

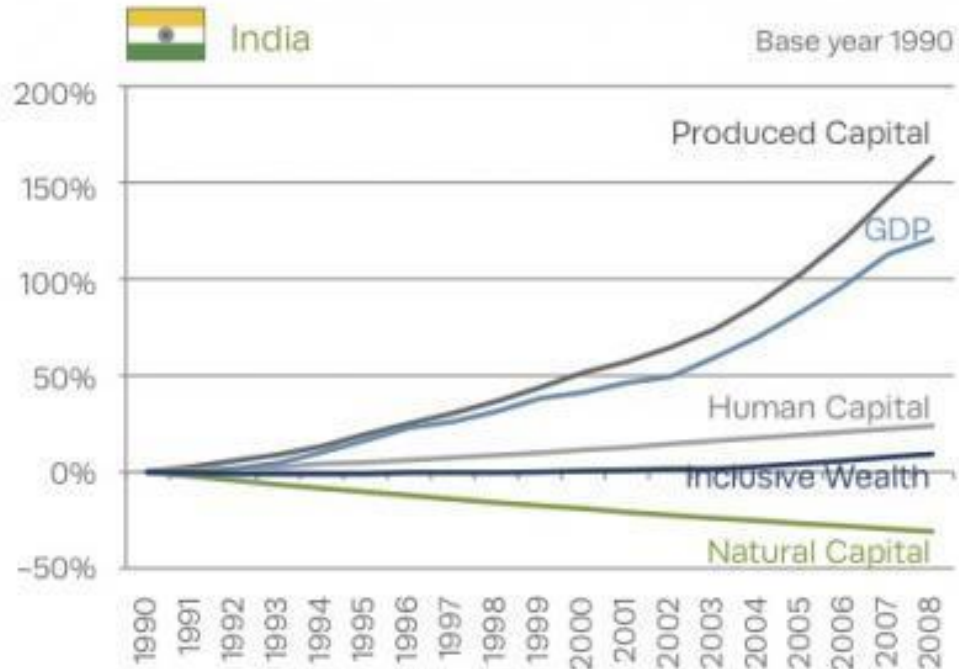
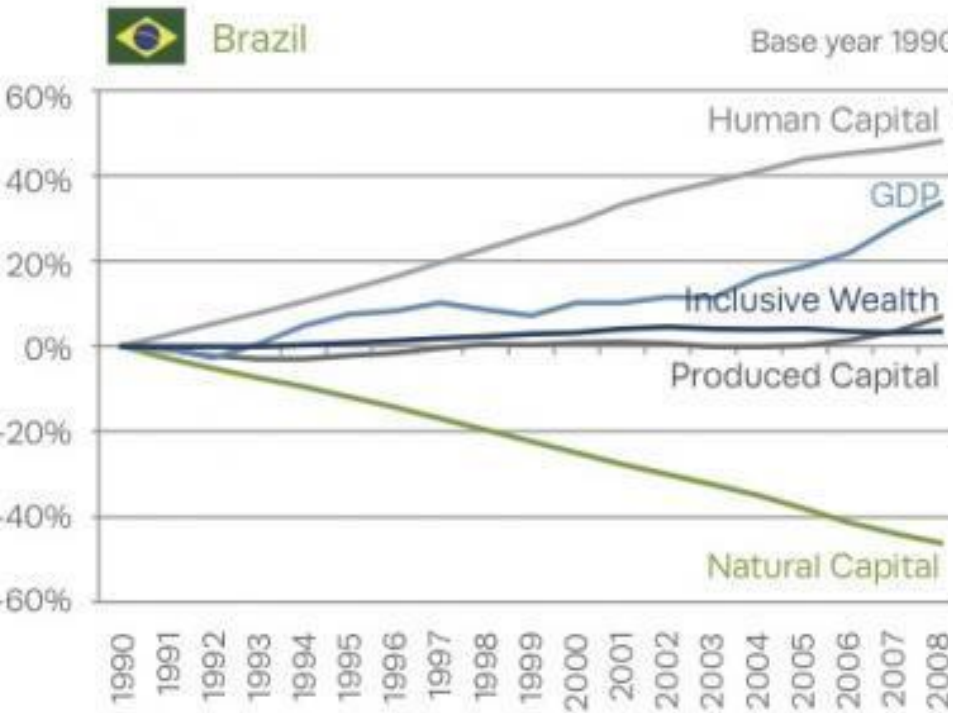


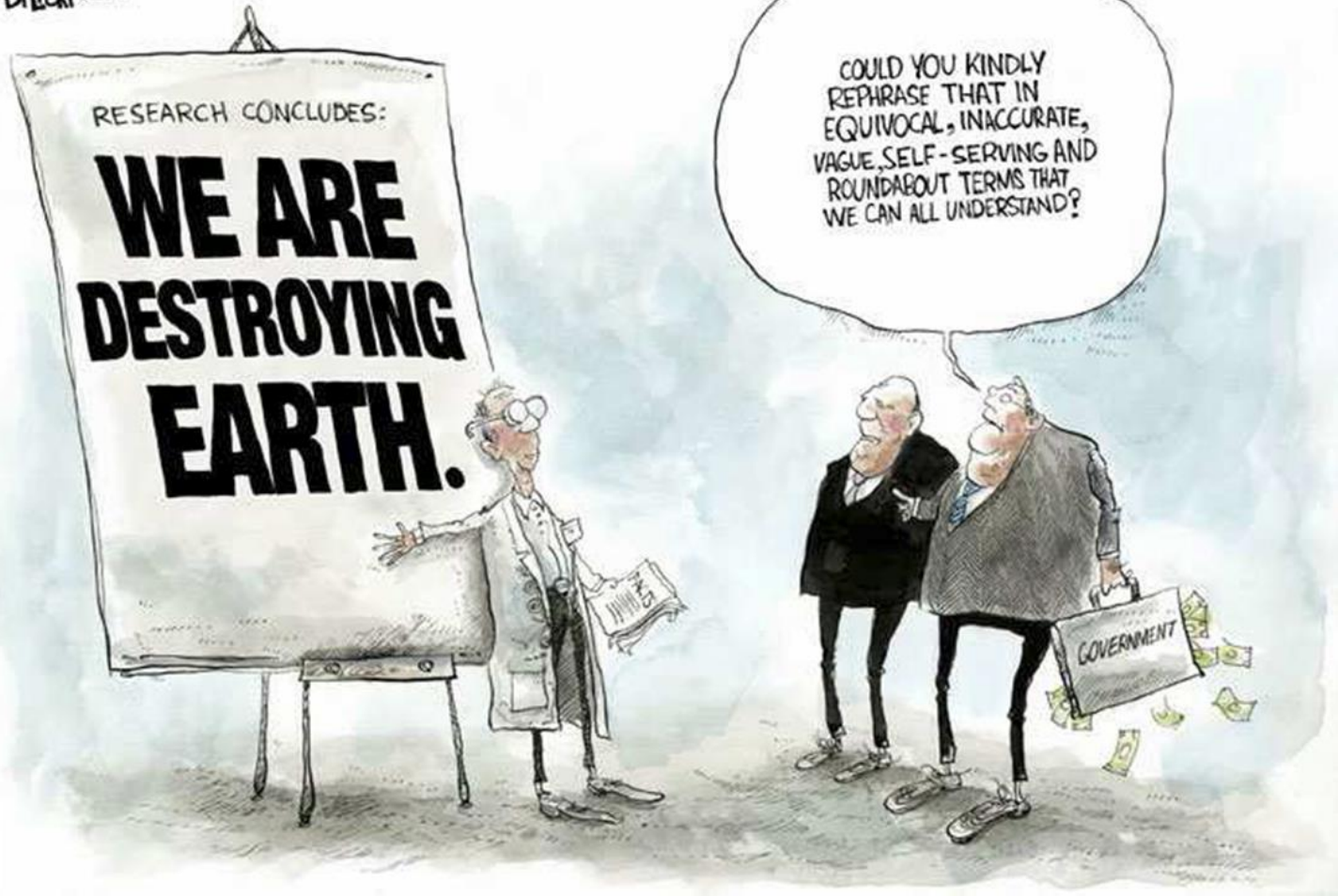
WORLD  
RESOURCES  
INSTITUTE

# LEVERAGING THE DATA REVOLUTION FOR SUSTAINABLE DEVELOPMENT

KITTY VAN DER HEIJDEN, DIRECTOR WRI EUROPE, WRI AFRICA

# UNECONOMIC GROWTH ?





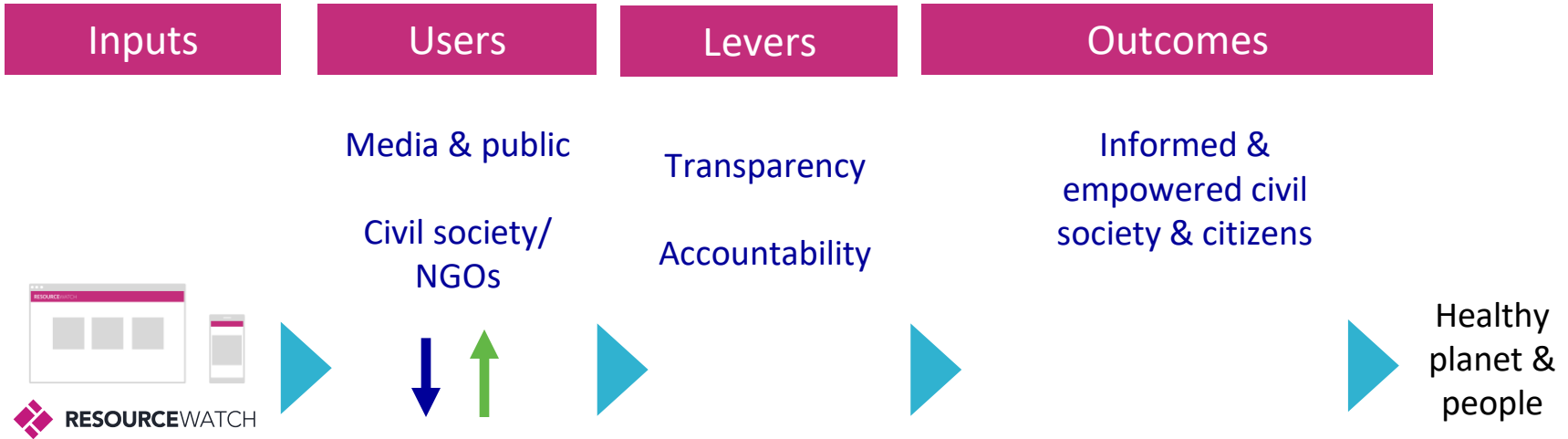
# THE DATA REVOLUTION

The image features a world map in shades of blue and white, overlaid with a dense network of interconnected nodes and lines. The nodes are represented by circles of various sizes and colors (white, light blue, dark blue, black), and the lines are thin, light blue or grey, creating a global web of connections. The background is a light, textured blue.

