Microgrids for hurricane-prone regions

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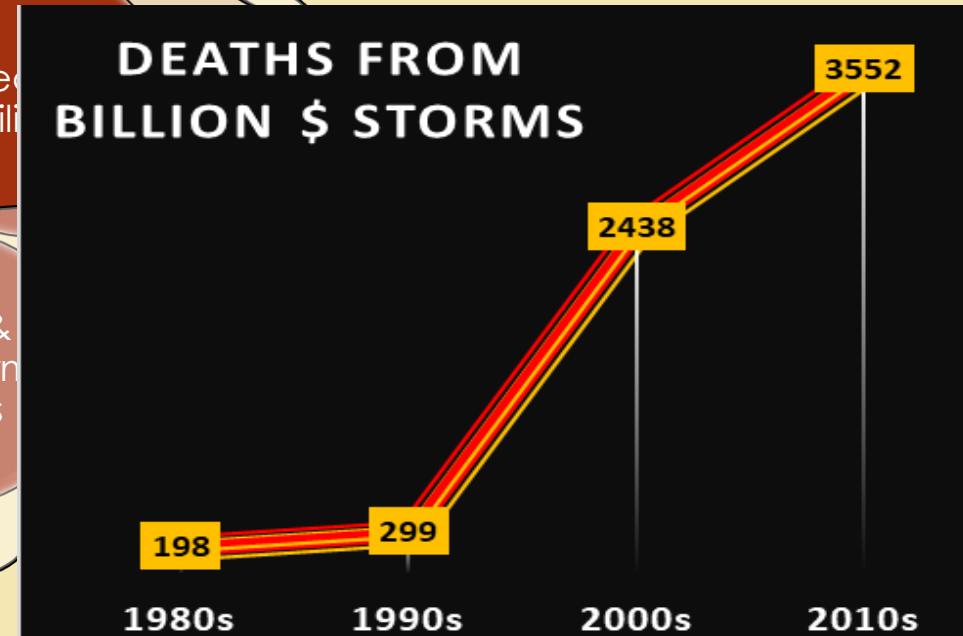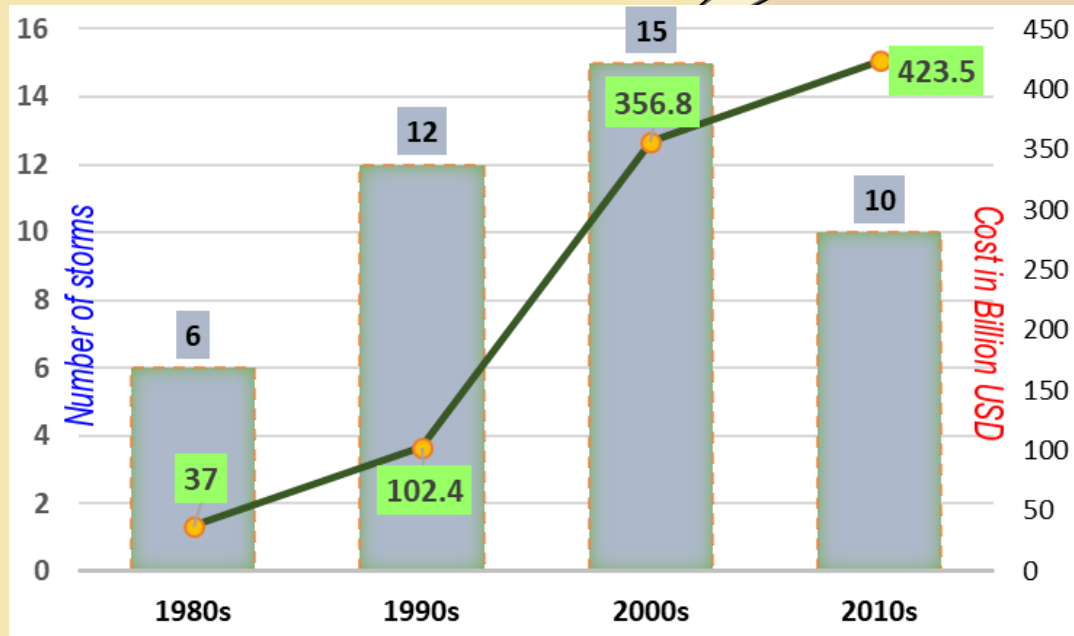
PANEL Session: Microgrids for Resilience
FORT COLLINS 2019 SYMPOSIUM ON MICROGRIDS

