



WORLD
RESOURCES
INSTITUTE

SUSTAINABLE WATER PARTNERSHIP RAISING AWARENESS ON WATER SECURITY

Betsy Otto, Director, WRI Global Water Program

PHOTO: YIYUAN JASMINE QIN

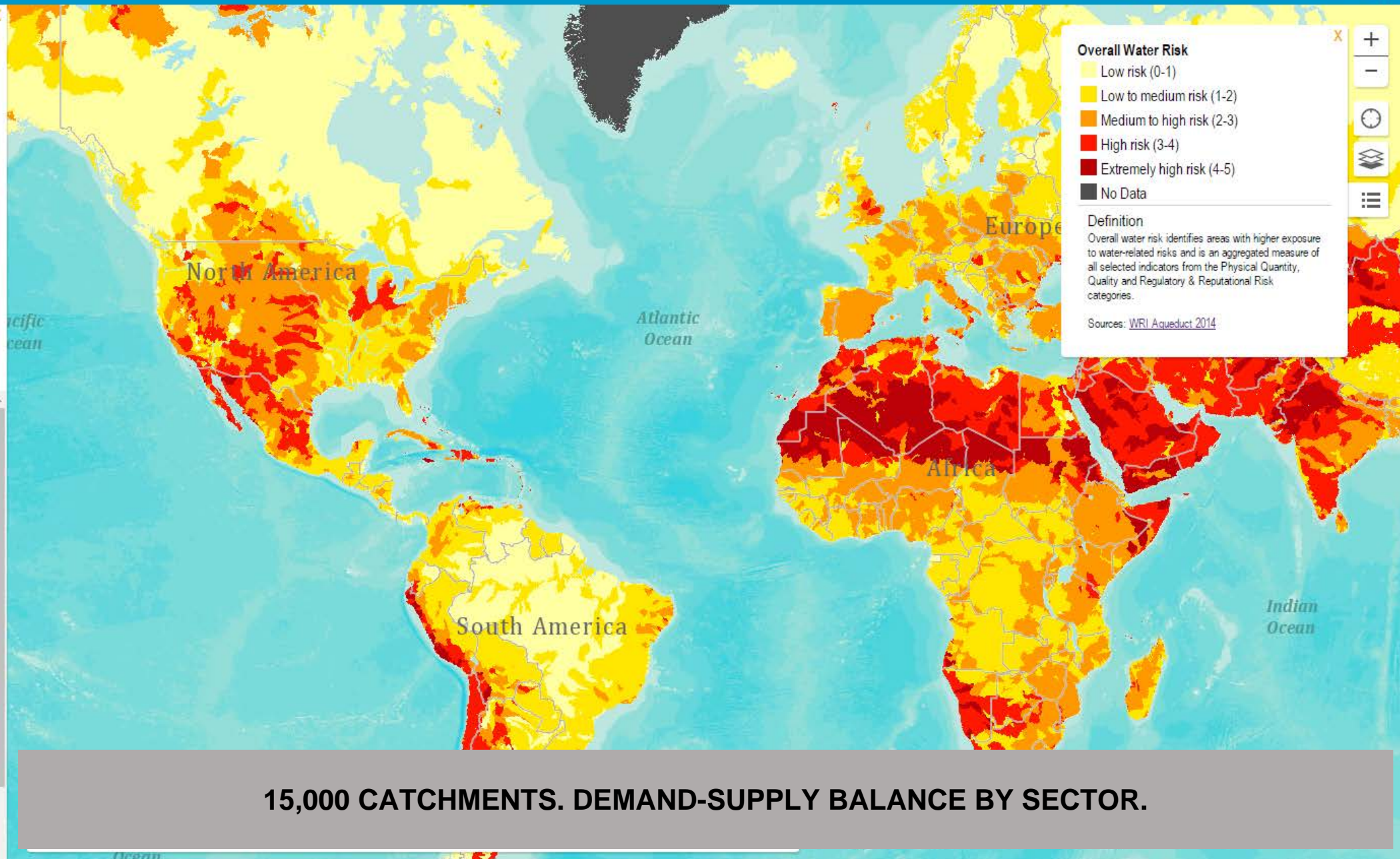
These maps show where water-related risks are most severe.