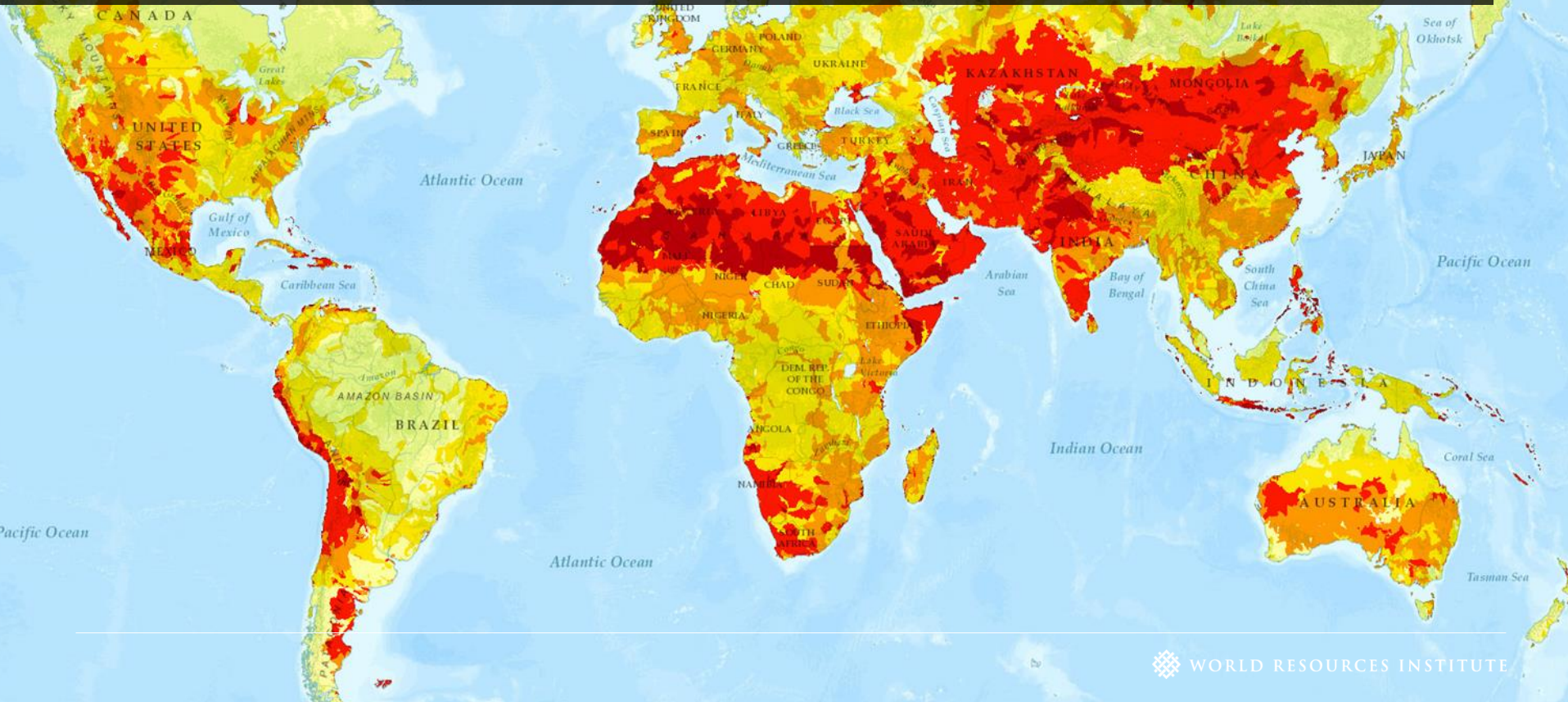
**A revolution in:**

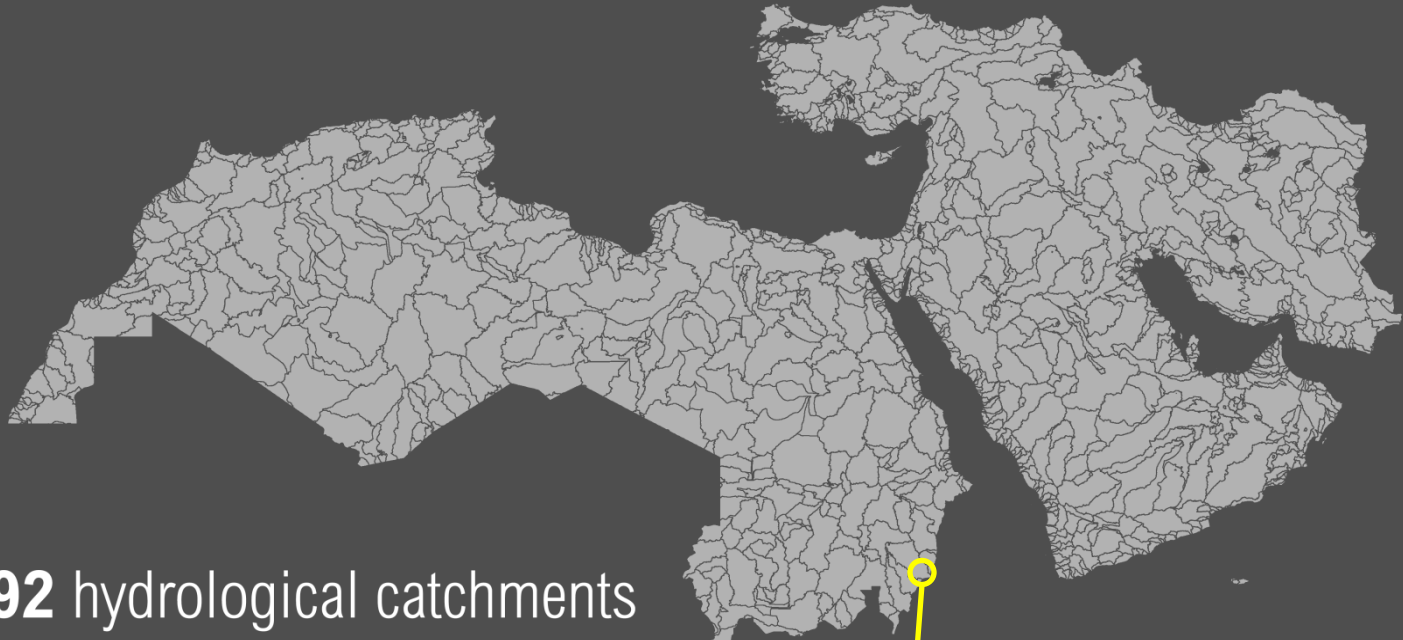
- **Data collection**
- **Processing power**
- **Communication**

# TWO PRIMARY THEORIES OF CHANGE FOR TURNING DATA INTO ACTION



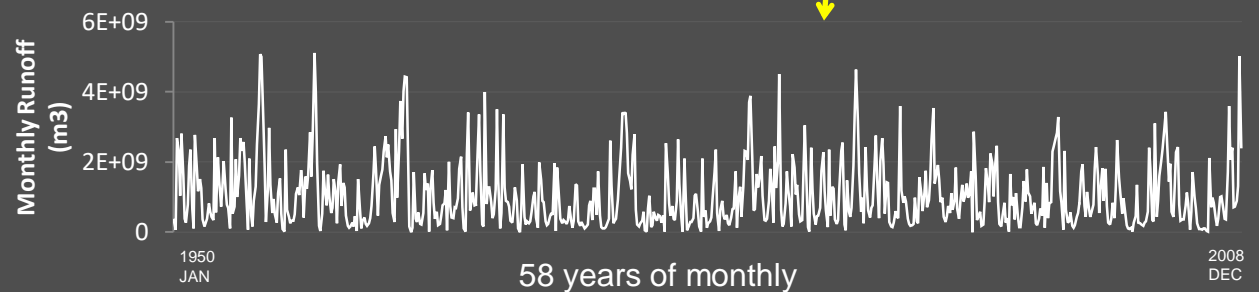
# AQUEDUCT – 12 METRICS OF WATER STRESS FOR 15,000 WATER BASINS





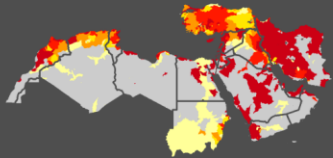
**1392** hydrological catchments

**696** months of runoff data for each catchment

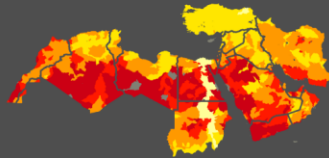


58 years of monthly runoff data

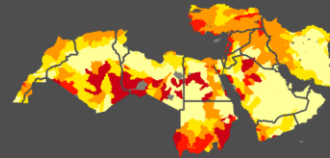
No data Misc Low Low to medium Medium to high High Extremely high