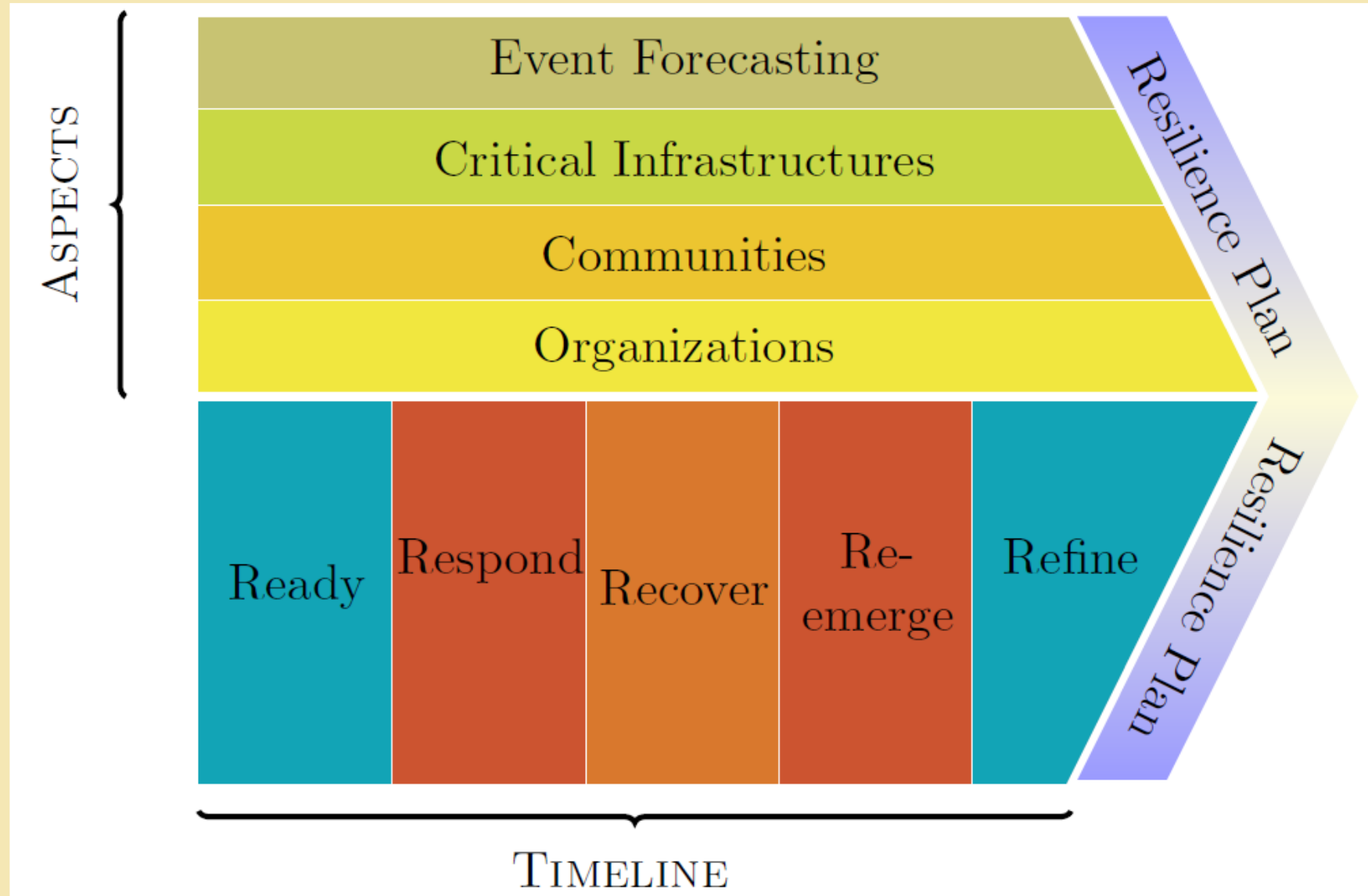# Motivation

Hurricane-prone grids

Hurricane Michael

Source: Nat'l Oceanic & Atmospheric Agency (NOAA)

