

Sept 06, 2019 NCST Advisory Committee Meeting

# NCST Technical Investigation of Hurricane Maria's Impacts on Puerto Rico (Hurricane Maria NCST Investigation):

# Data Security and Management

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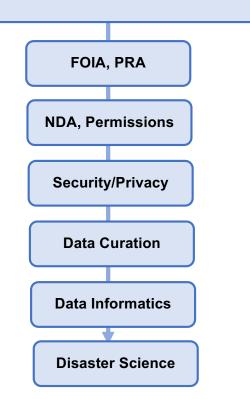
Director, Disaster and Failure Studies Program
Team Member, Hurricane Maria NCST Investigation
National Institute of Standards and Technology
U.S. Department of Commerce



# **Securing and Managing NCST Data**

### **NCST**

- 1. Wind Characterization
- 2. Critical Building Performance
- 3. Morbidity/Mortality
- 4. Communications and Evacuations





# **Appropriate NIST Ingestion Tools**

### **Low Impact Data**

NCST Example: photos of building damage

### **Moderate Impact Data**

NCST Example: 100's household surveys with names, addresses, income, etc.



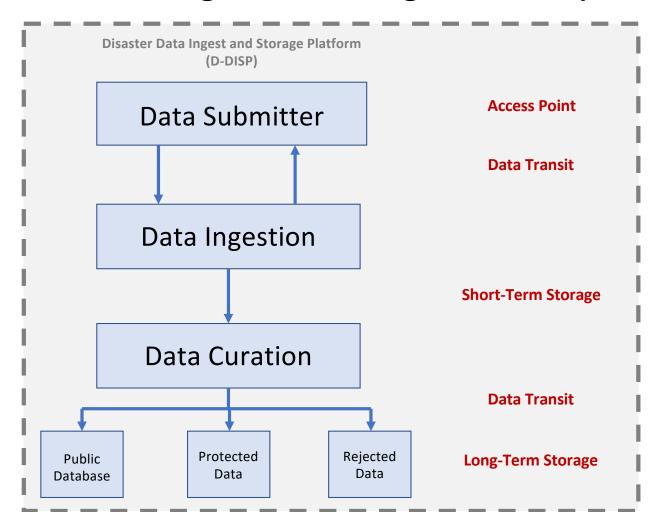
Disaster Web Portal\*
Box or Google Drive\*
Nfiles.nist.gov\*

Disaster Web Portal Box or Google Drive Nfiles.nist.gov\*

<sup>\*</sup> DFS is approved to use systems designated in red.



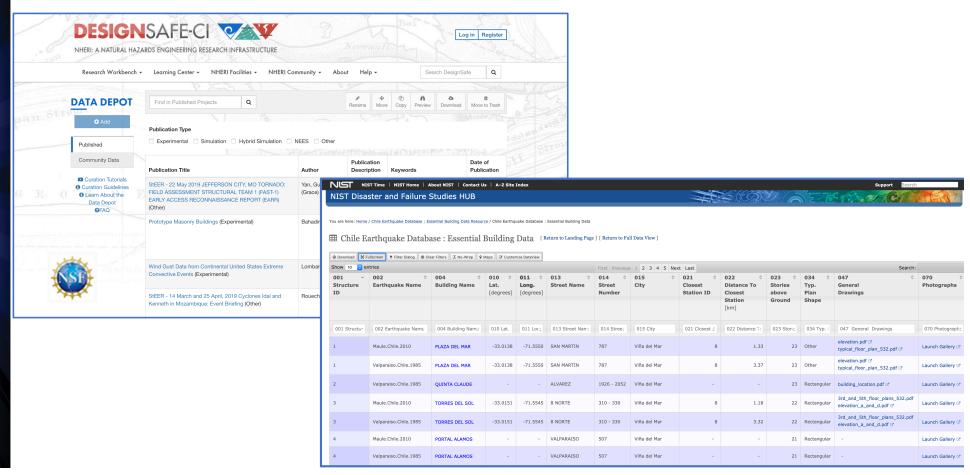
# **Disaster Data Ingest and Storage Platform (D-DISP)**