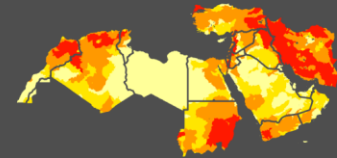
Baseline Water Stress



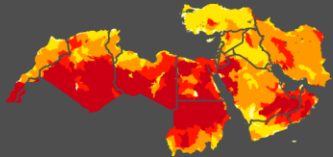
Inter-annual Variability



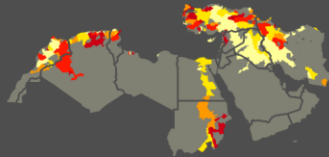
Seasonal Variability



Flood Occurrence



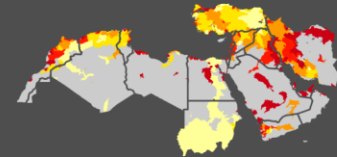
Drought Severity



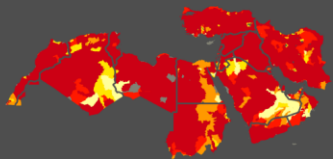
Upstream Storage



Groundwater Stress



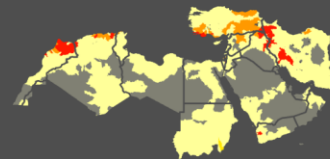
Return Flow Ratio



Upstream Protected Land



Media Coverage



Threatened Amphibians

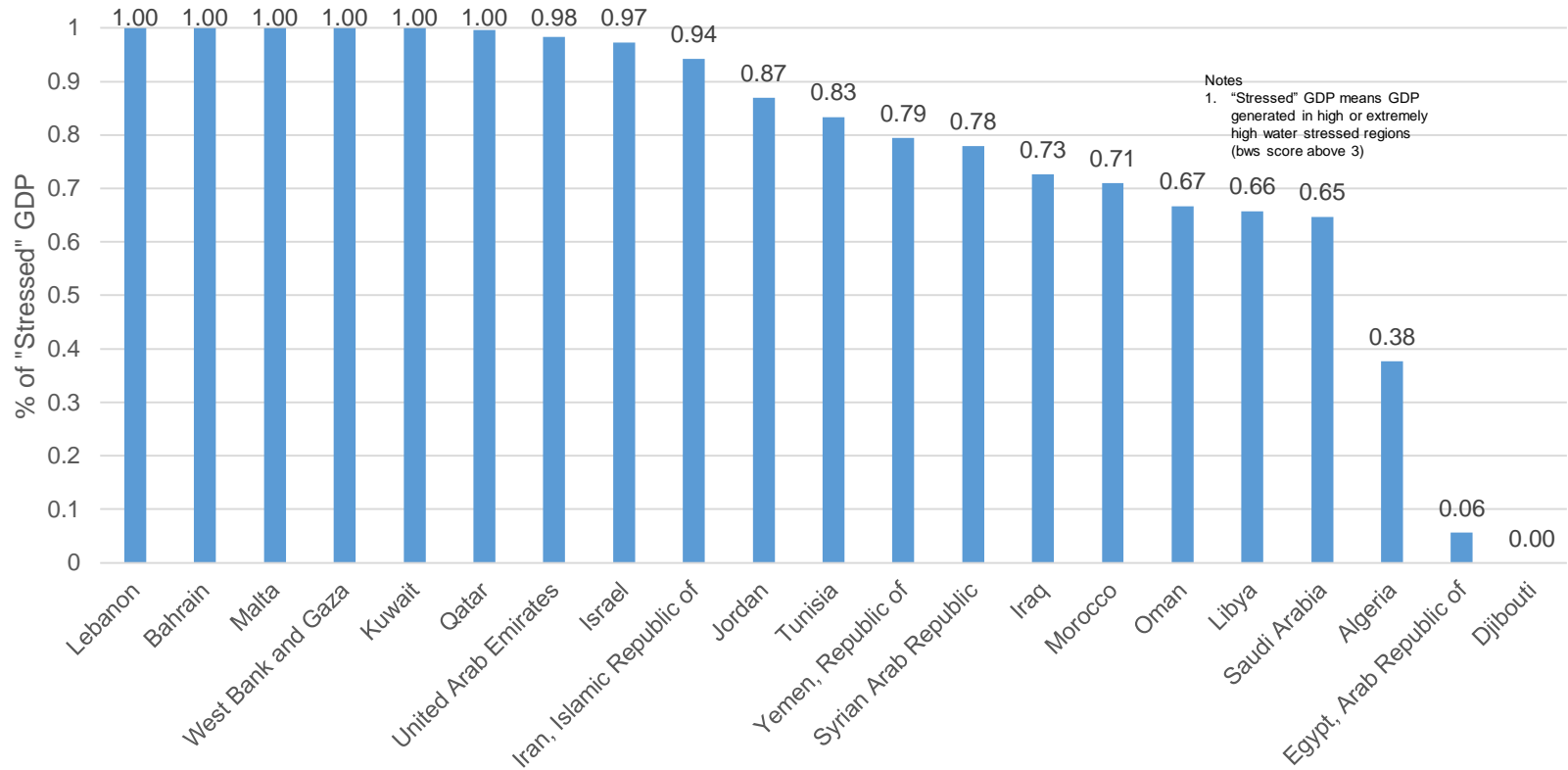


Access to Water

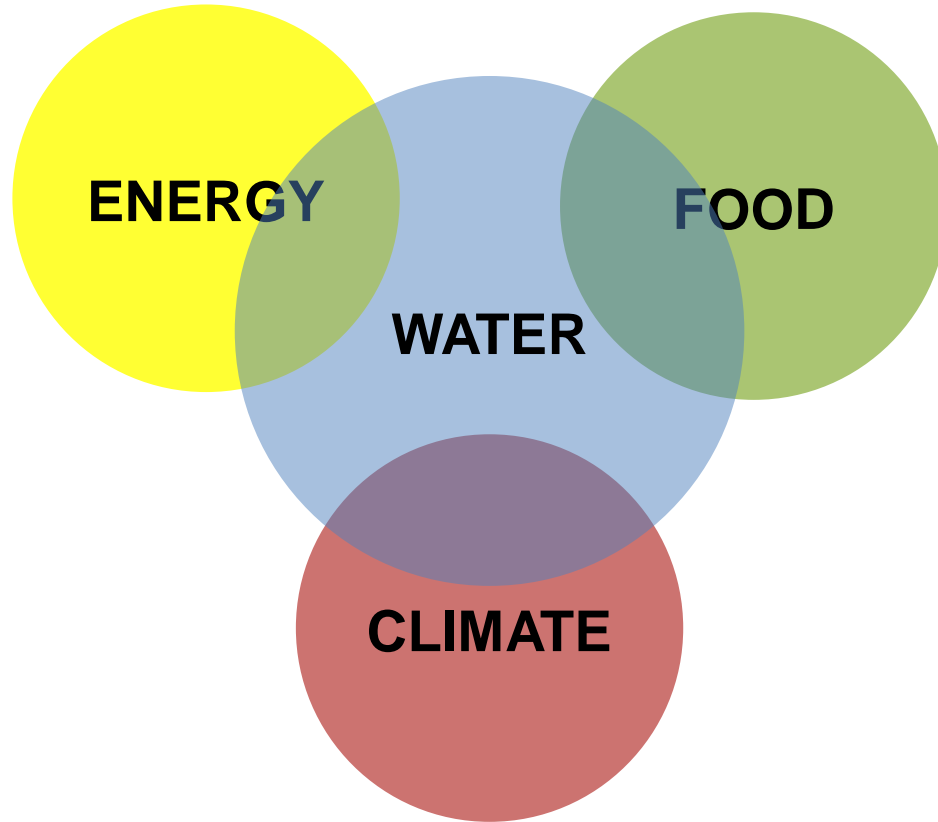
# Water Risk



# >71% of MENA's GDP is water stressed

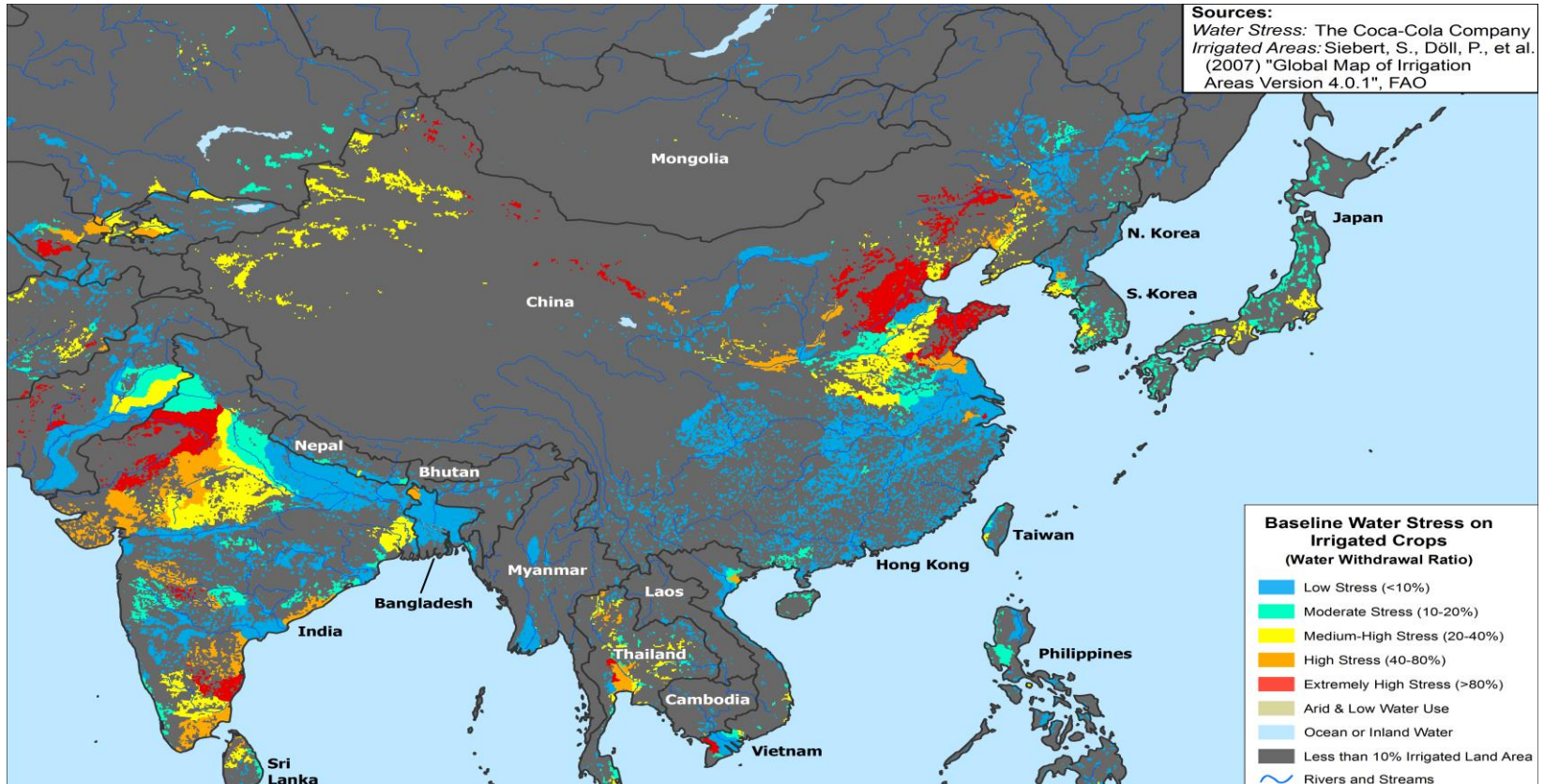


# FOCUS ON WATER NEXUSES



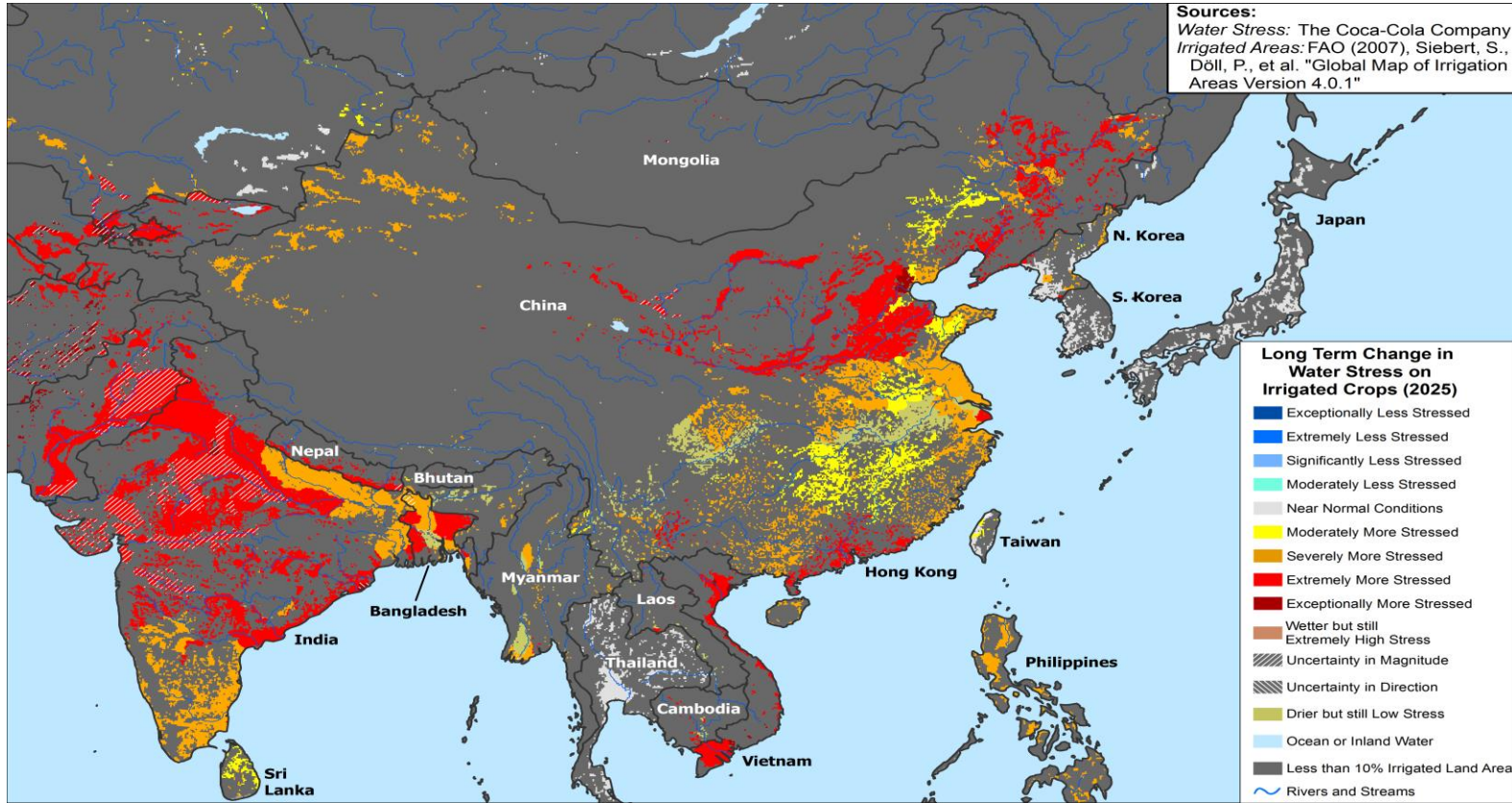
# 39% of irrigated cropland in this region is located in areas of water stress concern