Map Transparency
 100% none

Weighting Scheme:
 Default
 Customize Weights

Weight Distribution

- Physical Risk Quantity
- Physical Risk Quality
- Regulatory & Reputational Risk



Overall Water Risk

- Low risk (0-1)
- Low to medium risk (1-2)
- Medium to high risk (2-3)
- High risk (3-4)
- Extremely high risk (4-5)
- No Data

Definition
 Overall water risk identifies areas with higher exposure to water-related risks and is an aggregated measure of all selected indicators from the Physical Quantity, Quality and Regulatory & Reputational Risk categories.

Sources: [WRI Aqueduct 2014](#)

- Overall Water Risk
- Physical Risk Quantity
 - Baseline Water Stress
 - Inter-annual Variability
 - Seasonal Variability
 - Flood Occurrence
 - Drought Severity
 - Upstream Storage
 - Groundwater Stress
- Physical Risk Quality
 - Return Flow Ratio
 - Upstream Protected Land
- Regulatory & Reputational Risk

15,000 CATCHMENTS. DEMAND-SUPPLY BALANCE BY SECTOR.

These maps show how climate change and/or development could affect water resources over the next 30 years.

Map Transparency

100% none

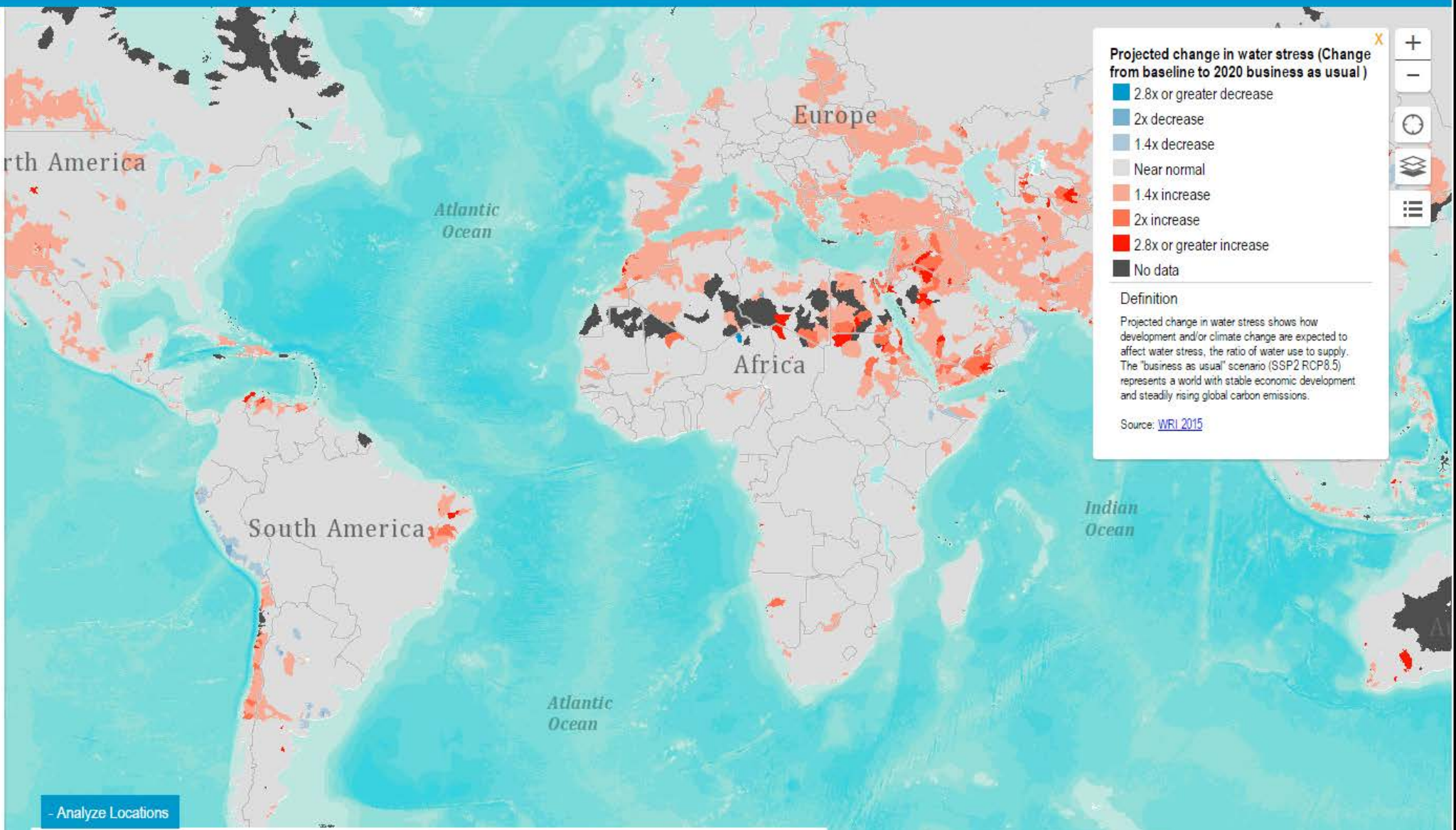
- 1. Select an indicator**
- Projected change in water stress**
 - Projected change in seasonal variability
 - Projected change in water supply
 - Projected change in water demand

