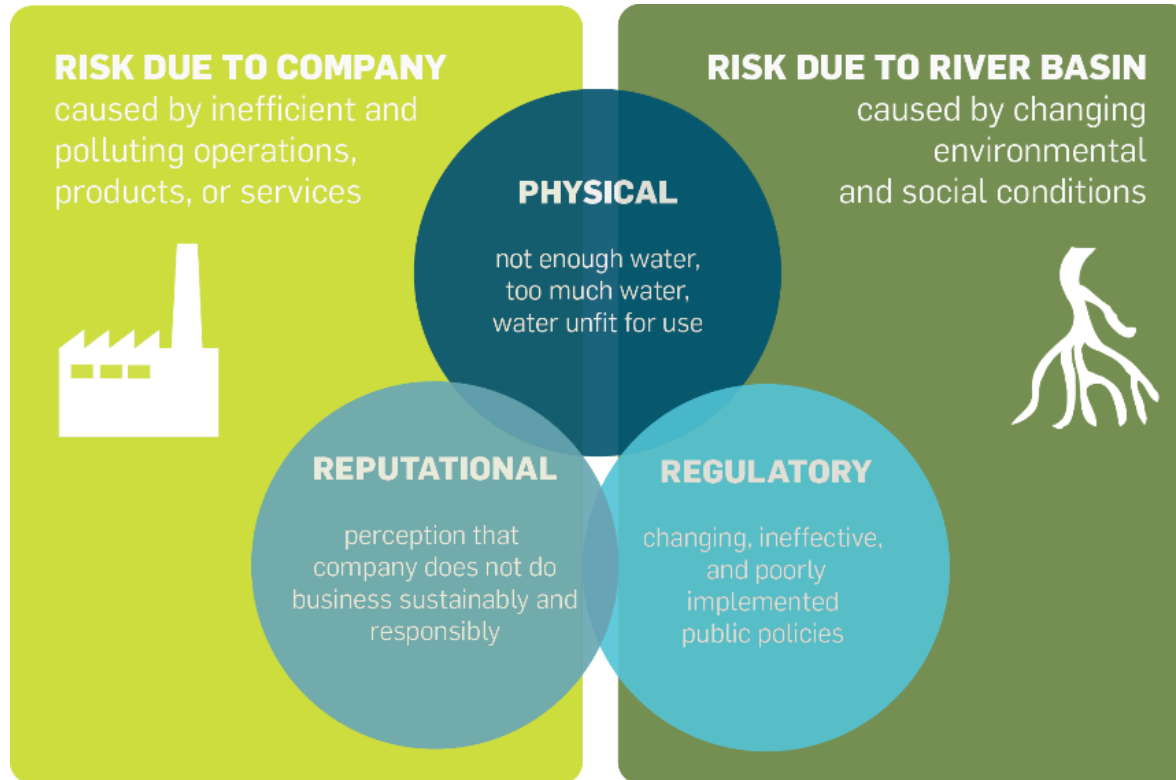




The WWF Water Risk Filter & the Water And ValuE tool

Alexis Morgan, Global Water Stewardship Lead
WWF
September 30th, 2019




Water Risk: What is it?



Source: CEO Water Mandate, 2009

Water Risk: Why does it matter to industry?

Sectors with largest financial impacts

	Financial impacts reported	Most common impacts	Most common responses
 Mineral Extraction	US\$20.5 billion	<ul style="list-style-type: none"> Increased operating costs Reduction/disruption in production capacity Fines, penalties or enforcement orders 	<ul style="list-style-type: none"> Adopt water efficiency, water re-use, recycling and conservation practices Pollution abatement and control measures Engage with regulators/policymakers
 Power Generation	US\$9.6 billion	<ul style="list-style-type: none"> Increased operating costs Impact on company assets Increased compliance costs 	<ul style="list-style-type: none"> Engage with regulators/policymakers Infrastructure maintenance Increased capital expenditure
 Biotech, Health Care & Pharma	US\$3.5 billion	<ul style="list-style-type: none"> Reduction/disruption in production capacity Constraint to growth Increased operating costs 	<ul style="list-style-type: none"> Adopt water efficiency, water re-use, recycling and conservation practices Amend the Business Continuity Plan Secure alternative water supply

