## Bell Jar Legacy

The Need for data through time and space











## **The Master of Timely Texts**





## His range was broad, multi-modal, and diverse from Japanese influences like the Tachibana HS Band











## And Japanese River Otters - Kotaro and Hana



That's tremendous! I really envy you seeing wild otters out for a swim. By coincidence, earlier this evening I was watching a pair of my favorite Japanese urban otters (Aty & Ui) swimming in the clear river waters of Hokkaido on a trip to the north country. Otters are brilliant!



Jul 7, 2023 at 7:10 PM

Some otters love a hose with a good nozzle. Other otters say - Don't you dare!



なぜか自分でシャワー出し てブチギレるカワウソ Otter Turns on the Faucet and Gets Angry

youtu.be



# And topics closer to home in East Texas like the Javalina count and scenes from his bird bath...



### Gordon Wells

Suzanne, I believe that you need to go dog walking while listening to the KT SHS Band play "Happy!" and pretending that the tulips are out for Blumen Hügel as the band leads you around the garden trails.



Debriefs and Loyalty - The Gordon Nod









## **Bell Jar**

One of science's most elegant instruments of containment and observation.

Originally conceived as a simple glass vessel with a broad base and domed top, the bell jar creates a controlled microenvironment where phenomena can be isolated, preserved, and studied with methodical precision.

Extended beyond its physical manifestation into the realm of metaphor, it becomes

an evocative framework for conceptualizing data collection systems and research infrastructure.



# Today we are Enabling End-to-End Workflows Aspiring to reach Bell Jar Capabilities

Semantic

Variable

Mapping

Cookbook



### **Interview Transcripts**

#### **Community Member**

"when my father realized Beulah was going to come into our area and he felt it was serious"

"It must have been about 3 or 4 o'clock in the morning, when a... vehicle driving down the streets with a loudspeaker, asking everybody to evacuate."

"we were just jumping and running, inside the eye of the hurricane"

#### **Community Member**

"the agriculture business was hit really hard by the hurricane. It changed the .. business forever,"

"People understand that it's going to flood if it rains a lot right. But there's no reason their community should be underwater for 15 days or more"

#### Science Specialist

"rapidly intensified to a category 5 just south of the Rio Grande Valley. That was the forecast to make landfall as a 5"

"We had 10 to 25 inches of rainfall across the valley. Some areas had 30 inches... our population has increased 4 times that amount"

## → BERTopic

Analysis

Cookbook

## Problem Frames (Extracted Themes)

Min residential Flood Depth

Min evacuation Time & Routing

Min spatial flooding extent

Max model forecast skill

## Scientific Variable Connection Matrix (Data & Model)

#### Evacuation Lead Time

Time between warning and necessary evacuation (hours)

Traditional: "town siren... vehicle with loudspeaker"
Vulnerable: Language barriers, transportation challenges
Scientific: Warning system effectiveness measurement

#### Storm Surge Height

Maximum water level above normal tide (feet)

Traditional: "water starts coming into the house"

Vulnerable: Colonia elevation vulnerability

Scientific: "15-20 ft" surge modeling data

#### **Agricultural Loss**

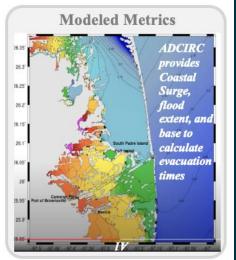
Crop and livestock damage (dollars)

Traditional: "I was in the middle of a pepino field"

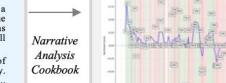
Vulnerable: "agriculture business was hit really hard"

Scientific: Economic impact quantification

#### MINT model integration Platform



### days Timelines & Plotlines

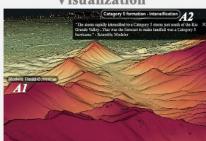


## Annotations & Tracebacks

A1: "my father kept a good eye on what was going on before evacuating to my uncles home inland" LE1 (16:36)

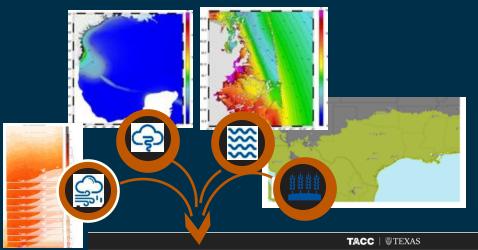
A2: "The hurricane rapidly intensified to a category 5 just south of the Rio Grande Valley" - SME (1:07)

### Interactive Geospatial Visualization



Integration via DataX Portal and Resource Registry with CKAN

## Today we aspire to reach Bell Jar Capabilities



DATA **WELCOME TO THE DATAX PORTAL** DataX is a next generation science gateway designed by experts and powered **Getting Started** by the supercomputers at the Texas Advanced Computing Center. It provides the computational tools necessary for researchers to understand, manage, 1. Follow instructions on TACC Getting Started and examine crossdisciplinary data collections from flagship research to request TACC credentials projects for the Planet Texas 2050 program. 2 Set up Multi Factor Authentication 3. Email the Decision Support Office at TACC to gain access to the PTDataX Portal Find or register data for use in Flexible repository for environmental sensor data Geospatial data and visualizations service interactive decision support system: (Drone Analysis Suite Coming Soon)

Data Management Systems designed in recognition that **Knowledge comes in many forms** 

Al can assist with aggregation and fusion tasks by harnessing containerized place-based data and models.

Al assistants to accelerate participatory processes and data fusion workflows so we can focus on convergent implementations

## Data images include:

- Downscaled Climate Scenarios by Ifeanyi Nduka, Geeta Persad, 2024
- Historic Hurricane Beulah Wind, Rain, and Coastal Surge, Clint Dawson, 2023
- Probability Map of Infectious Disease Spread, Teresa Patricia Feria,
   2023
- Predicted Environmental Suitability for B. pseudomillai in Texas,
   Michael Shensky and Katherine Brown, 2022

## Gordon's Bell Jar

His sensors were always on, always watching, always seeking to understand. And in doing so, he expanded all of our orbits, pushed us beyond our own expectations, and left us better equipped to observe and respond to a world that demands both precision and compassion.