2. Select a time frame

Change in water stress from historical conditions to: **2020**

Water Stress In Year: **2020**

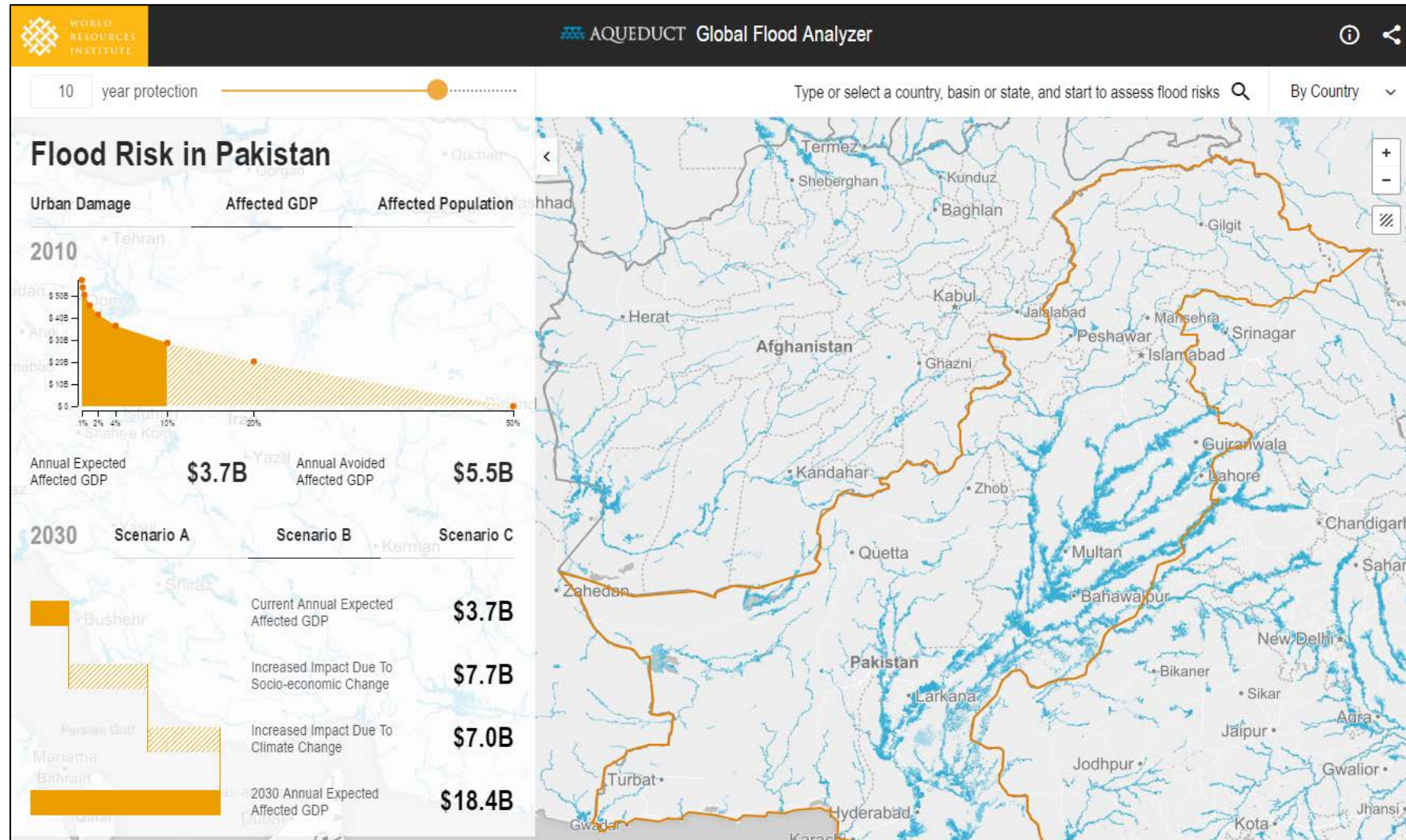
- 3. Select a climate scenario**
- Future water availability depends on how the world grows. These possible scenarios are based on the IPCC 5th assessment report.
- Optimistic
 - Business as usual**
 - Pessimistic