Source: CDP, 2019

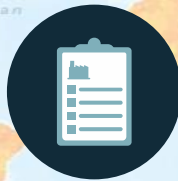


Overview of WWF's Water Risk Filter

Online tool designed for companies and financial institutions to explore, assess, respond & (soon) value their water risks



Resources to **explore** water risks & stewardship



Assess basin & operational water risks

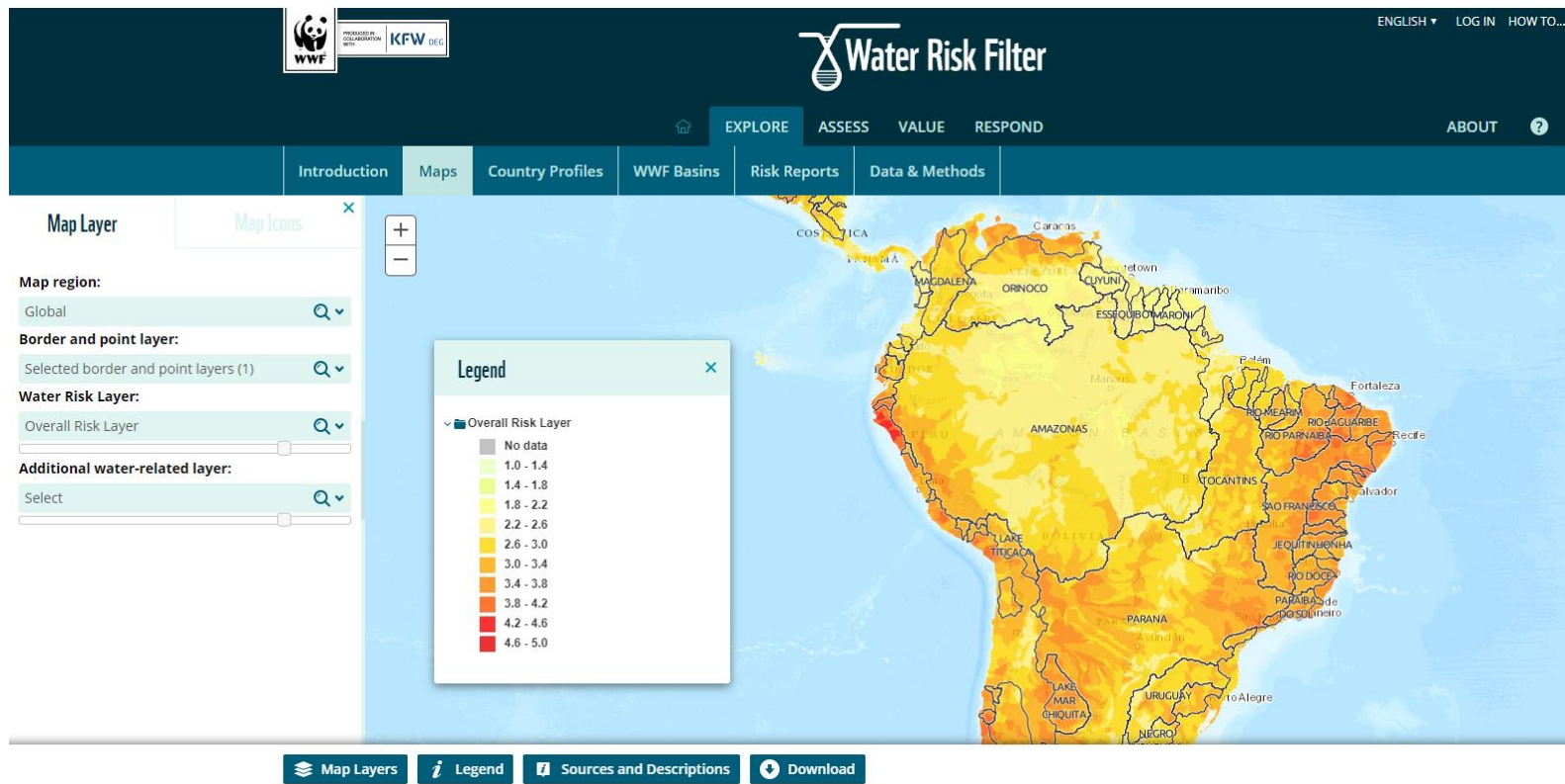


Receive recommendations to **respond** to water risks

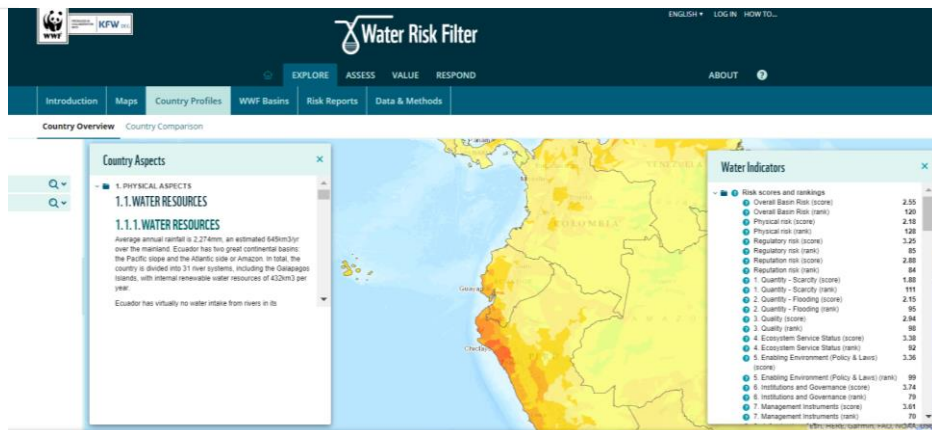
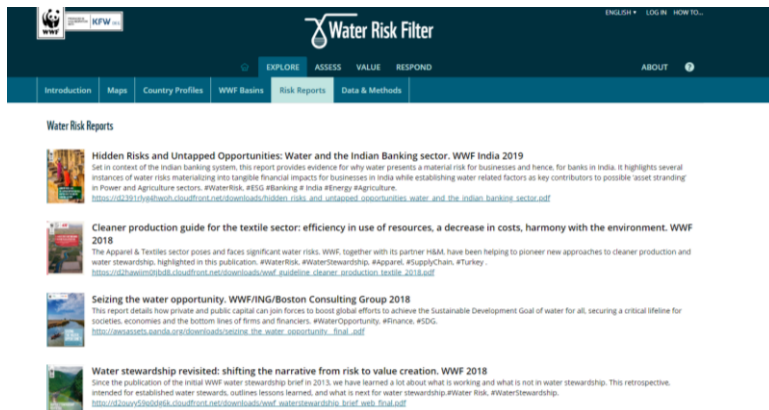
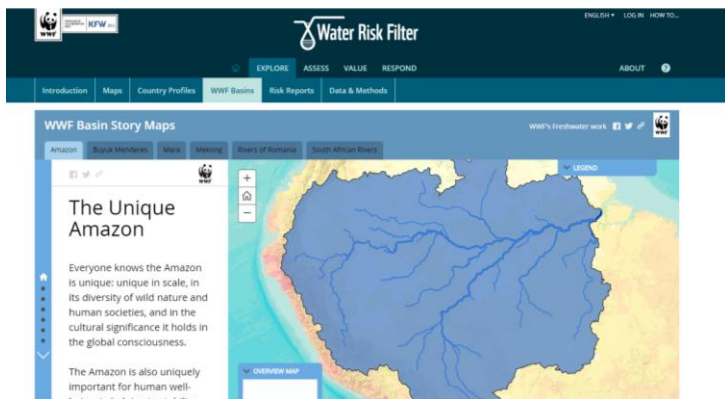
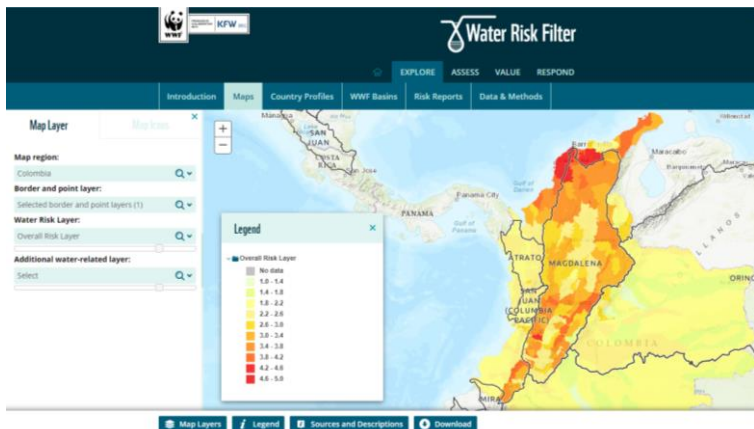


