



# ***Rethinking Hurricane Categorization***

## **Warning the Public About Growing Hurricane Flood Risks**

**Sara Belligoni**

*Postdoctoral Scholar*

Puerto Rico Research Hub • University of Central Florida

Wednesday, 16 July 2025 • 8:30-9:30 AM



**Puerto Rico  
Research Hub**

50<sup>th</sup> Annual Natural Hazards Research and Applications Workshop  
July 13-16, 2025 | Broomfield, CO

HOW DID I GET IN THIS FIELD?

April 6, 2009



Terremoto dell'Aquila, Italia

September 20, 2017



Huracán Maria, Puerto Rico

September 18, 2022



Huracán Fiona, Puerto Rico

September 28, 2022



Hurricane Ian, Florida

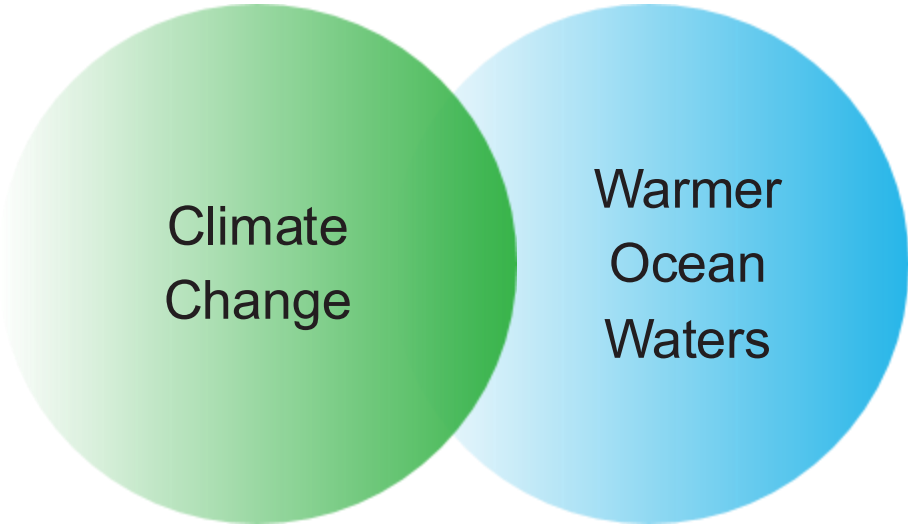
Doctoral Dissertation Research  
Fieldwork in Puerto Rico  
January 2020



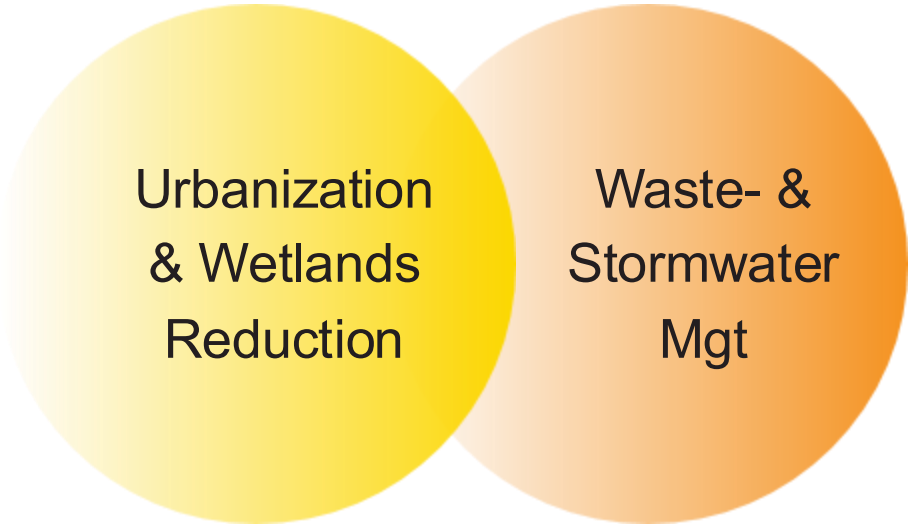
Emergency Kits Delivery to  
Mobile Homes in Florida  
September 2022



PHYSICAL FACTORS



ANTHROPOGENIC FACTORS



Is the Saffir-Simpson Scale Effective  
as a Risk Communication Tool?

Are Current Flood Risk and Floodplain  
Management Practices Effective?