## Baseline Water Stress in areas with Irrigated Agriculture



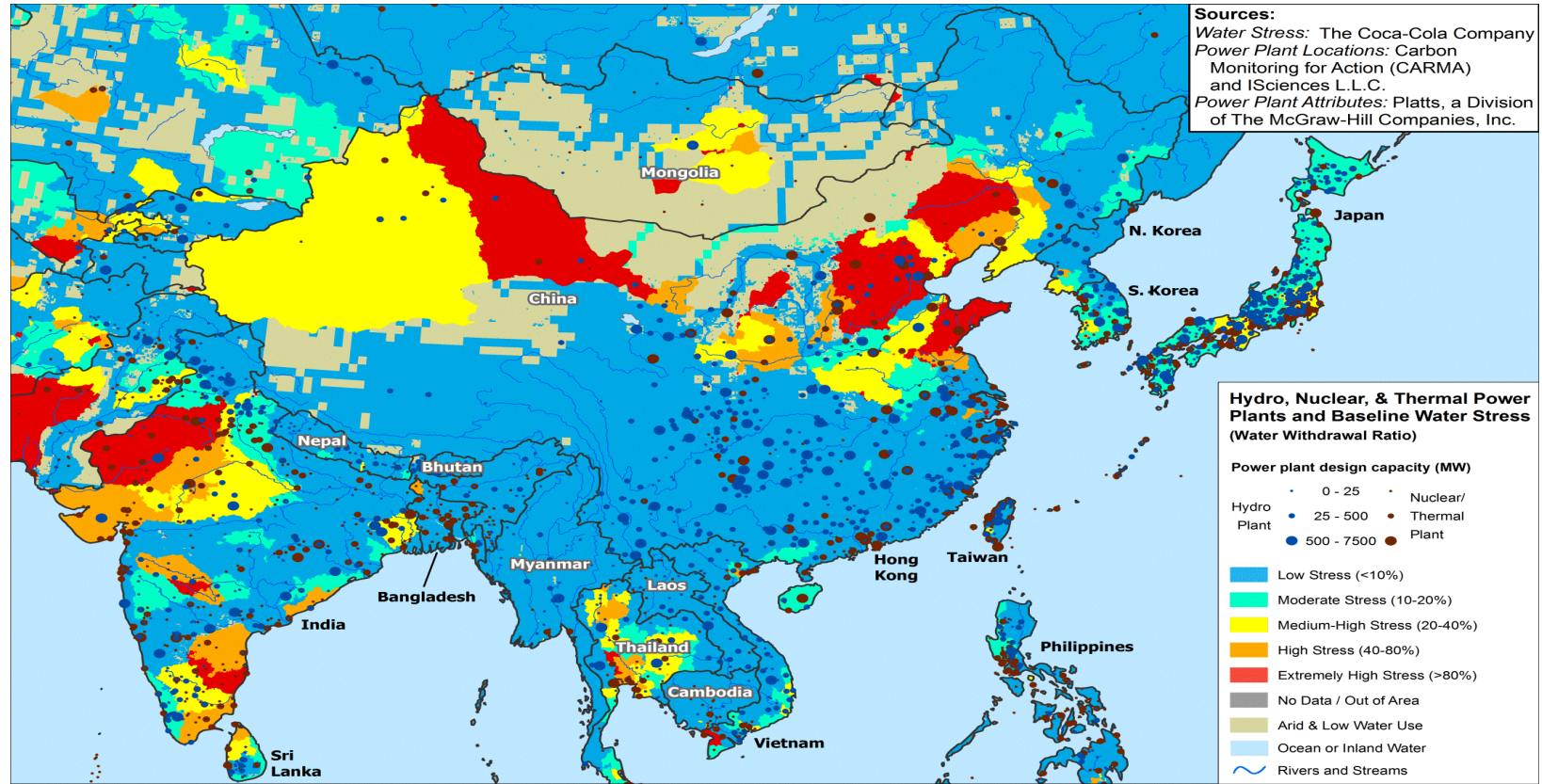
# 75% of current irrigated cropland in this region would see water stress grow 2 to 8 times worse by 2025

## Change in Water Stress by 2025 in areas with Irrigated Agriculture (IPCC Scenario A1B)



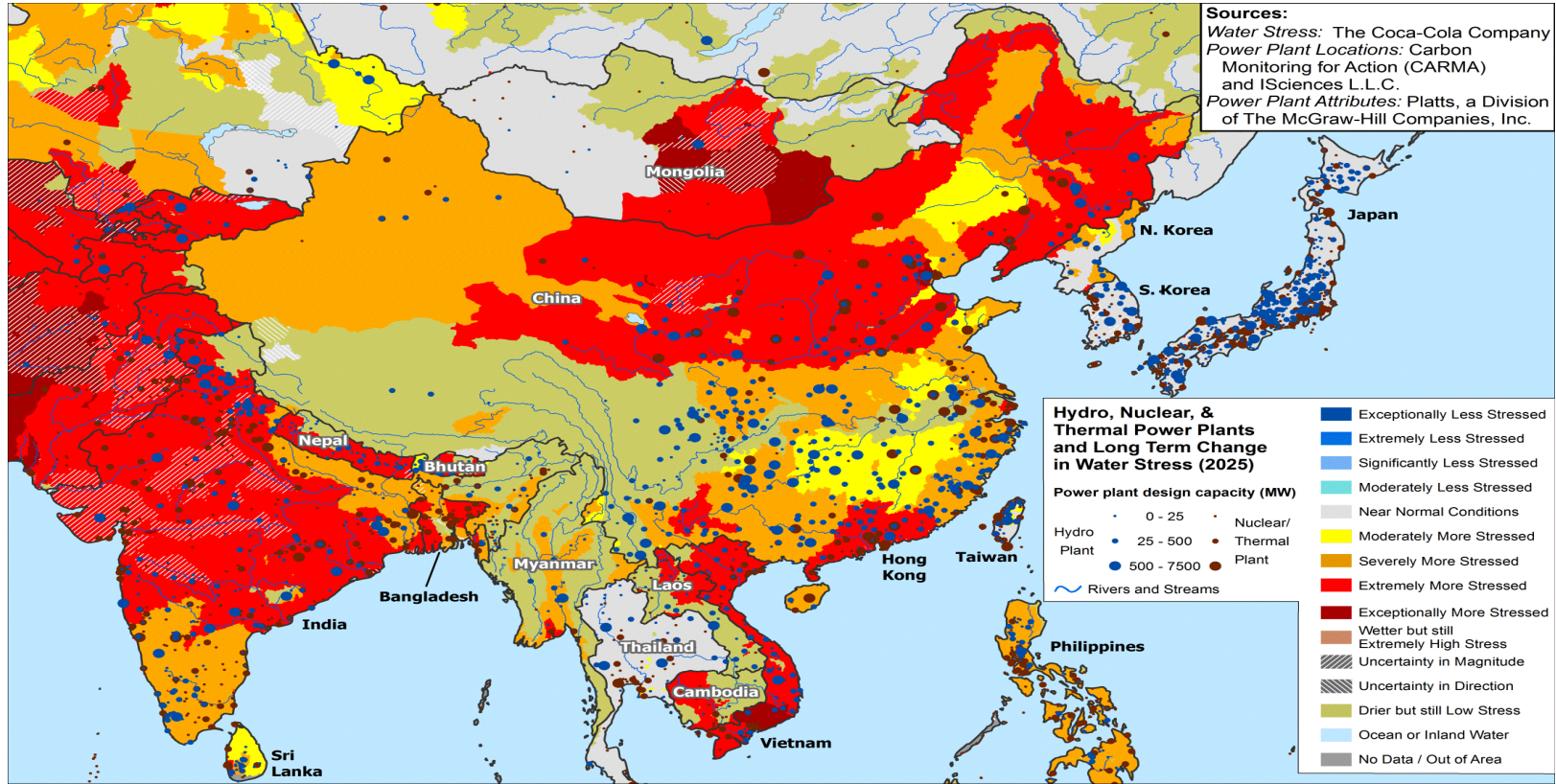
# 19% of power plant design capacity in this region is located in areas of water stress concern

## Baseline Water Stress and Power Plants



# 55% of current power plant design capacity would see water stress grow 2 to 8 times worse by 2025

## Change in Water Stress by 2025 and Power Plants (IPCC Scenario A1B)



# USING MACHINE LEARNING TO CLASSIFY POWER PLANTS COOLING TECHNOLOGY

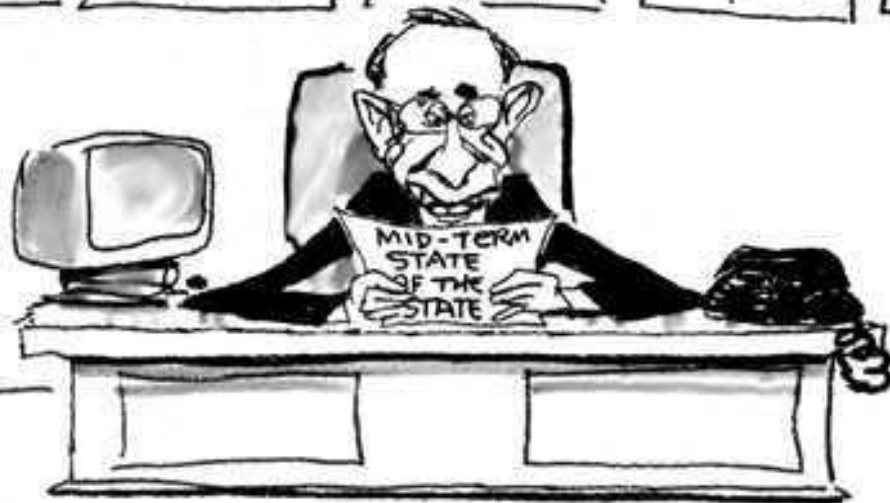




**In times of scarcity,  
the poor get squeezed**



# WATER GETS LITTLE POLITICAL ATTENTION



mai

# SPOTLIGHT ON FORESTS: GLOBAL FOREST WATCH

2,931

Forest clearing alerts in the last 16 days

## Join the community

Subscribe to the Global Forest Watch discussion group.

[JOIN THE GROUP](#)

## Analysis & alerts

Perform forest clearing analysis on the fly and get your answers in real time, or subscribe to change alerts.

[START ANALYZING](#)

## Submit your story

Participate in detecting forest change. Send your story about forest clearing and we will add it to our collection

[SEND A STORY](#)

# NDC Content

e.g. "Brazil", "energy", "deforestation targets"



