

# Predictive assessment of transmission conditions of cholera in the environment and human population using earth observations

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# Goal of Research Project

We thematically envision “Cholera Ready Nations” where satellite based prediction (of risk of trigger and likelihood of transmission of cholera in the human population) will provide sustainable and resilient readiness to prevent outbreak of disease, saving human lives and improving quality of life.



# Vibrio Prediction Hub

A decision-making initiative for protecting human health and enhancing the resilience of coastal communities under current and changing environments

GeoHealth & Hydrology Lab at the University of Florida

## OUR PRIORITIES

### **Understand the Role of Humans in the Hydrological Cycle**

We work hard to meet this goal by researching these key areas for a sustainable environment



Last Updated at (M/D/YYYY)

### Map Legend

#### Risk

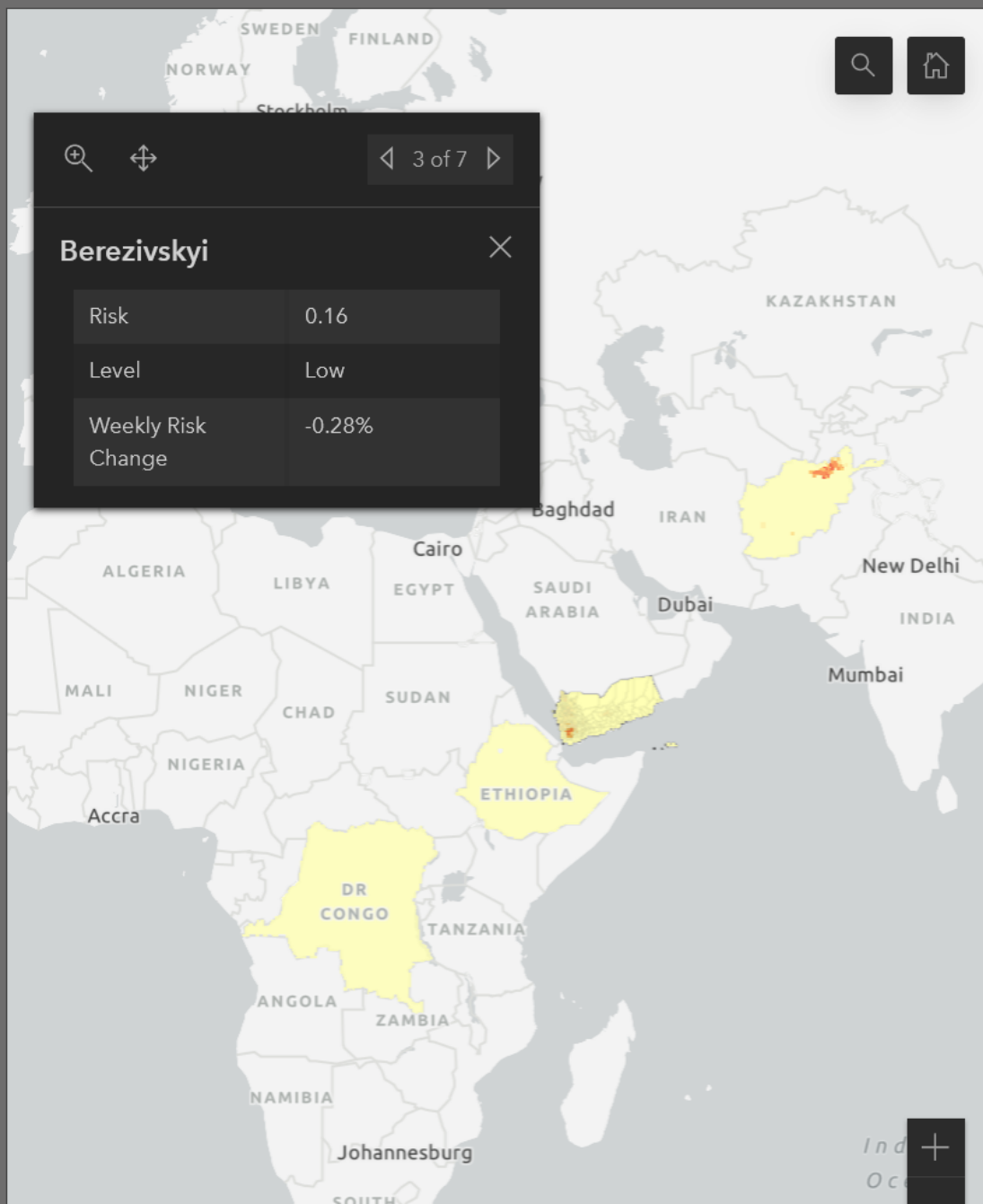


#### Risk



### Disclaimer

The University of Florida does not make any warranties about the completeness, reliability, and accuracy of the information provided on this map. Any action you take upon the information relating to the



