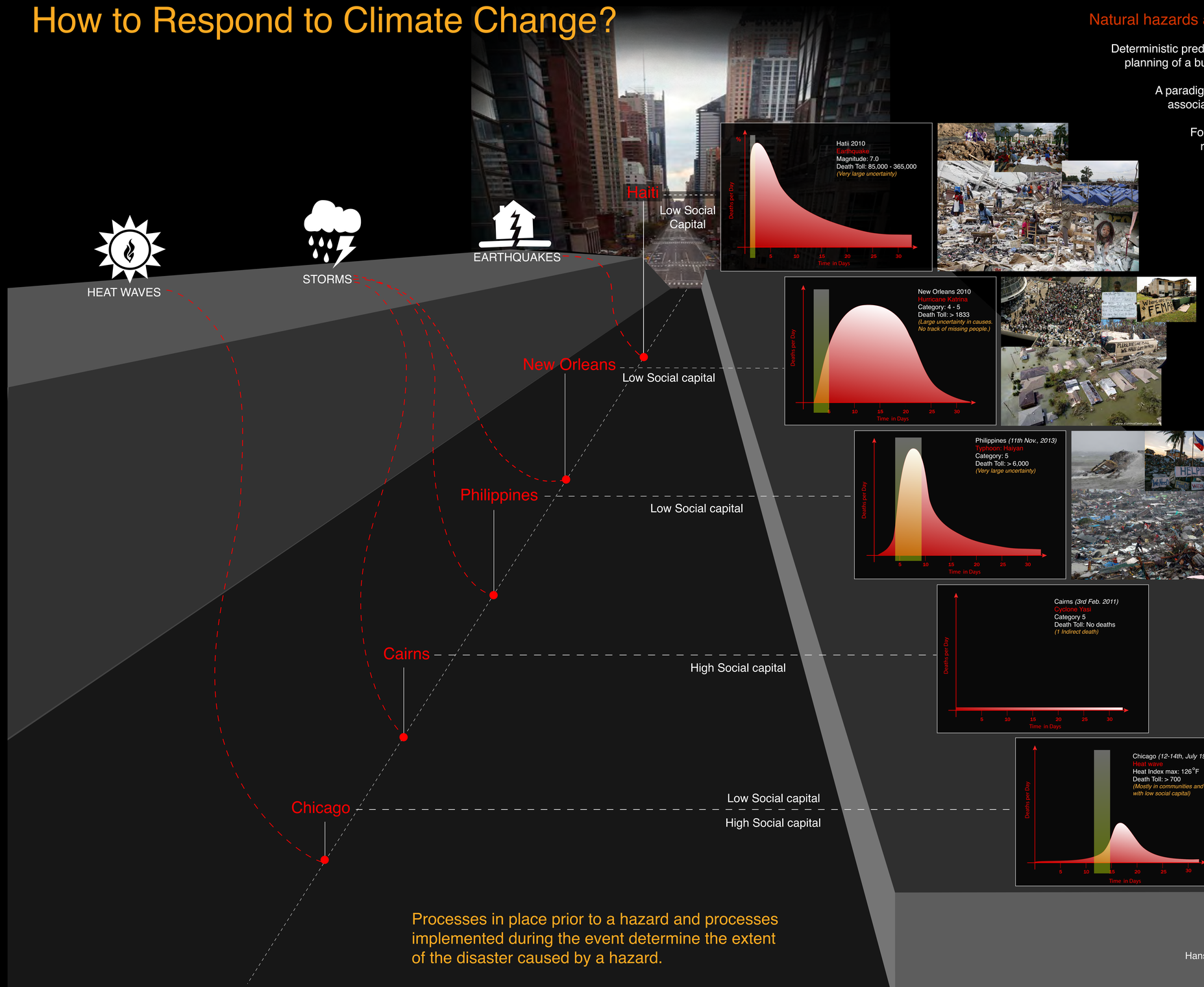
Deterministic or Probabilistic - Robustness or Resilience: How to Respond to Climate Change?



Processes in place prior to a hazard and processes implemented during the event determine the extent of the disaster caused by a hazard.

Natural hazards are not the disaster!

Deterministic predictions of climate change and sea level rise do not provide a basis for feasible planning of a built environment with thresholds that will not be exceeded by extreme events.

A paradigm shift to a probabilistic approach is needed, taking into account the risk associated with rare, extreme events.

For economic reasons, mitigation of impacts of climate change and sea level rise is limited, and rare surprising events will exceed thresholds.

Processes in place prior to a hazard and processes implemented during the event determine the extent of the disaster caused by hazards that exceed thresholds.

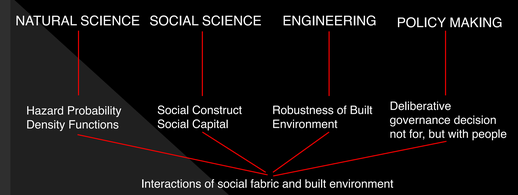
If an event exceeds thresholds of the built environment, the resilience of the social fabric determines the processes and extent of the disaster.

Resilience depends strongly on social capital. 'Social capital' refers to dense social networks with norms and social trust that allow community members to share interests, communicate valuable information, and identify opportunities to collaborate for the benefit of the entire community. Disaster risk reduction requires resilience and an increased social capital.

A best practice is needed that can utilize uncertainties and surprises to increase robustness, strengthen resilience, and reduce fragility of the social system during times when infrastructure fails.

A paradigm shift is needed to a new science-policy interface.

A Science - Engineering - Policy Paradigm



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