# **Long-Term Storage for Disaster Data**

### **Existing Disaster Repositories**



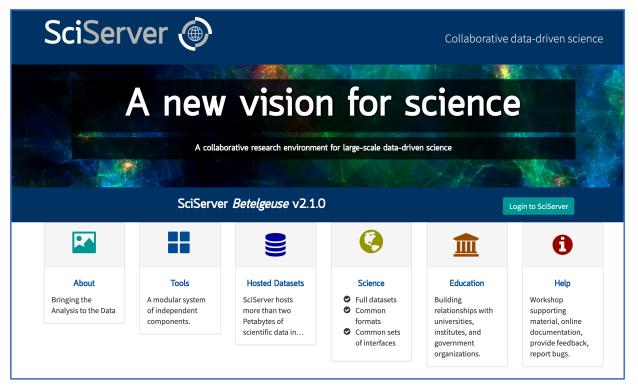


## **Long-Term Storage for Disaster Data**

### NIST-JHU PREP Project

**Existing Repositories for Other Fields** 

- Adding computer science capacity to DFS via the NIST's Professional Research Experience Program (PREP)
- Two named researchers: Prof. Alex Szalay and Dr. Gerard Lemson
- Research scope: adopt data semantic standards and foster interoperability between other disaster repositories; design a public database that can easily be managed by NIST; combine traditional data management and access services with computing resources (e.g., Python and R)



http://www.sciserver.org/

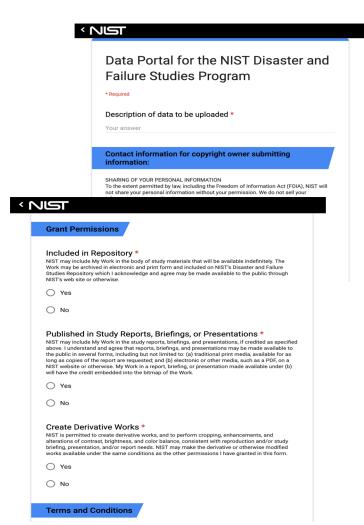
(with permission from Prof. Szalay)



IT Security & Privacy: Carolyn Rowland & Andrew Mundy

Cloud services configuration & training: Carmen Martinez

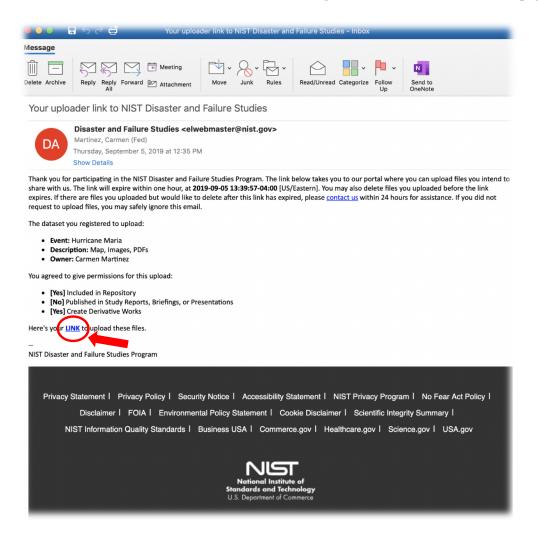
Public data collection portal: Carmen Martinez, Tzong Hao Chen







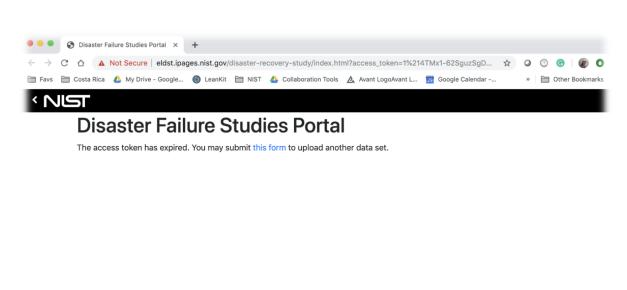












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# Thank you

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