- Affected 1.2M electric customers in SE USA in Oct. 2018
- Florida Panhandle was majorly affected
- 90% of customers in Tallahassee, FL lost supply
- Worsened by loss of interconnection with neighboring utility
- **Underscores need for self-reliant, local, and resilient electric systems during hurricanes**

State of the art in resilience plan

Enabling resilience with microgrids

Resilient microgrids for critical infrastructures

Re-silience — Awareness, endurance, adaptation, & recovery

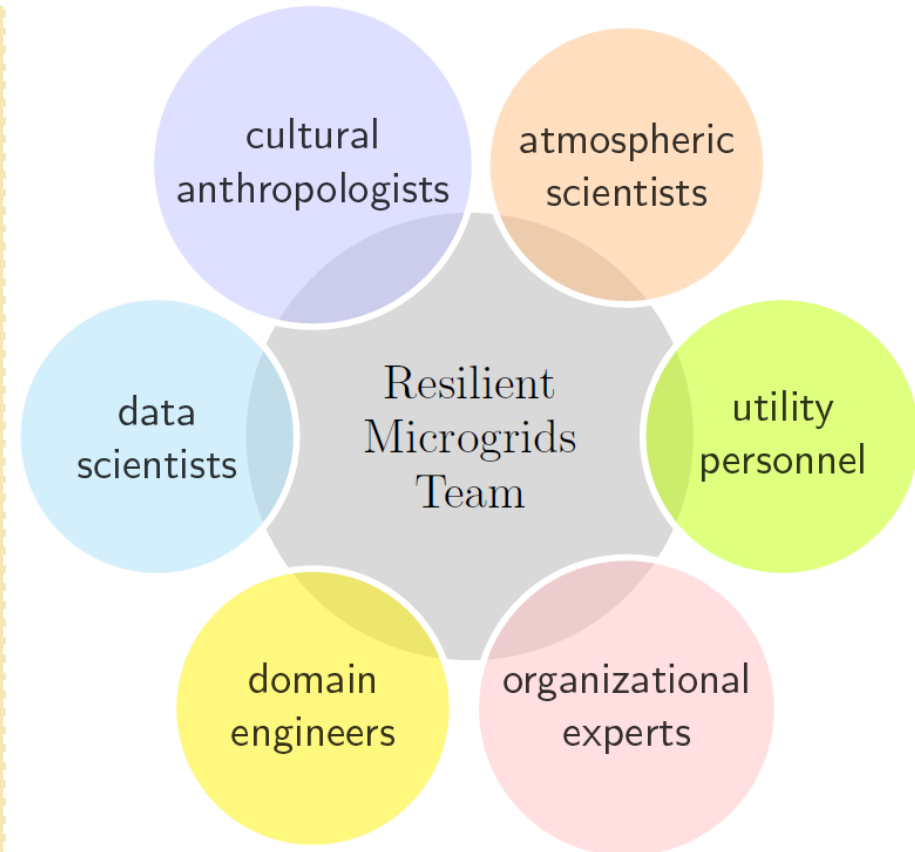**μgrid** — Self-contained, single controllable entity for grid, & islanded/grid-connected

Multi-modal — Capable of handling varying operating objectives

WISH LIST

- Sophisticated models for event prediction
- Evolutionary models of impacts on infrastructures
- Community input
- Extensive field work and surveying
- Metrics, test beds, and visualization tools

CONVERGENCE

cultural anthropologists

atmospheric scientists

data scientists

Resilient Microgrids Team

utility personnel

domain engineers

organizational experts

Short & long term needs

Thank you!
Q&A?