Sust Global.

From Rumors to Risk: Mapping and Modeling Climate-Disaster Misinformation

Tristan Ballard, PhD (Sust Global)

1. Motivation

Climate disasters are increasingly accompanied by misinformation, which threatens public safety, erodes trust in science, and complicates disaster response. Existing tools focus on general climate misinformation but fail to capture fast-moving, event-specific rumors tied to wildfires, floods, and hurricanes.

2. Our Goal

We propose building a dynamic, open-access dataset tracking misinformation during and after climate disasters—linked to real-world events and grounded in rigorous labeling. This dataset will evolve over time to reflect shifting narratives and advances in AI/ML.

3. Dataset Framework

- Event-specific focus (e.g., Hurricanes Helene & Milton)
- Social media + fact-checking + news data
- Labels: veracity, misinformation type, source metadata
- Iteratively updated with feedback from modeling

4. Modeling Plans

We will apply text classification (e.g., fine-tuned BERT) and network analysis (e.g., community detection, influence modeling) to reveal:

- How misinformation spreads
- Who amplifies it
- What narratives dominate over time

5. Expected Outcomes

- A new research-grade public dataset
- Insights into the evolution and spread of misinformation
- Foundations for tools like early-warning systems or targeted interventions

6. Why it Matters

This work supports more effective, trust-centered climate communication and helps ensure that disaster response efforts aren't undermined by misinformation.