county (1)
  - multiple counties (2)
  - large portions of NY (3)
  - multiple states (i.e. Northeast region) (4)
  - Other (explain (10) \_\_\_\_\_
- 

Q18 What is your community's perception of how global climate influences local flooding within Tompkins County?

- The global climate directly controls all of our local flooding events (1)
  - The global climate can influence some types of our local flooding events (2)
  - The global climate has a very limited influence our local flooding events (3)
  - No connection (4)
  - I'm not sure (5)
-

Q19 Does your community believe that they need to implement climate change-related mitigation measures in order to become more resistant to future floods?

- Definitely Yes (1)
  - Probably yes (2)
  - Not sure (3)
  - Probably not (4)
  - Definitely not (5)
  - I'm not sure (6)
- 

Q34 Does your community have knowledge about how global climate change will affect local climate patterns?

- Have in-depth and detailed knowledge (1)
  - Have a good amount of knowledge (2)
  - Some basic knowledge (3)
  - Very little knowledge (4)
  - No knowledge at all (5)
  - I'm not sure (6)
-

Q21 In which direction do *you* expect flood risk to move within Tompkins County?

- Less risk (1)
  - More risk (2)
  - Stays the same (3)
  - I'm not sure (4)
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Q22 Is there any other information that you consider relevant and worth sharing in this survey?

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End of Block: Future Climate and Flooding Risk

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Start of Block: Block 5

Q36

**Warning!**

You have reached the end of the survey. Once you click the "FINISH" button below, your answers will be submitted and can not be changed. If you do not wish to submit your answers yet, please do not continue and exit your browser. Your answers will be automatically saved and can be accessed again through the original link provided in your invitation email.

End of Block: Block 5

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