Map

Table

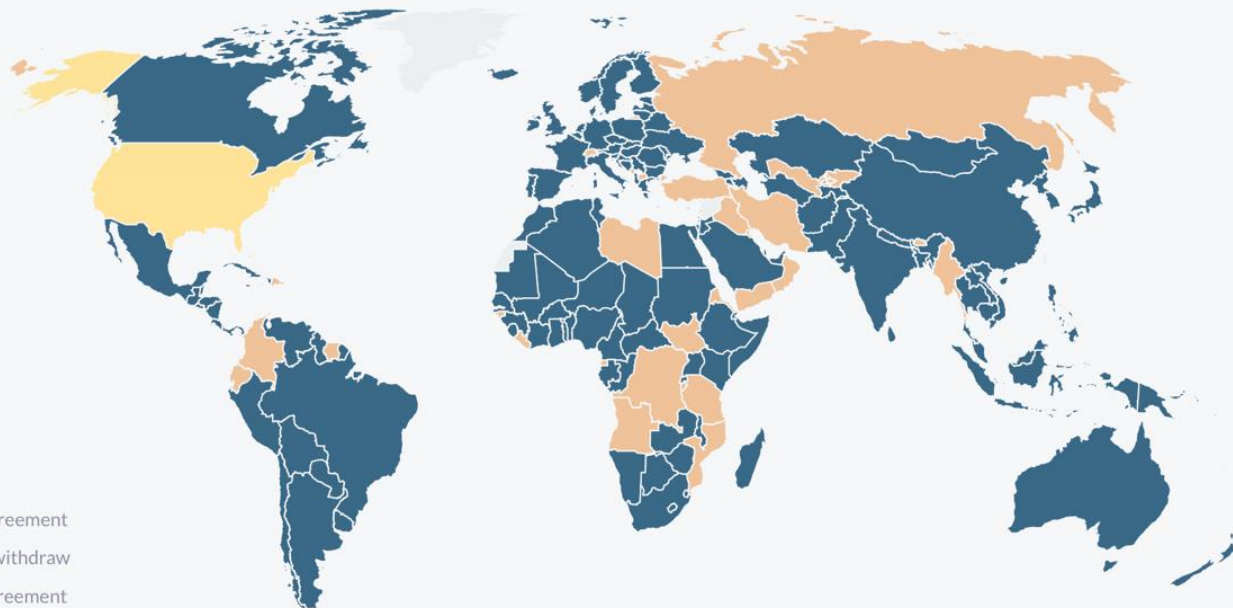
Category

UNFCCC Process



Indicator

Status of ratification


















Signed Agreement

Intent to withdraw

Joined Agreement

# Climate Watch

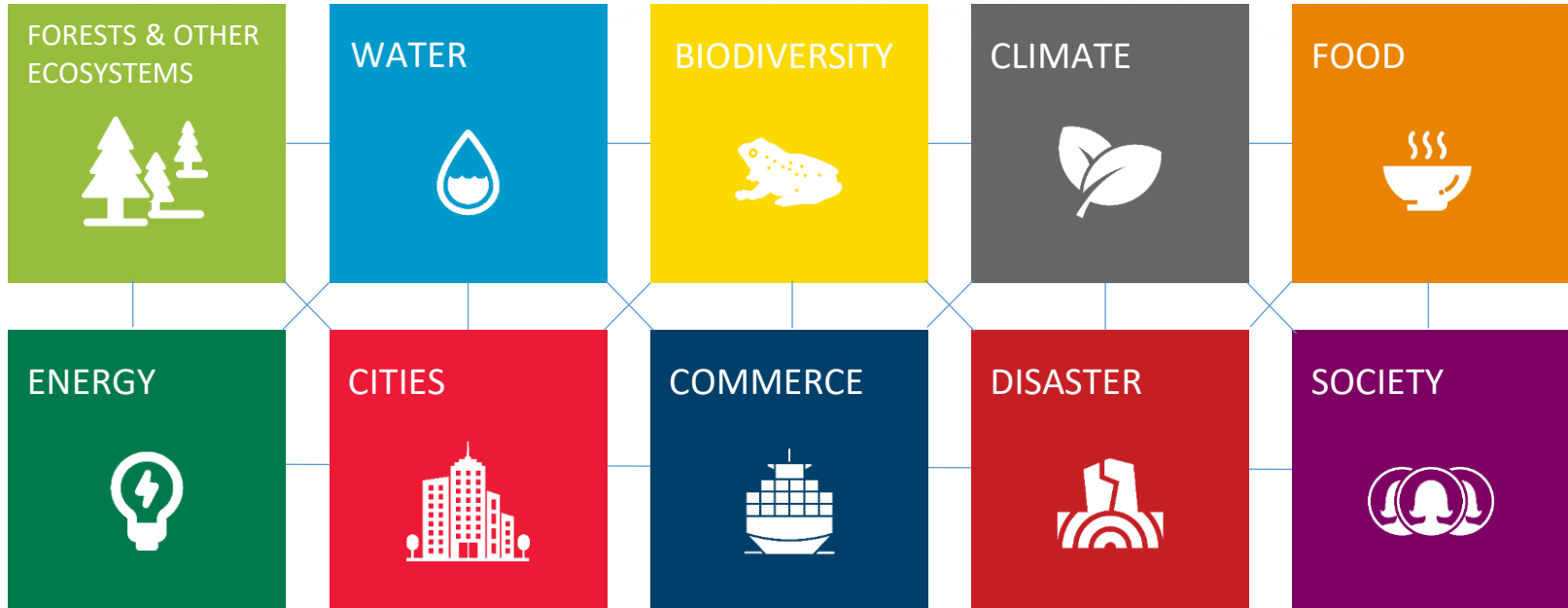
(NDCs) and the targets of the Sustainable Development Goals (SDGs).

1 No poverty 	2 Zero hunger 	3 Good health and well-being 
4 Quality education 	5 Gender equality 	6 Clean water and sanitation 
7 Affordable and clean energy 	8 Decent work and economic growth 	9 Industry, innovation and infrastructure 
10 Reduced inequalities 	11 Sustainable cities and communities 	12 Responsible consumption and production 
13 Climate action 	14 Life below water 	15 Life on land 



# Climate Watch

# What's next: spotlight on nexus issues, shared data architecture, & building communities of users





RESOURCEWATCH

# Sneak peek of the prototype

[www.resourcewatch.org](http://www.resourcewatch.org)

JOIN US





# Quick and easy access to a world of resource data

Explore the latest data, make insights, and help build a more sustainable planet

# Explore the data

Explore, create visualizations, receive updates and contribute with your data.

## EXPLORE DATA

### Dive into the data

Create and download custom visualisations using our collection of over 180 datasets related to natural resources.



## DASHBOARDS

### Review the topic or country you care about most

Find facts and figures about a country or topic, or build your own dashboard to monitor the data you care about.

## PLANET PULSE

### Take the pulse of our planet

A global snapshot of key impacts on livelihoods from the latest data.





# Explore

84 datasets



Monthly Outgoing  
Longwave Radiation  
(OLR) -- Global

Not displayable

Brightness Temperature  
(HIRS Channel 12) --  
Global

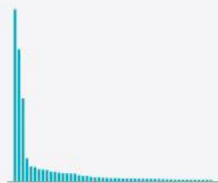
Not displayable

Daily Outgoing  
Longwave Radiation  
(OLR) -- Global

Not displayable

PERSIANN Precipitation  
Estimation -- Global

Global Land Analysis and  
Discovery



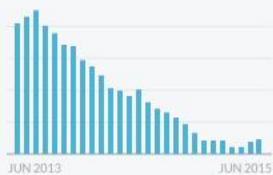
Estimated CO2 emission





# Explore





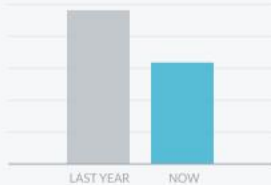
## Global Water Risk

World Resources Institute

CSV

★ 6,500

ACTIVE



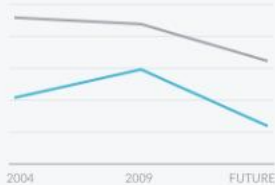
## CARMA: Energy plants

CARMA, CGD

CSV

★ 4,002

ACTIVE



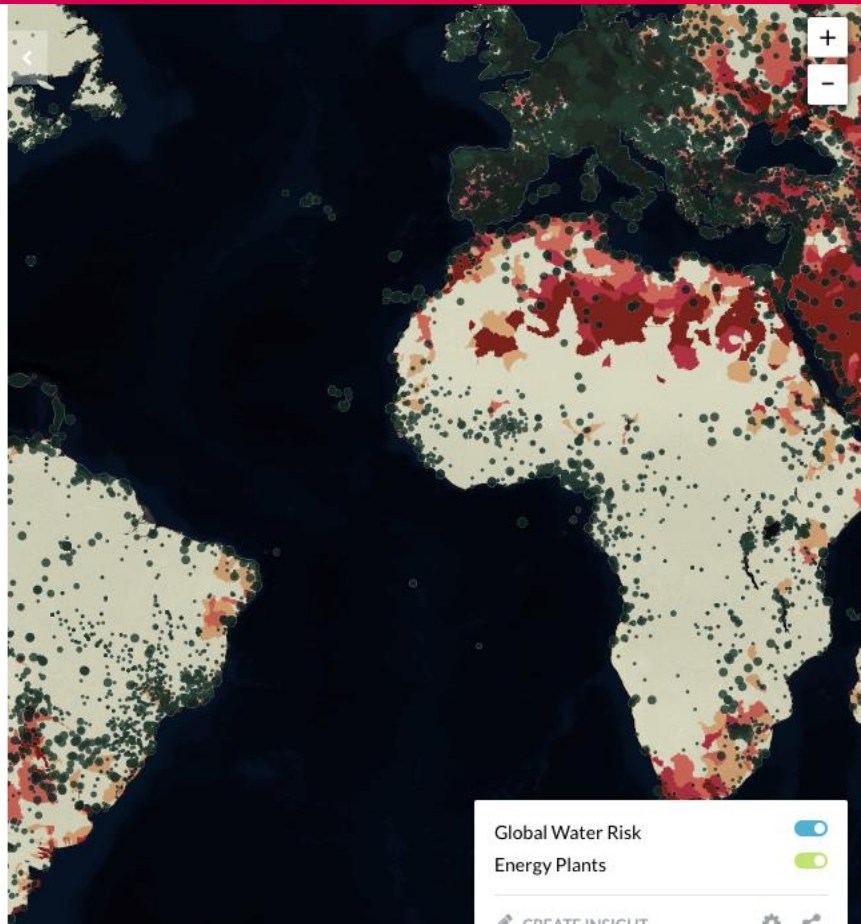
## Aqueduct: country flood risk data projections

