

# Development of Resilience Roadmap for Rio Grande Valley (RGV)

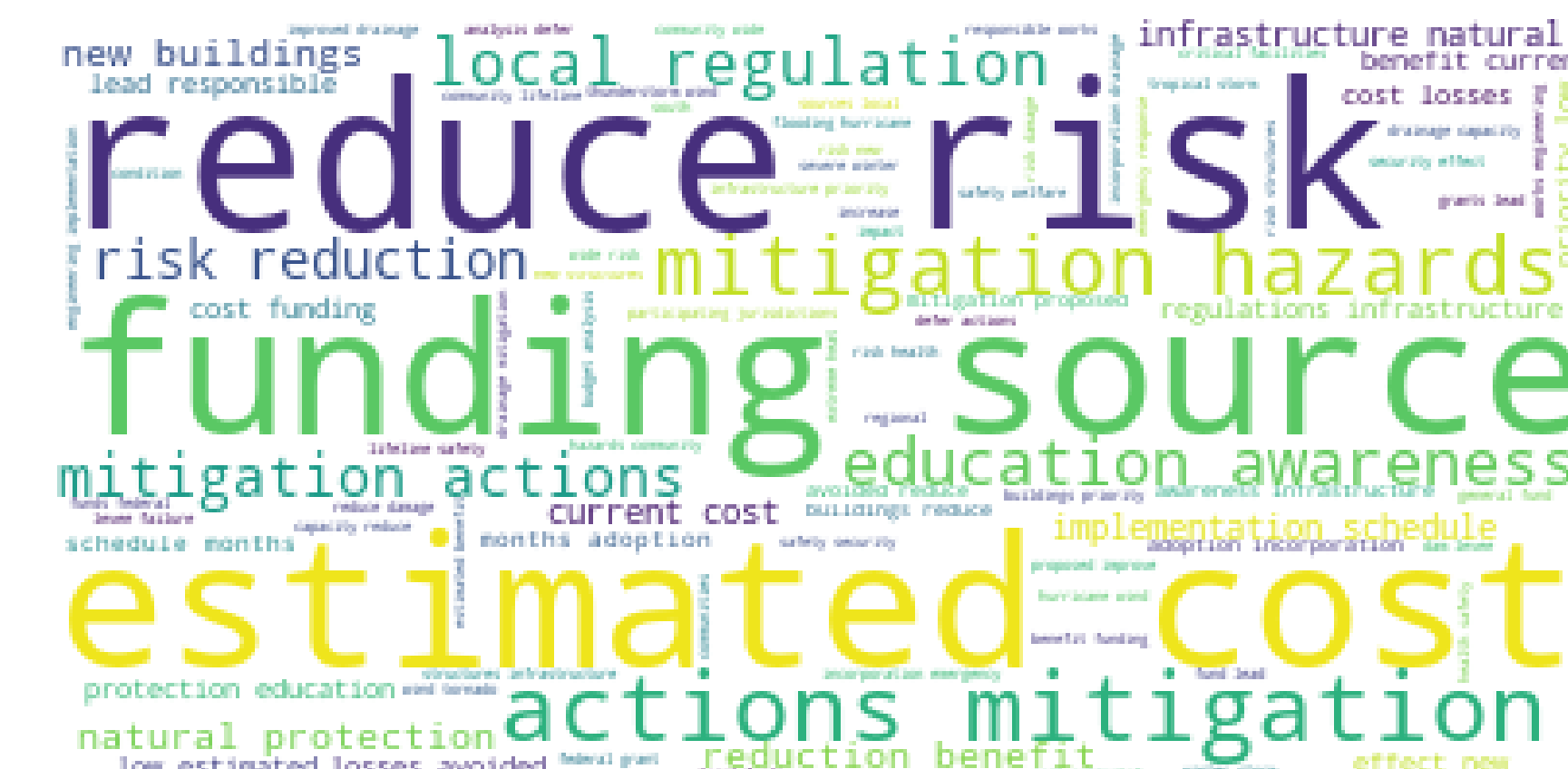
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Award Type: Planning Grant (SCC-PG), Award Year: FY2021

**Objective:** Establish a foundation for convergence and inclusive problem-solving across researchers, practitioners, and stakeholders through transdisciplinary research aimed at addressing the complex problem of repetitive flooding in Rio Grande Valley (RGV) area in the context of climate change extremes, including longer periods of drought.

**Problem:** Need for adaptive planning to manage *uncertainty* of hazards in the future, foster *diverse & inclusive participation*, and design strategies with *co-benefits* to address changing climate.