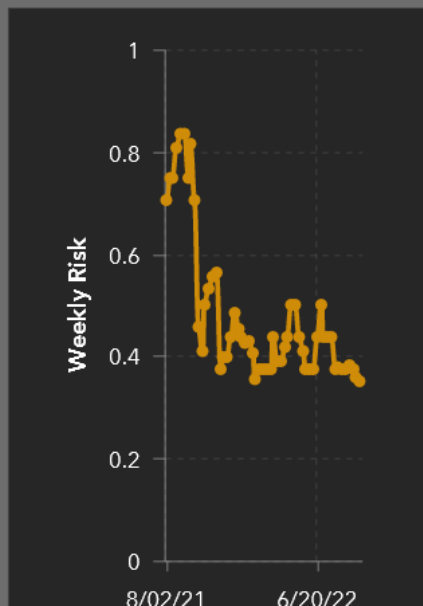
**Berezivskiy**

Risk	0.16
Level	Low
Weekly Risk Change	-0.28%

### Ethiopia Weekly Risk Change

- Dasenech (Kuraz): **41.58%**
- Gena Bosa: **31.12%**
- Hurumu: **25.27%**
- Lalo Kile: **24.54%**
- Hamer: **16.61%**
- Gumer: **16.33%**
- Loma Bosa: **15.84%**
- Doya Gena: **15.51%**
- Kamashi: **15.11%**
- Becho: **14.12%**

Ethiopia



# Key Features of the App



Ability to use precise location to filter data in the map



Provides local information on Cholera risk and nearby hospitals



Directions to nearest hospital when user clicks on features



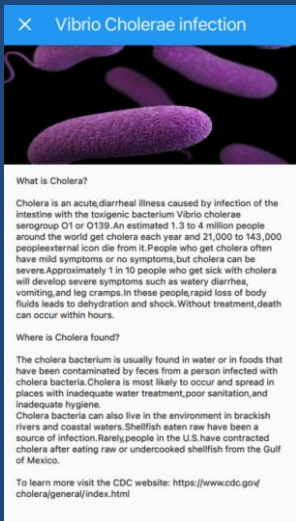
Results-focused layout





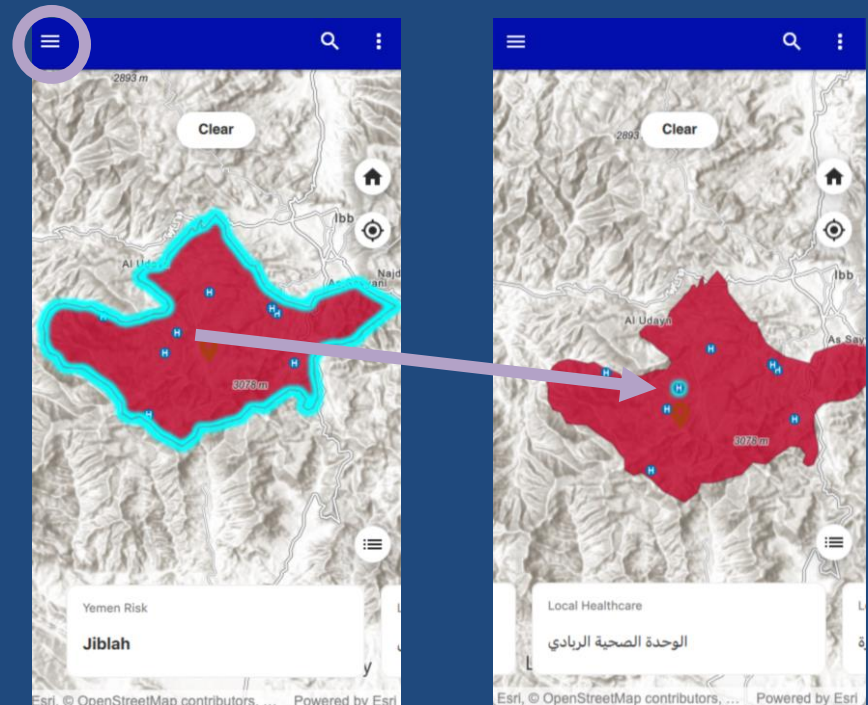
# Disease Prevention Resources for Users

Local hospitals are shown when a user selects an area which can be clicked to show directions to the hospital



Detailed information regarding *Vibrio cholerae* strains along with prevention/control approaches will be included in the left panel popup

*A pre-development idea is shown to the left*



# Achievements

- Cholera in Ukraine
- Cholera in Pakistan
- Cholera in Afghanistan XX



June 10, 2022 4:07 PM

**UPDATE** June 10, 2022

8:21 PM

VOA News

## Officials Warn of Cholera Outbreak in Mariupol

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# Health officials warn of major outbreaks of disease after severe floods in Pakistan

Diarrhoea and malaria cases spread, with risk of dysentery and cholera, as millions of displaced people forced to drink flood water





# Continuing tasks

- App building and application
- Training and implementation in Africa.
- Anticipatory decision-making activities
  - UN organized modeling group for prevention of cholera
  - Targeted cholera workshop through UNOCHA in Feb 2023

# ARL information

**Starting ARL: 3**

**Current ARL: 8 (~8.5)**

**Target ARL: 9**

# Overall timeline for research objective and activities at end user organization

Timeline of proposed activities and key milestones												
Activity	Year 1				Year 2				Year 3/4			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Kick off meeting (Skype)	C											
Task 1: Epidemic cholera		C	C	C	C	C						
Task 2: Endemic cholera				C	C	C	C		C	C	C	
Task 3: CTM							C	C	C	C	C	
Task 4: Core group formation	C	C	C	C	C	C	IP					
Task 5: Training/ dissemination plan with foundations					C	C	IP					
<b>Task 6: Workshop</b>								x <sup>1</sup>	*	*	*	*
PI meeting	Third week of every month											
Meetings with stakeholders (OCHA, Dfid)				C				C				*

x<sup>1</sup> : planning; \*: status unknown due to COVID19  
 UF; Q1, Q2, Q3, Q4 represent quarter in a given year.

Thank you