Deltares and VU University of Amsterdam

CSV

★ 3,465

ADD TO MAP

Global Water Risk Energy Plants 

CREATE INSIGHT



Global water risk

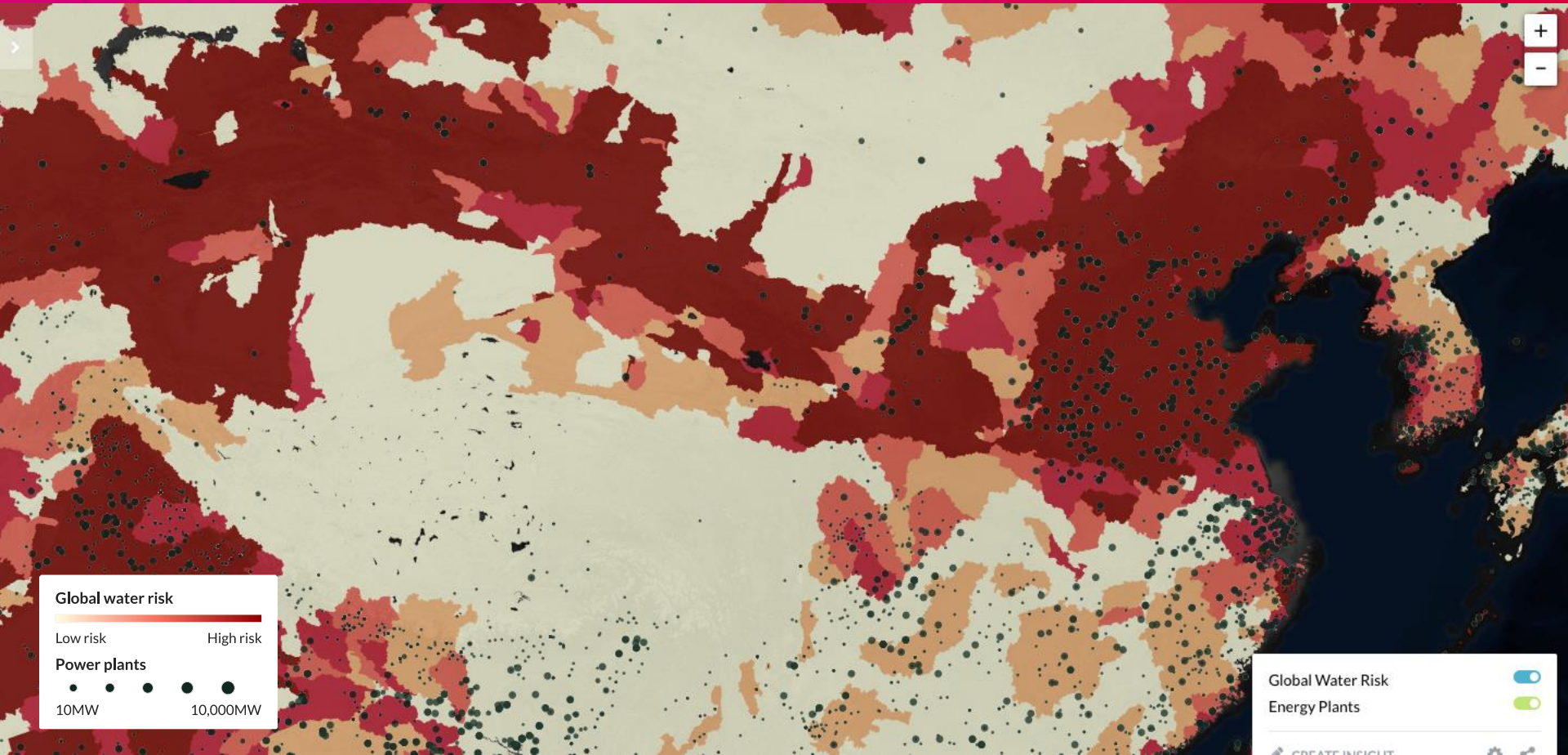
Low risk High risk

Power plants


10MW 10,000MW

Global Water Risk

Energy Plants




**Global water risk**



Low risk High risk

**Power plants**



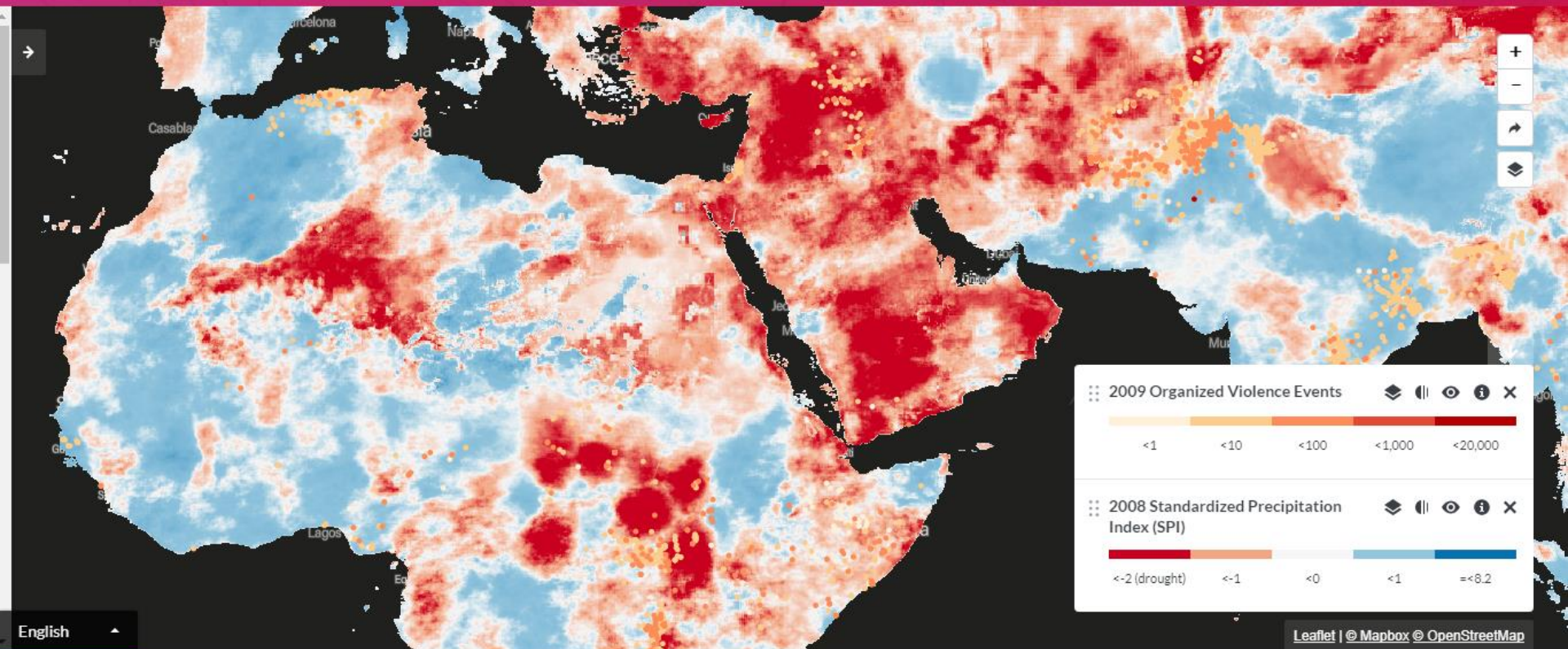
10MW 10,000MW

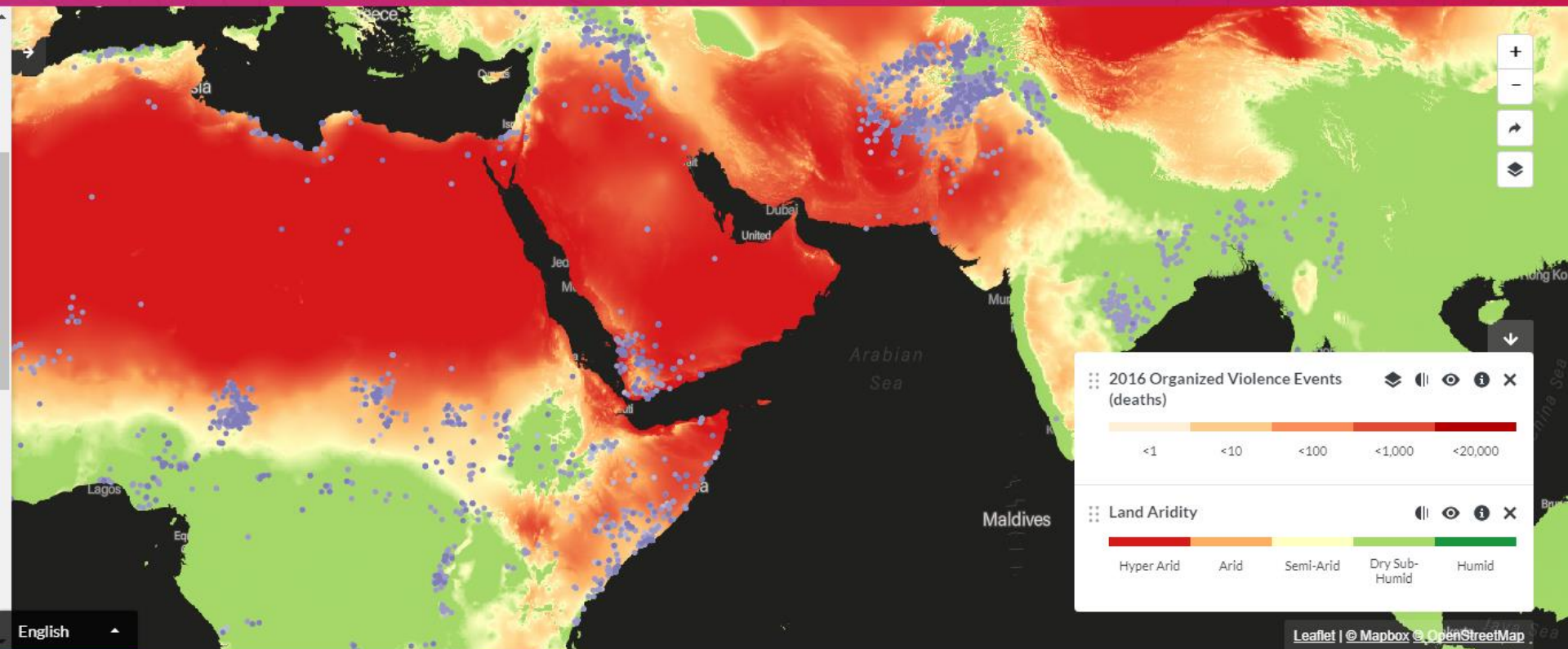
Global Water Risk

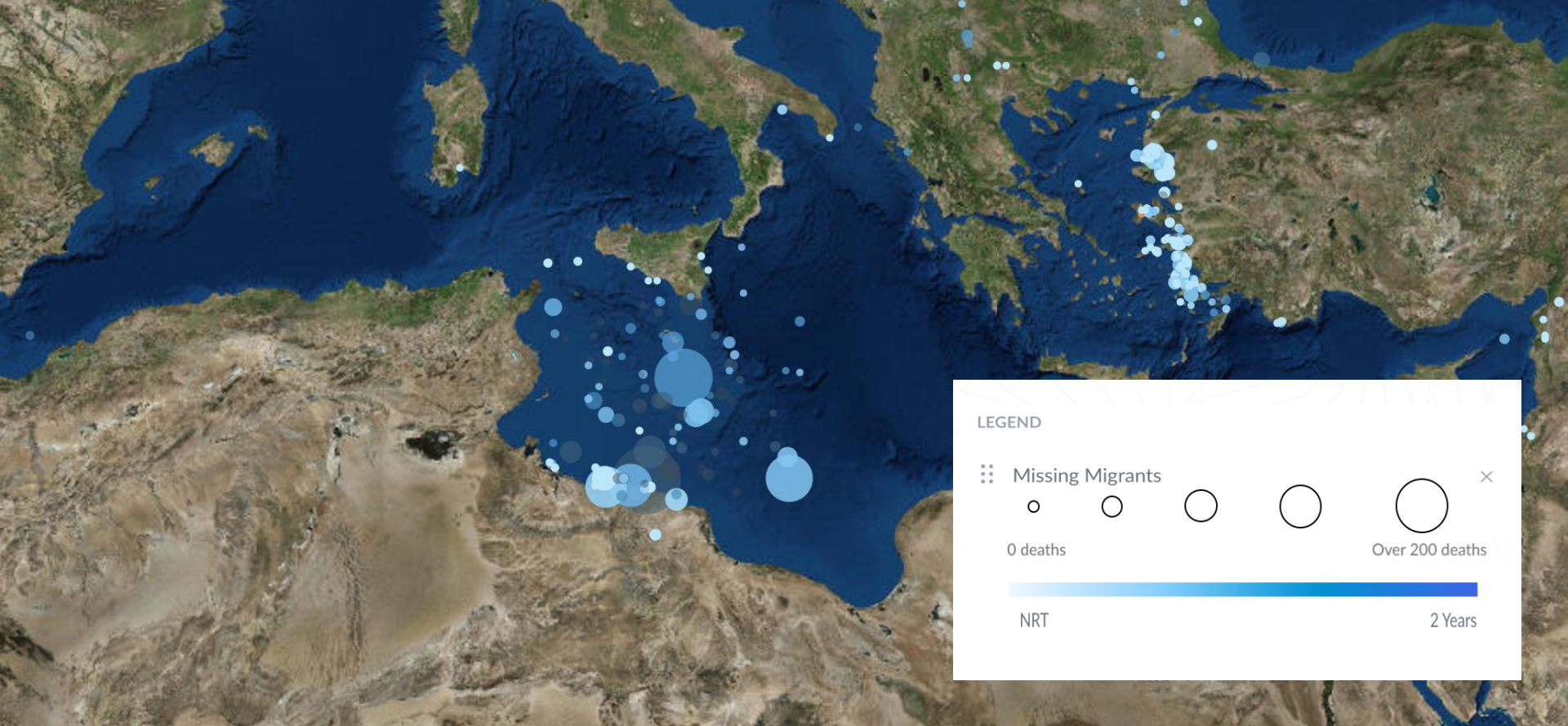
Energy Plants

[CREATE INSIGHT](#)