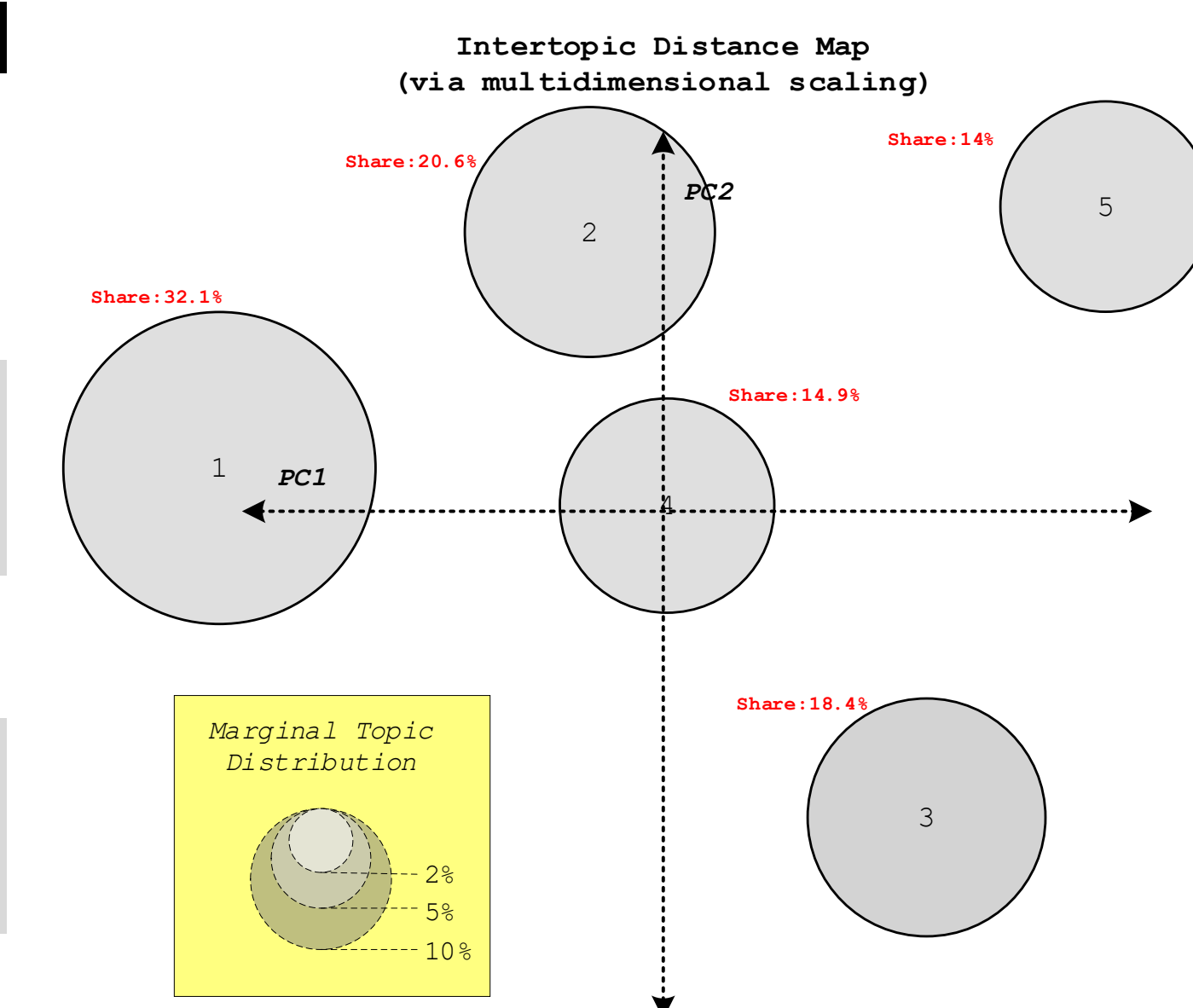
**Intellectual Merit:** [*social*] establish the case for adaptive planning in a highly socioeconomic vulnerable region; and [*technical*] identify existing and needed data or to support adaptive planning approaches to flood control.



**Activities:** Held multiple stakeholder meetings to identify current adaptation gaps/needs from community, local government, and practitioners. These meetings revealed a preference for and reliance on the Texas statewide flood planning process, established by legislation in 2019. Regional plans have been drafted, and a statewide plan will be developed in the next year.

To examine how these processes and plans support adaptive planning for floods, multiple Natural Language Processing algorithms were applied on existing RGV flood mitigation plans. The findings demonstrate an emphasis on regulations, funding, and emergency management and a lack of emphasis on climate change and vulnerable populations.

TOPIC	HIGH SALIENCY/RELEVANCY
1. LOCAL RESILIENCE CAPACITY	regulations, education, awareness, priority, adoption, funding, safety, sources, infrastructure
2. DISASTER PREVENTION PLANS	Cost, benefits, mitigation, reduction, avoided, losses, critical, facilities
3. RISKS	Probability, occurrence, risk, impacts, likely
4. EMERGENCY MANAGEMENT PLANS	Emergency, community, actions, response, outreach, flooding
5. NEEDS	Community, demands, lack, agricultural, mapping



**Immediate Broader Impacts:** Results from this planning grant with help with identification of uncertainties associated with planning and methods to address these uncertainties using adaptive planning and inclusive participation.

**Lasting Broader Impacts:** Results from this grant would form a foundation for spatially-explicit community adaptation plan capable of integrating multiple sources of uncertainties to help decision-makers evaluate flood risks under various future scenarios. Furthermore, It will establish a knowledge base that can be used by other regions experiencing rapid urbanization and climate change threats.

- Next Steps:**
- Plan follow up stakeholder meetings
  - Map stakeholder communication
  - Publish study results to ensure a greater outreach