- Analyze Locations

Add locations with one of these methods: [Click Map](#) [Enter Coordinates](#) [Enter Address](#) [Import From Spreadsheet](#)

AQUEDUCT GLOBAL FLOOD ANALYZER



NEW DATA

COMBINED SURFACE AND GROUNDWATER STRESS

GROUNDWATER STRESS

GROUNDWATER TABLE DECLINE

COASTAL STORM SURGE

FLOOD RISK

REPUTATIONAL RISK INDEX

WASTE WATER TREATMENT

INDEX OF COSTAL EUTROPHICATION POTENTIAL

CROP AREA, YIELD, PRODUCTION, NET TRADE

FOOD DEMAND

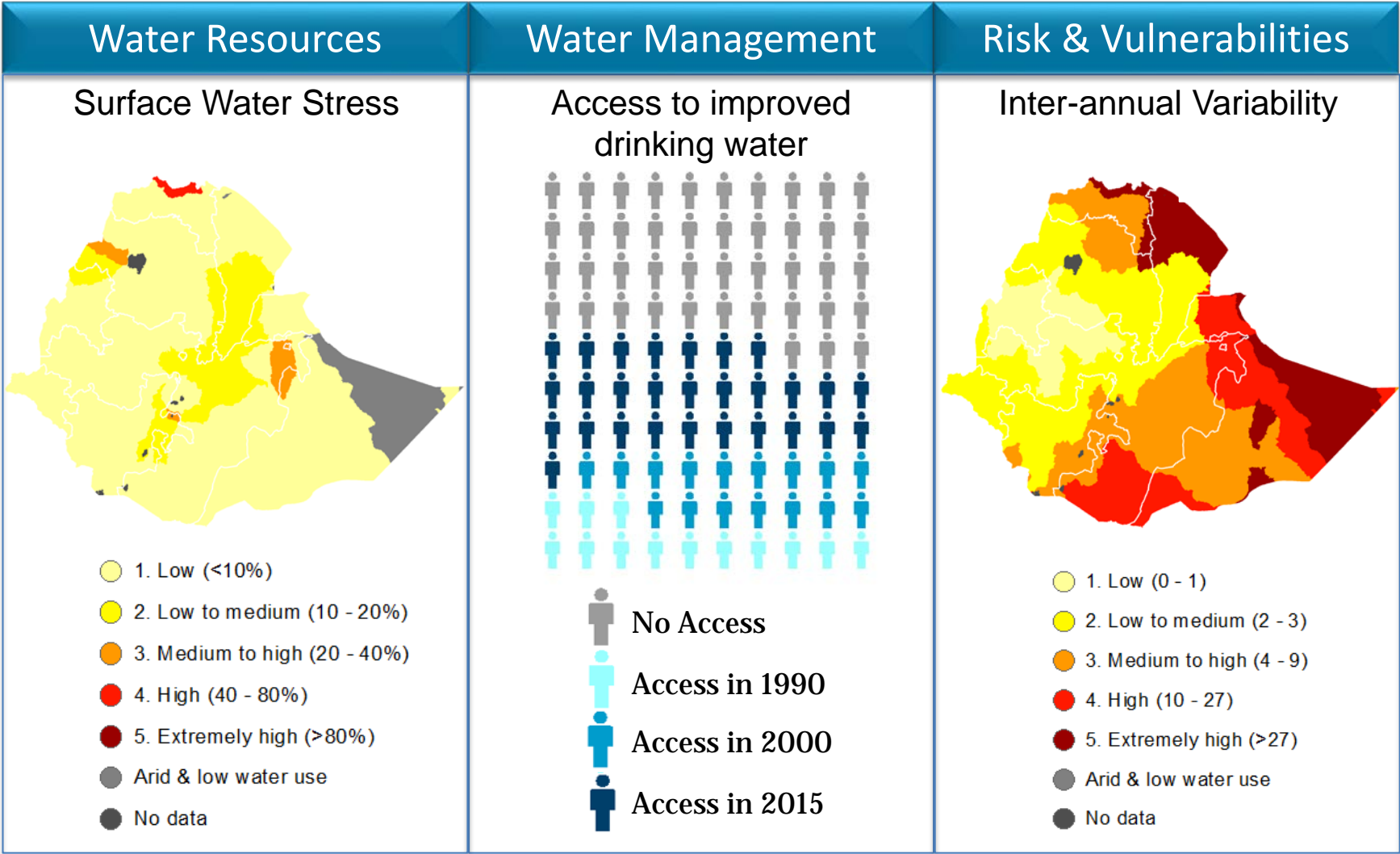
WORLD PRICE

KILOCALORIES & RISK OF HUNGER

AQUEDUCT COUNTRY WATER SECURITY ASSESSMENTS

COUNTRY-LEVEL RISK ASSESSMENTS

USAID Sustainable Water Partnership example: Ethiopia

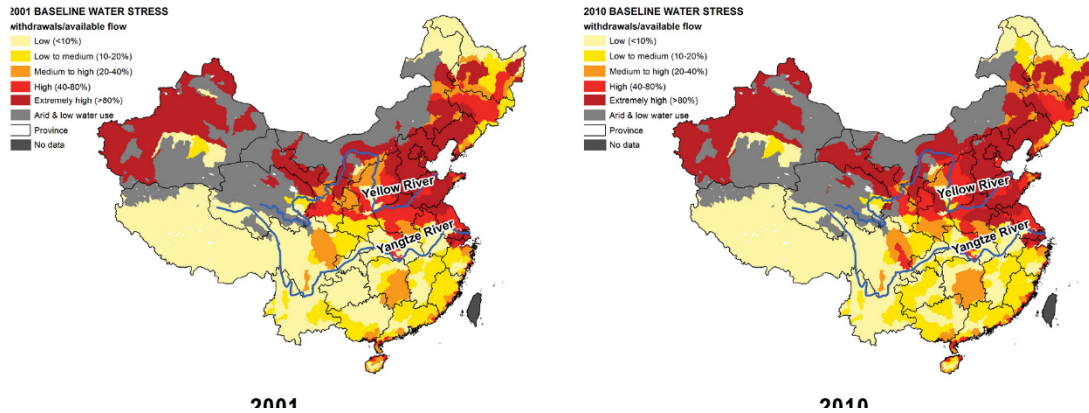


Data sources: Aqueduct 2014; WHO/UNICEF Joint Monitoring Programme; Aqueduct 2014