LEGEND

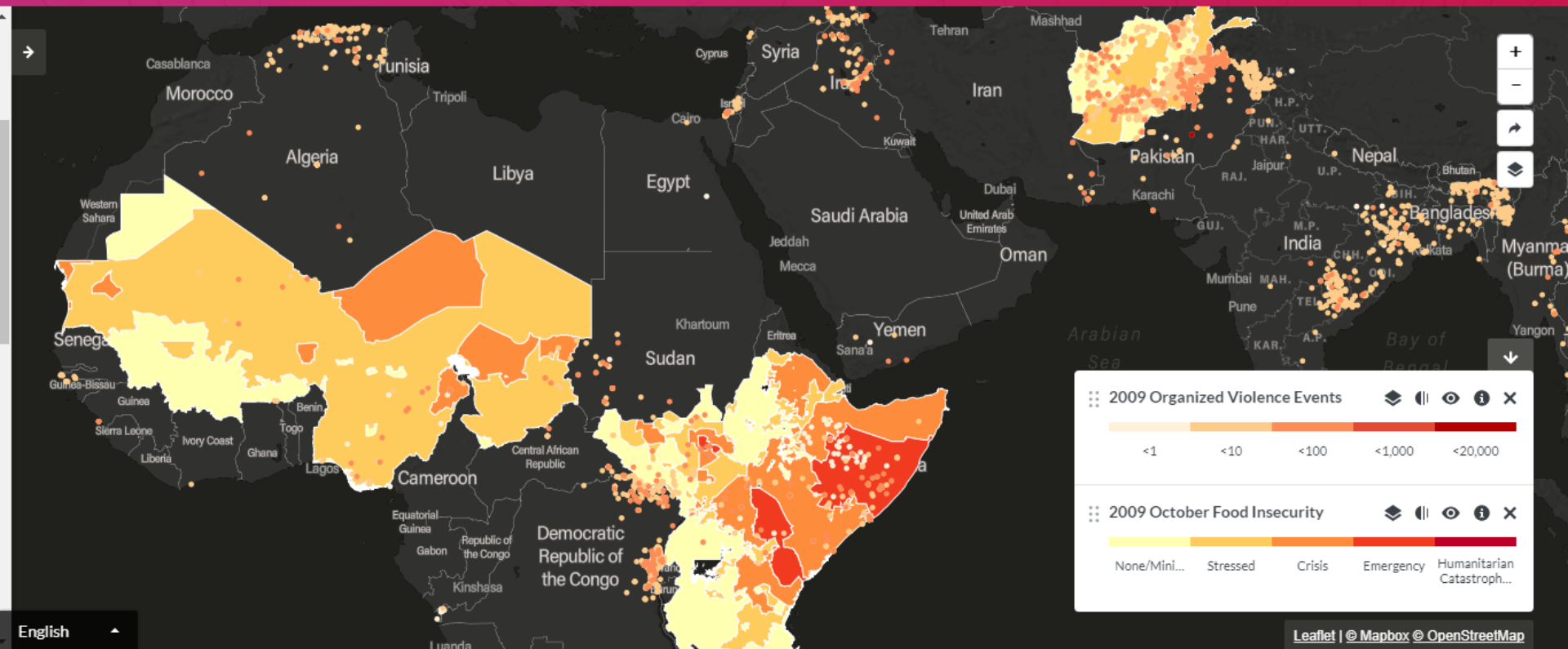
⋮ Missing Migrants ×



0 deaths Over 200 deaths



NRT 2 Years







< [Data](#)

# Dashboards



Select a topic to start exploring

# Brazil Dashboard

[CHANGE COUNTRY](#) [FULL SCREEN](#)

Choose country

FOREST 

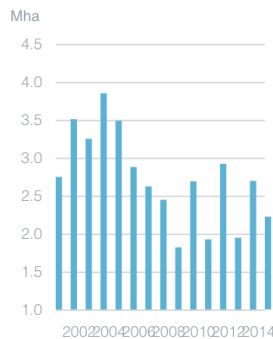
Tree cover gain

**1,041,09**

ha

tree cover extent in 2000  
519,187,505 haFOREST 

Tree cover loss

WATER 

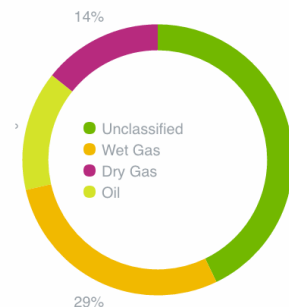
GDP Affected by flood risk

**117,678**

MM \$

GDP affected in 2030  
236,129 MM \$ENERGY 

Shale Resources





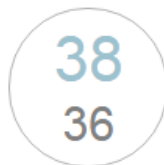
# São Paulo dashboard

[CHANGE COUNTRY](#)
[TOPICS](#)
[FULL SCREEN](#)

## SUSTAINABLE CITIES

### Air pollution

ABOVE AVERAGE



Plume Air  
Quality Index  
annual average

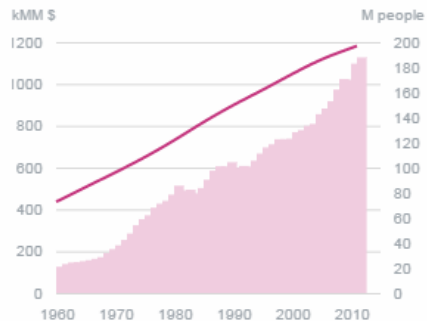
## WATER

### Population with access to drinking-water sources



## SUSTAINABLE CITIES

### Population and GDP



## CLIMATE

### Sources of CO<sub>2</sub>

9% 1%

## ENERGY

### Energy production

MMW

## ENERGY

### Cleanest energy production ranking

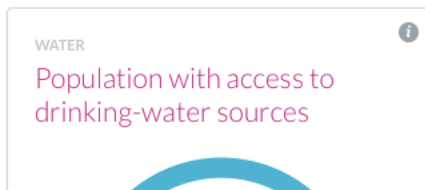
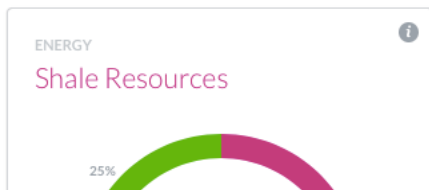
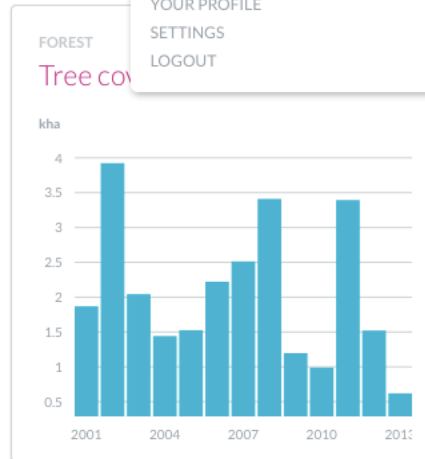
# Janet's dashboard

## NOTIFICATIONS

- New insight from World Resources Institute
- 'Total Greenhouse Emissions' dataset updated
- 'Flower pollination in the United States' dataset updated

## YOUR PROFILE

- SETTINGS
- LOGOUT



# Forest

Forest ecosystems also play a critical role in stabilizing the climate; providing food, water, wood products, and medicines; and supporting much of the world's biodiversity. Though an estimated 30% of potential forest cover has been lost, we can still productively and sustainably manage the world's remaining forests.

## Displayed layers

- Deforestation alerts (Forma) ⓘ
- Forest loss since 2000 ⓘ
- Protected Areas ⓘ
- Fires ⓘ





[Home](#) > [Insights](#) > Story



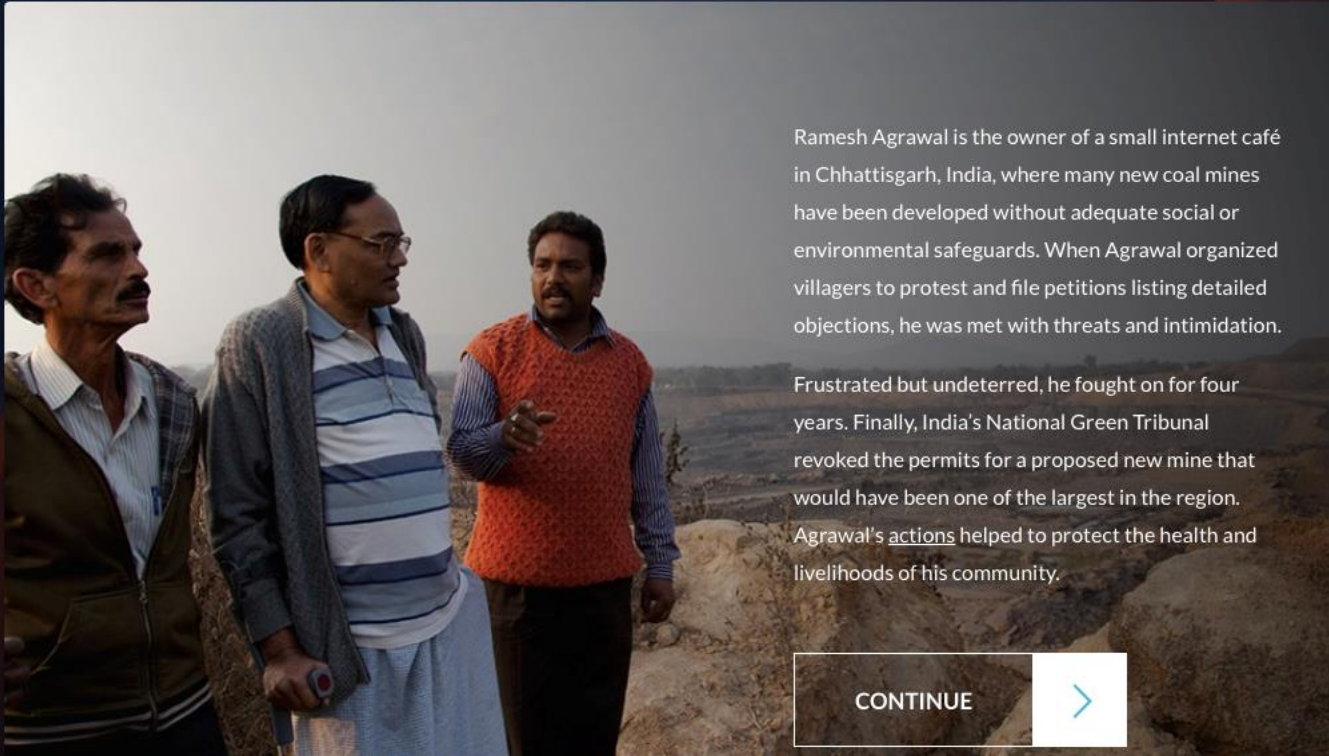
by [World Resources Institute](#)

Oct 5, 2015



## Zooming In: “Sustainable” Cocoa Producer Destroys Pristine Forest in B...

# A factory is being built in your neighborhood. Can you do anything about it?



Ramesh Agrawal is the owner of a small internet café in Chhattisgarh, India, where many new coal mines have been developed without adequate social or environmental safeguards. When Agrawal organized villagers to protest and file petitions listing detailed objections, he was met with threats and intimidation.