HURRICANE FIONA, PUERTO RICO (2022)

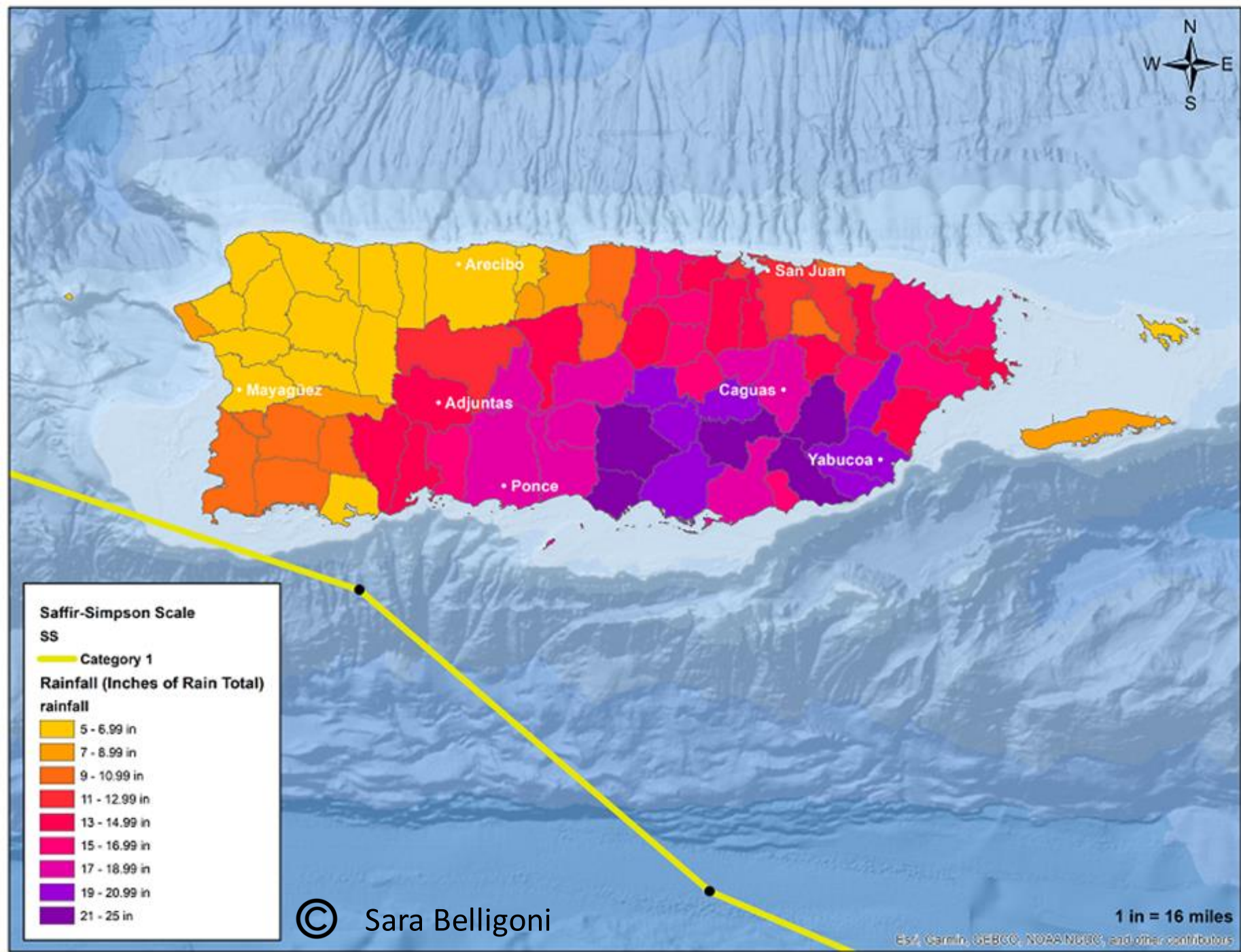


Figure 1. Hurricane Fiona Path and Rainfall Totals in the Puerto Rico's Municipalities  
Source: Author's Elaboration. All Rights Reserved