Progress: BWS 2001 vs BWS 2010

Blog: China's Water Stress is on the Rise

Baseline Water Stress in China

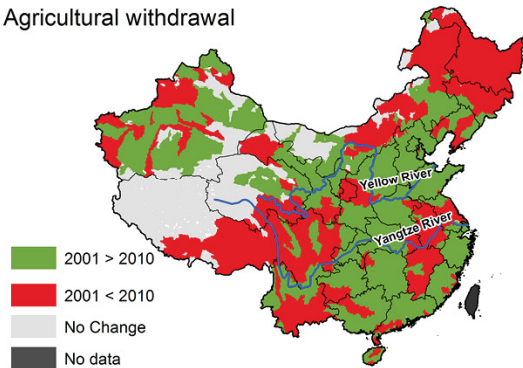


Increasing Water Stress in China, by Catchment

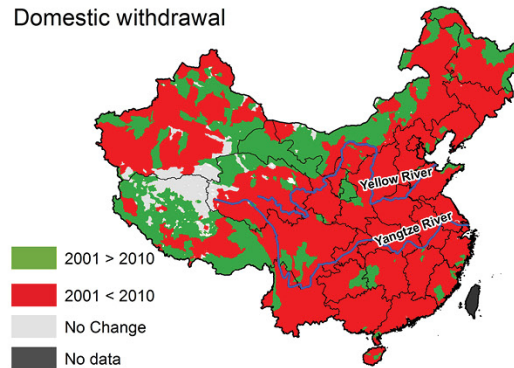


China's Water Withdrawal Changes by Sector, 2001-2010

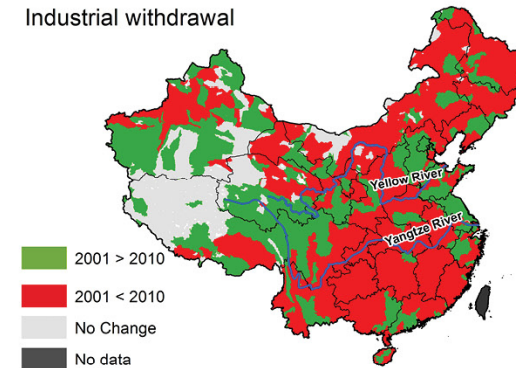
Agricultural withdrawal



Domestic withdrawal

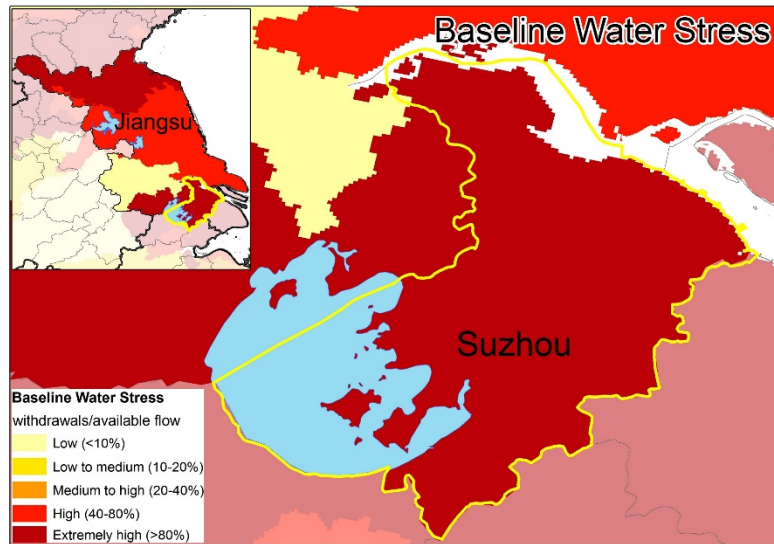


Industrial withdrawal

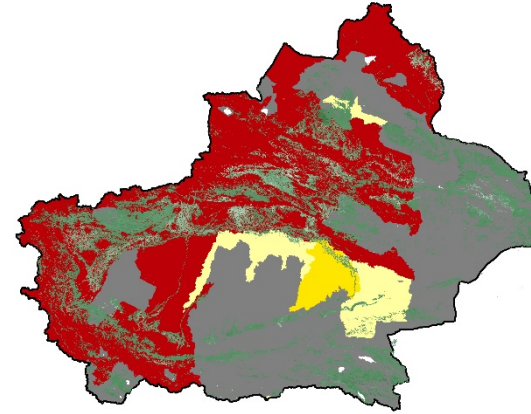


Progress: Other Test for Applying BWS for Policy/Solution Analysis in progress

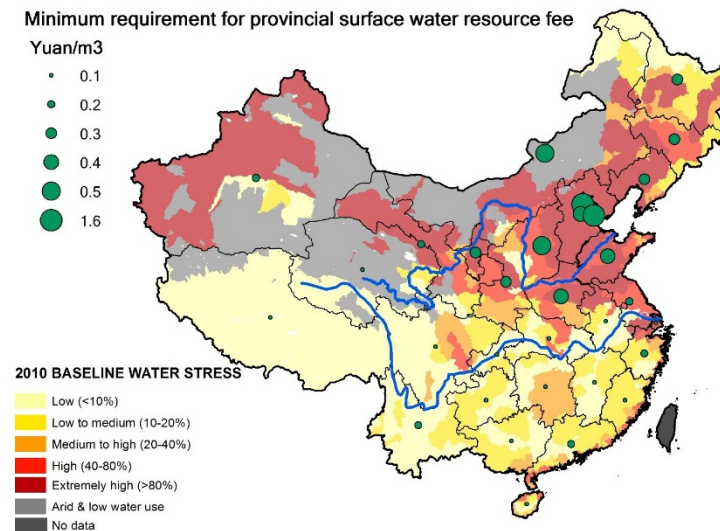
BWS and Suzhou industrial park



BWS, Xinjiang cotton and textile



BWS and water resources fee



ETHIOPIA



Aqueduct – Ethiopia: mapping water risks



Social & economic implications



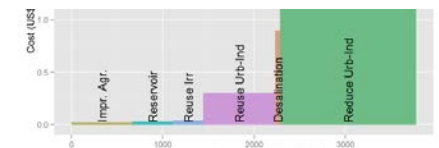
Watershed restoration opportunity mapping



