Understand Exposure | Systems Thinking and Conceptual Models

WHO

This is an exercise that can be completed by the full planning team with support from the practitioner in the Understand Exposure step.

WHAT

Conceptual models serve as tools to help people understand complex systems.

In the most basic sense, a system is any group of interacting, interrelated, or interdependent parts that form a complex and unified whole that has a specific purpose. The key thing to remember is that all the parts are interrelated and interdependent in some way. Without such interdependencies, we have just a collection of parts, not a system (from https://thesystemsthinker.com/introduction-to-systems-thinking/).

Conceptual models help with communicating the problem (hazard and people and community asset connection), and the influence of stressors, how they are changing, and what actions can be taken to build resilience. A conceptual model can also help put spatial data into context and serve as mental models to help teams understand how it all "fits together." Conceptual models provide transparency and allow teams to communicate better, within their community and with other communities facing similar issues.

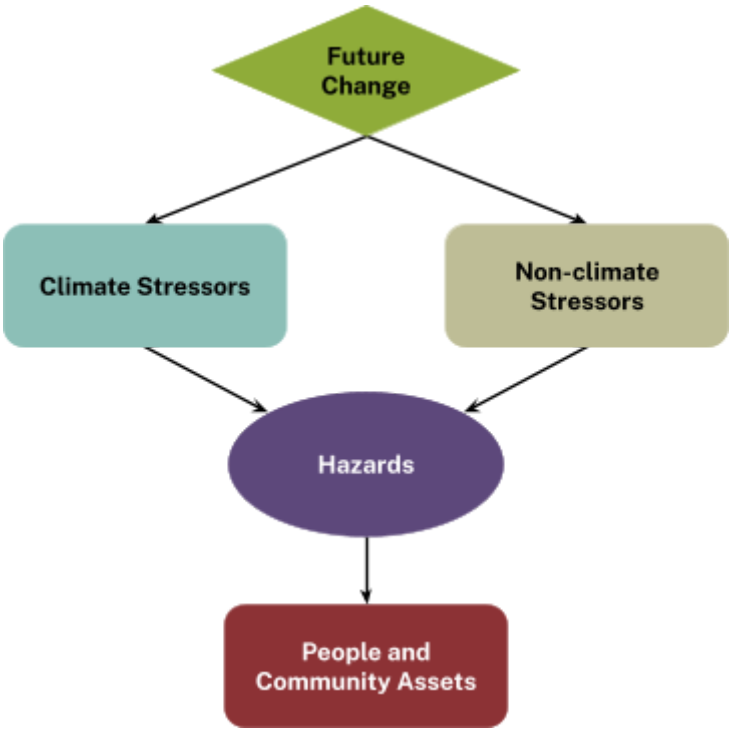
SUPPORTING RESOURCES

- Introduction to Systems Thinking describes systems thinking and common characteristics. It may be useful to review this for additional context.
- Refer to 2.3 Community Asset Themes - Worksheet for the community asset themes developed.
- Use 2.5 Evaluate Hazards and Stressors - Worksheet for hazards and stressors for the community.
- The 2.2 Build a Conceptual Model - Worksheet provide space to carry out the exercise if you choose to do so digitally.

INSTRUCTIONS

- ☐ See below to review how the conceptual model is created.
- ☐ Use either a blank sheet of paper to draw your conceptual model or 2.2 Build a Conceptual Model - Worksheet.
- ☐ Challenge the planning team to create at least three different conceptual models in order to explore different community assets, hazards, and stressors.

Components of the Conceptual Model



People and Community Assets

People, resources, ecosystems, infrastructure, and the services they provide. People and community assets are the tangible and intangible things that the community values.

Hazards

An event or condition that may cause injury, illness, death to people, or damage to assets.

Climate Stressors

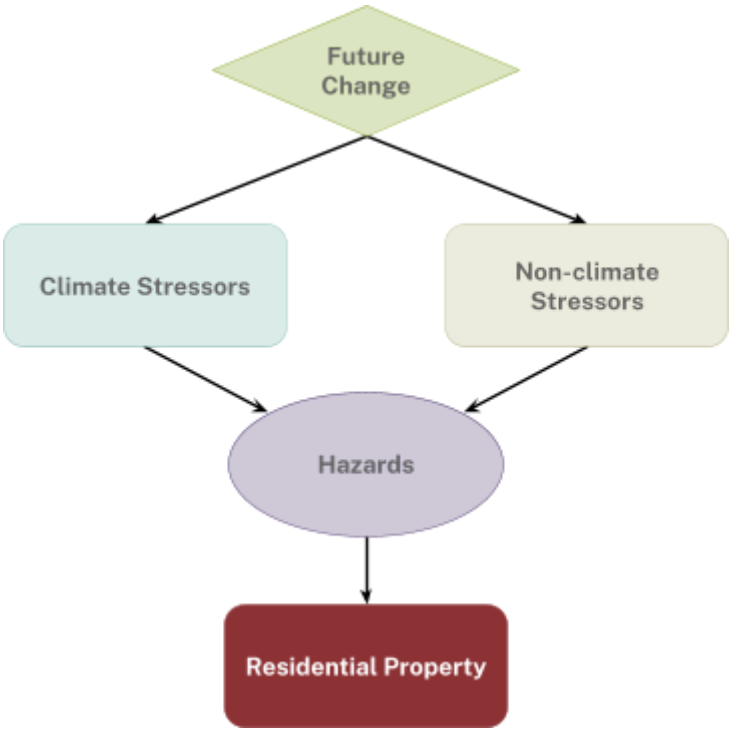
A condition, event, or trend related to climate vulnerability and change that can exacerbate threats/hazards.