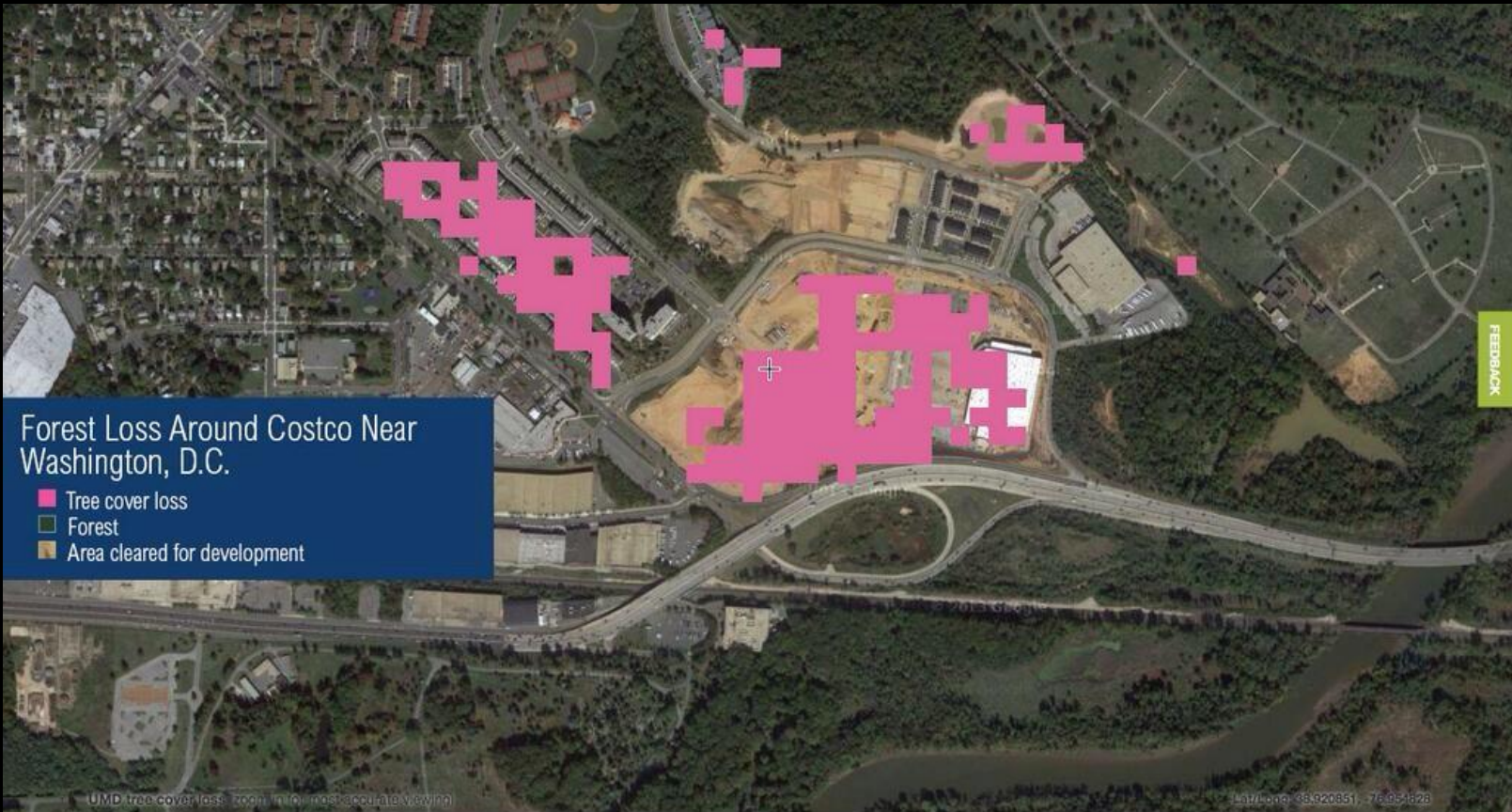
Frustrated but undeterred, he fought on for four years. Finally, India's National Green Tribunal revoked the permits for a proposed new mine that would have been one of the largest in the region. Agrawal's [actions](#) helped to protect the health and livelihoods of his community.

CONTINUE





# CONNECT DATA TO PEOPLE'S LIVES





# How can Resource Watch help you?

- Reduce data development costs
- Expand your audience
- Provide core expertise and access to technology partners
- Promote data integration

*So that you can focus on making data actionable*

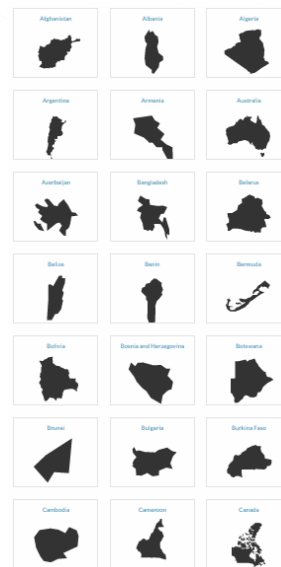
# Resource Watch Features



Explore



Planet Pulse



Dashboards



Stories

242

datasets

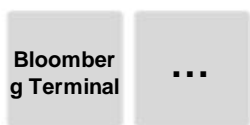
49 near-real-time

and growing...

# Resource Watch will be open source



# .....allowing others to build on it



A family of Watches

Other organizations Surfacing where users are

Single API  
Built collaboratively  
Economies of scale



Data Sources

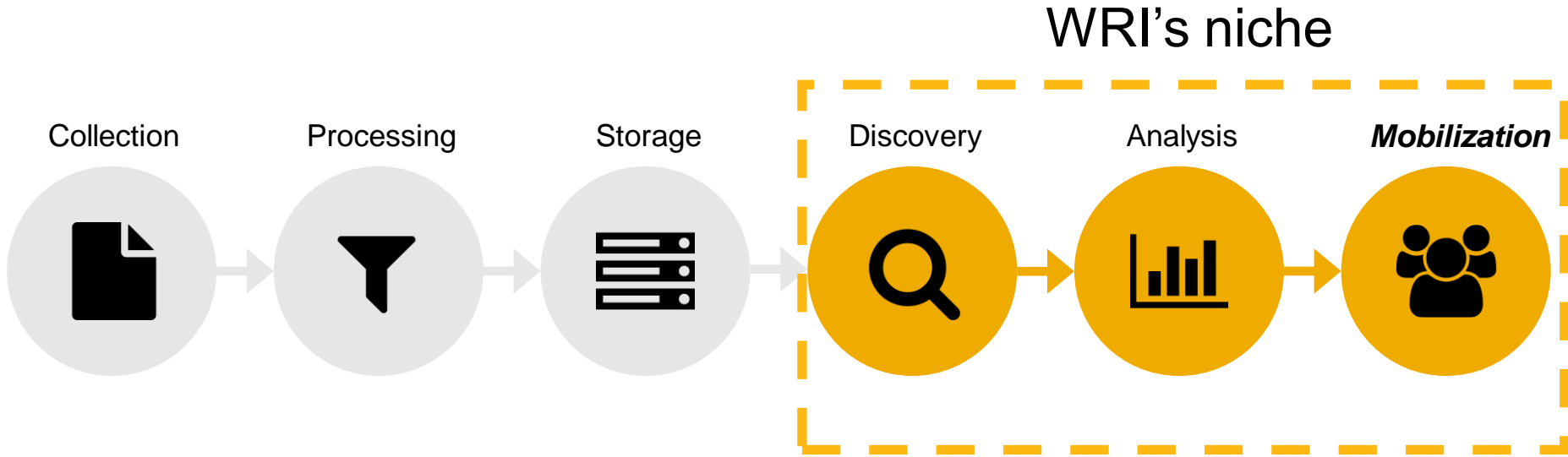


# WHAT'S OUR VISION?



Use the Bootstrap Font: <https://www.getbootstrap.com/>

# WHAT'S OUR NICHE IN THE DATA INTO ACTION CHAIN?



# WHAT HAVE WE LEARNED?

## DATA $\neq$ IMPACT, DATA + X = IMPACT!

- Turning big data into action is a team sport!
- Be open-source and open-access
- Co-create
- Technology agnostic
- Build “apps”
- Tell stories around data
- Be relentlessly user-centric



# SO WE AVOID HUMAN & PLANETARY CATASTROPHE





**QUESTIONS**

**ANSWERS**

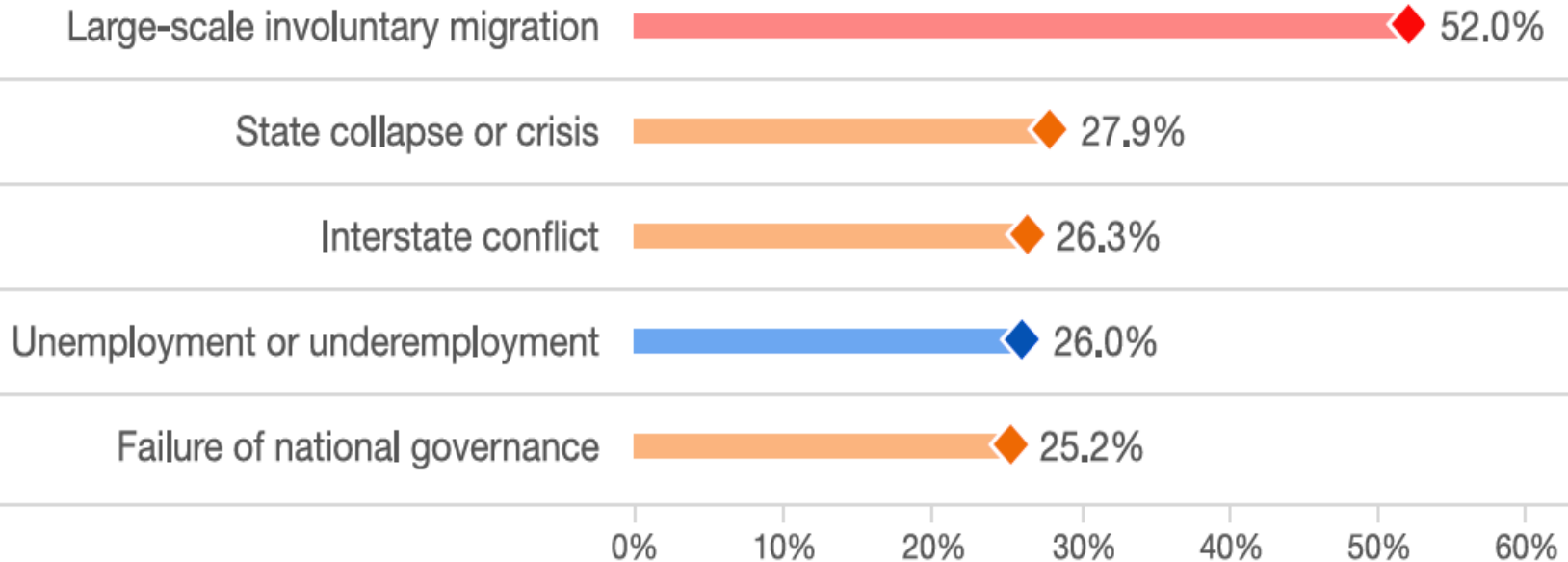
# WATER GETS LITTLE POLITICAL ATTENTION



mai

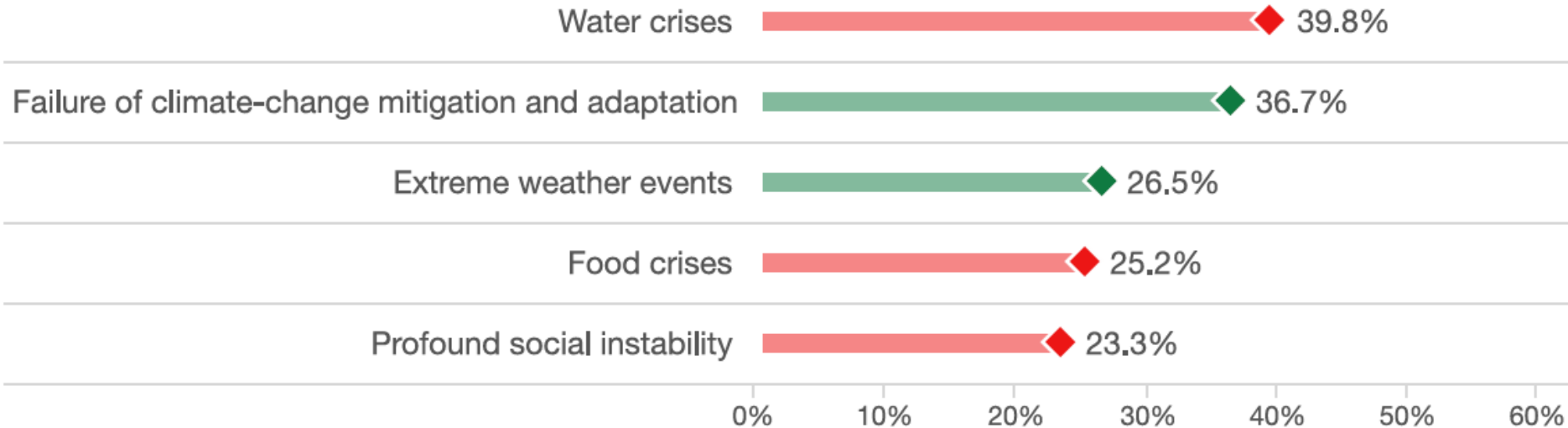
# WHAT WORRIES THE PRIVATE SECTOR?

## Global Risks of Highest Concern: For the Next 18 Months



# WHAT WORRIES THE PRIVATE SECTOR?

## Global Risks of Highest Concern: For the Next 10 Years



Note: Percent of participants mentioning the respective risk to be of high concern for the time frame of 18 months or 10 years, respectively. Participants could name up to five risks in each time frame. In each category, the risks are sorted by the total sum of mentions.