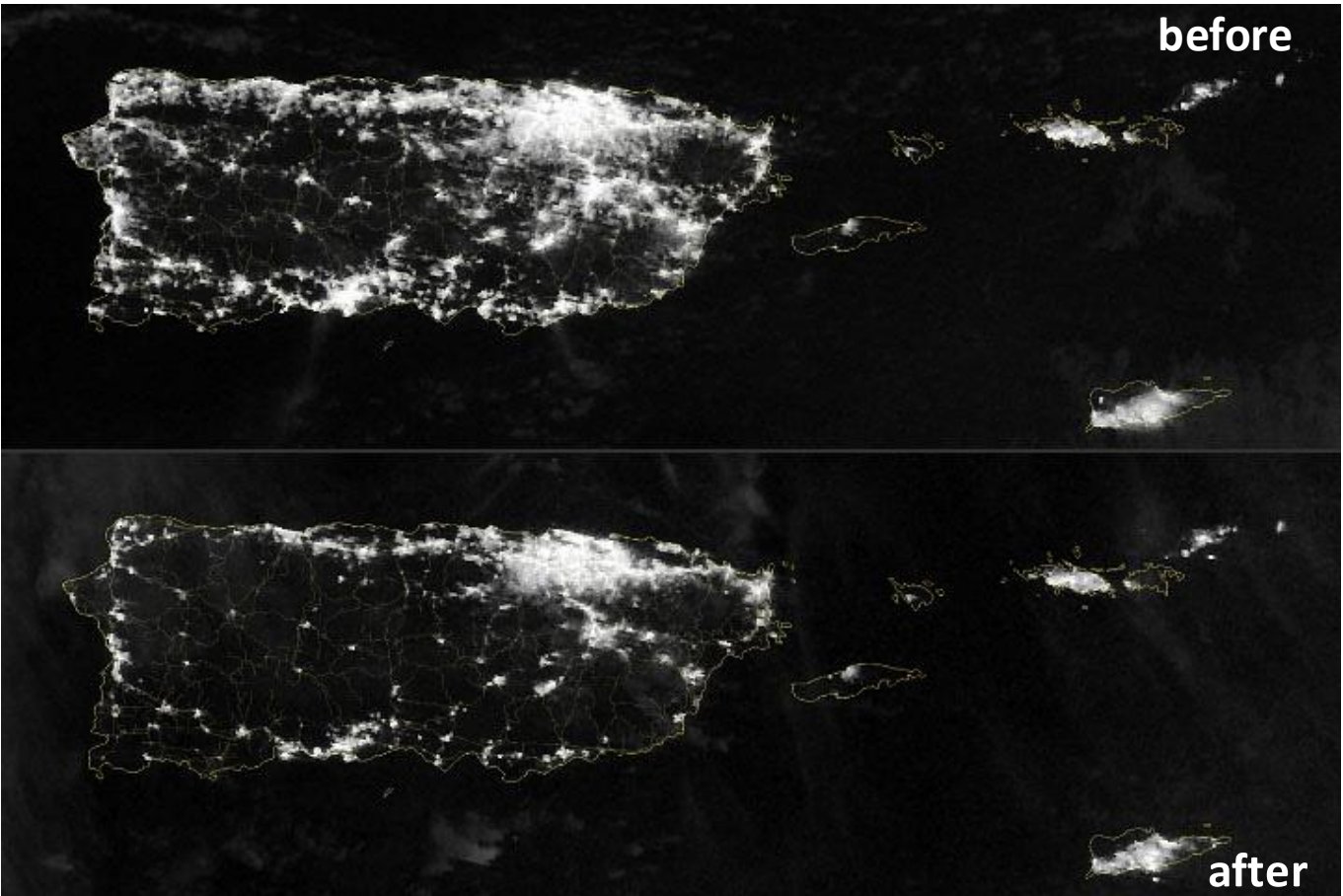


Figure 2. Post-Hurricane Fiona Power Outages in Puerto Rico  
Source: NASA

ONGOING



Continuing to study the effects of climate change on the Atlantic Tropical Storms' projected rainfall rates



NEXT STEPS



Developing an index to categorize hurricanes that factors in both wind-speed and rainfall data



Engage in conversations with municipalities and communities in Puerto Rico on how to strengthening those plans



Finalizing the assessment of the evacuation plans for flood and tsunami risk across the 78 municipalities of Puerto Rico

THE IMPORTANCE OF OUTREACH AND ‘BEING IN THE FIELD’

March 2024



San Juan, Puerto Rico

Flood and Resilience Dialogue Expedition to Puerto Rico with the Association of State Floodplain Managers

July 2024



Washington D.C., D.C.

We Held a Briefing About Our Research with the Director for Puerto Rico and the Territories at the White House

March 2025



Tallahassee, Florida

Our Research on the Puerto Rican Diaspora Post-Maria Informed the Agenda of the Puerto Rico Day at the Capitol

July 2025



San Juan, Puerto Rico

Outreach Trip in Puerto Rico with the University of Puerto Rico, Puerto Rico Science Trust and Puerto Rico Planning Board

NOW...

***Postdoctoral Scholar***

Puerto Rico Research Hub  
University of Central Florida  
Orlando, Florida, USA

...NEXT

***Assistant Professor (Tenure-track)***

John Jay College of Criminal Justice  
City University of New York  
New York City, New York, USA

**Sara Belligoni**

**THANK YOU!**

Visit my website



Let's Connect!



Hub's Website