Non-climate Stressors

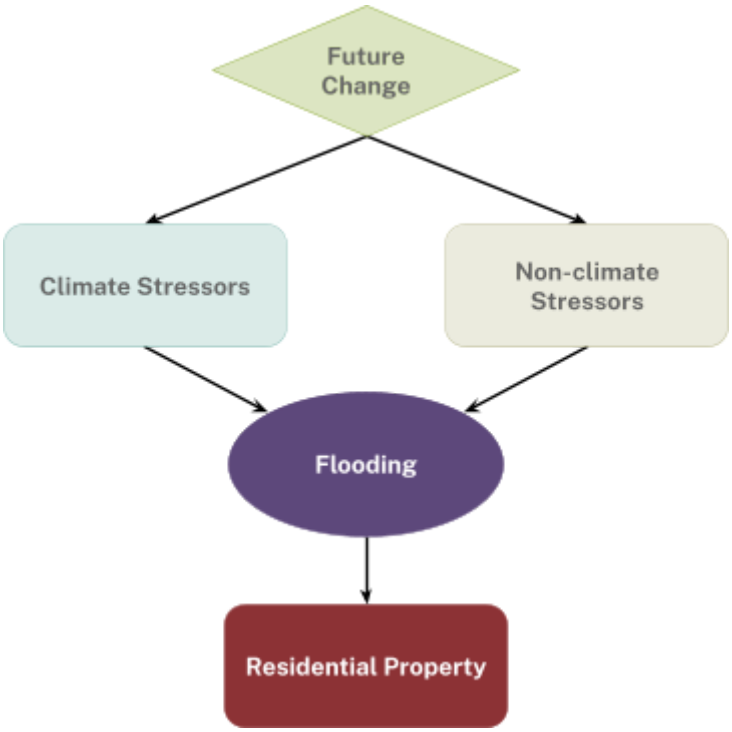
A change or trend unrelated to climate vulnerability and change that can exacerbate threats/ hazards.

Build the Conceptual Model (an example)

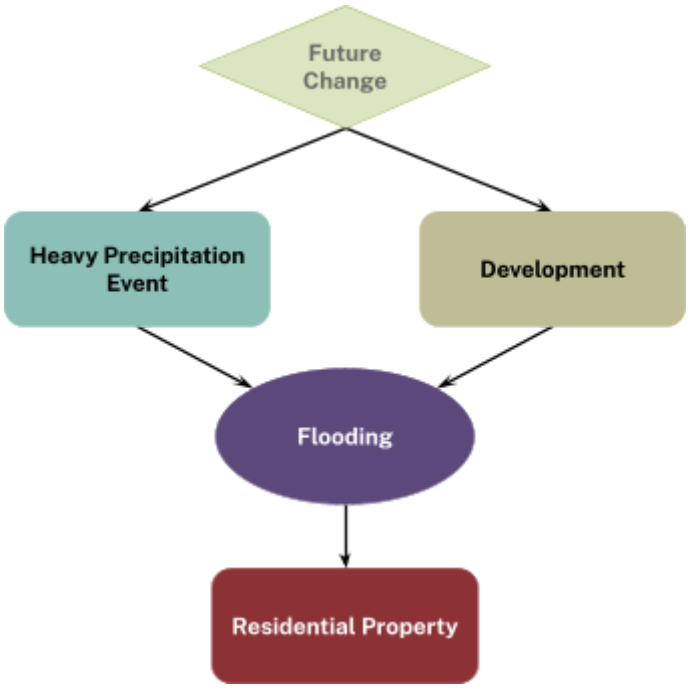
1. Start with things we value: people and community assets. Refer back to 2.3 Community Asset Themes - Worksheet and choose one of the asset themes.



2. Add hazards. Hazards that are currently or most likely to affect the community were identified in 2.5 Evaluate Hazards and Stressors - Worksheet. Choose a hazard from the list.



3. Link stressors (climate and non-climate). Either using 2.5 Evaluate Hazards and Stressors - Worksheet or Table 4 in the Practitioner Guide, determine the climate and non-climate stressors for the hazard.



4. What could change? Refer back to 2.5 Evaluate Hazards and Stressors - Worksheet and determine if any of the stressors are projected to change. How would that impact the model?