Model for monitoring and reporting progress (related to GTP-II, SDG, NDC water targets)



Decision support tool for water stress reduction opportunities & relative costs

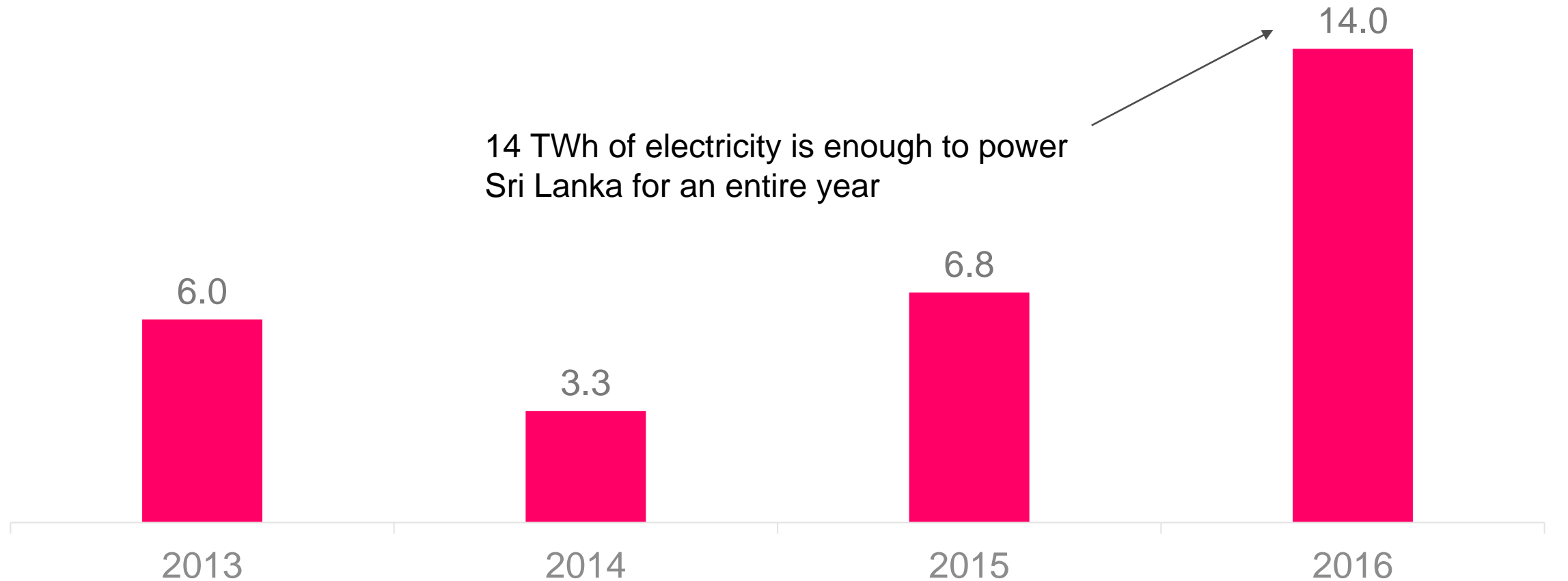


AQUEDUCT ASSESSMENT: ENERGY, FOOD

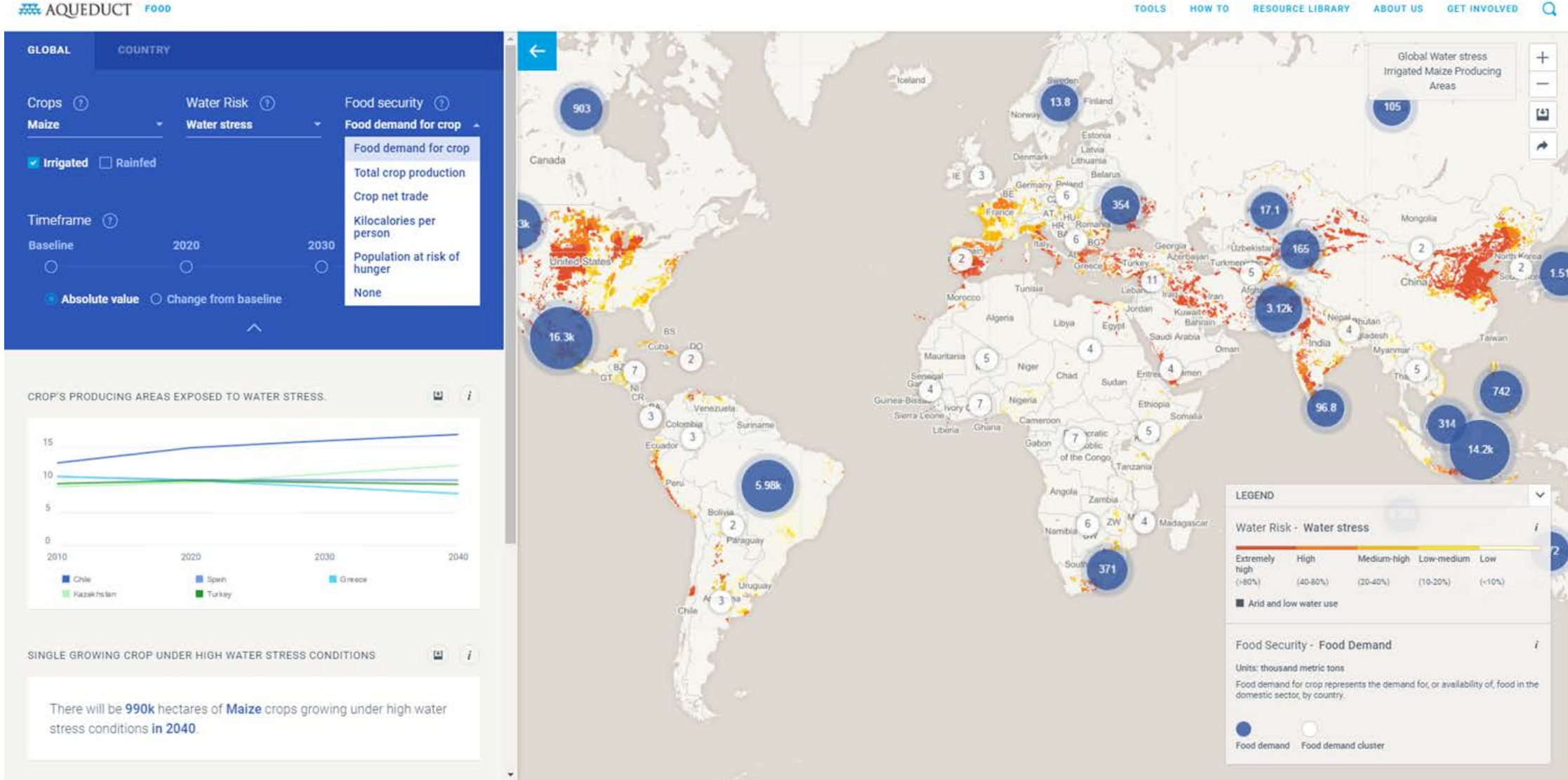
New method – Estimating water withdrawal and consumption for individual power plants in data scarce regions using satellite imagery



More than 30 TWh of electricity in generation, or \$2.8 billion in revenue, was lost in India due to power plant shutdowns caused by water shortages over the past four years



Global Water Stress in Irrigated Maize Producing Areas in 2040





Thank you
 botto@wri.org

Analyze Locations ▼

Risk Categories: Overall Water Risk | Physical Risk QUANTITY | Physical Risk QUALITY | Regulatory & Reputational Risk | Projected Change

	Location Title	Country	Catchment	Overall Water Risk		
				Overall Water Risk	Physical Risk QUANTITY	Physical Risk QUALITY
📍	Location 1	Democratic Republic of the Congo	CONGO	2. Low to medium risk (1-2)	1. Low risk (0-1)	2. Low to medium risk (1-2)
📍	Location 3	India	INDUS	5. Extremely high risk (4-5)	5. Extremely high risk (4-5)	5. Extremely high risk (4-5)

Legend

- Low risk (0-1)
- Low to medium risk (1-2)
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