Value water with the right tools & estimate potential financial impacts

Water Risk Filter: Explore



Water Risk Filter: Explore



Water Risk Filter: Assess



Basin

Physical risk

Regulatory risk

Reputational risk



Operational

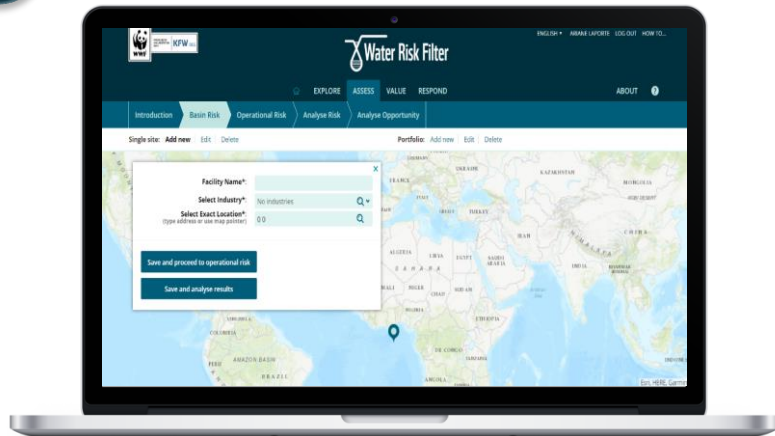
Physical risk

Regulatory risk

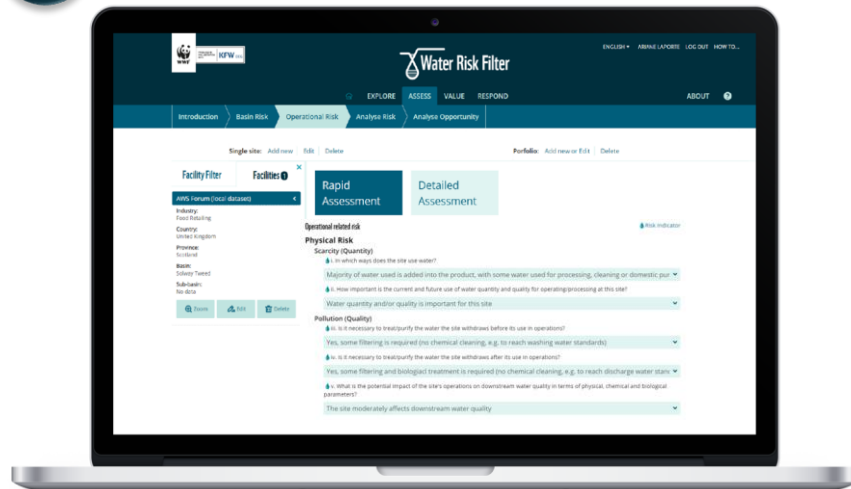
Reputational risk

Water Risk Filter: Assess – input data

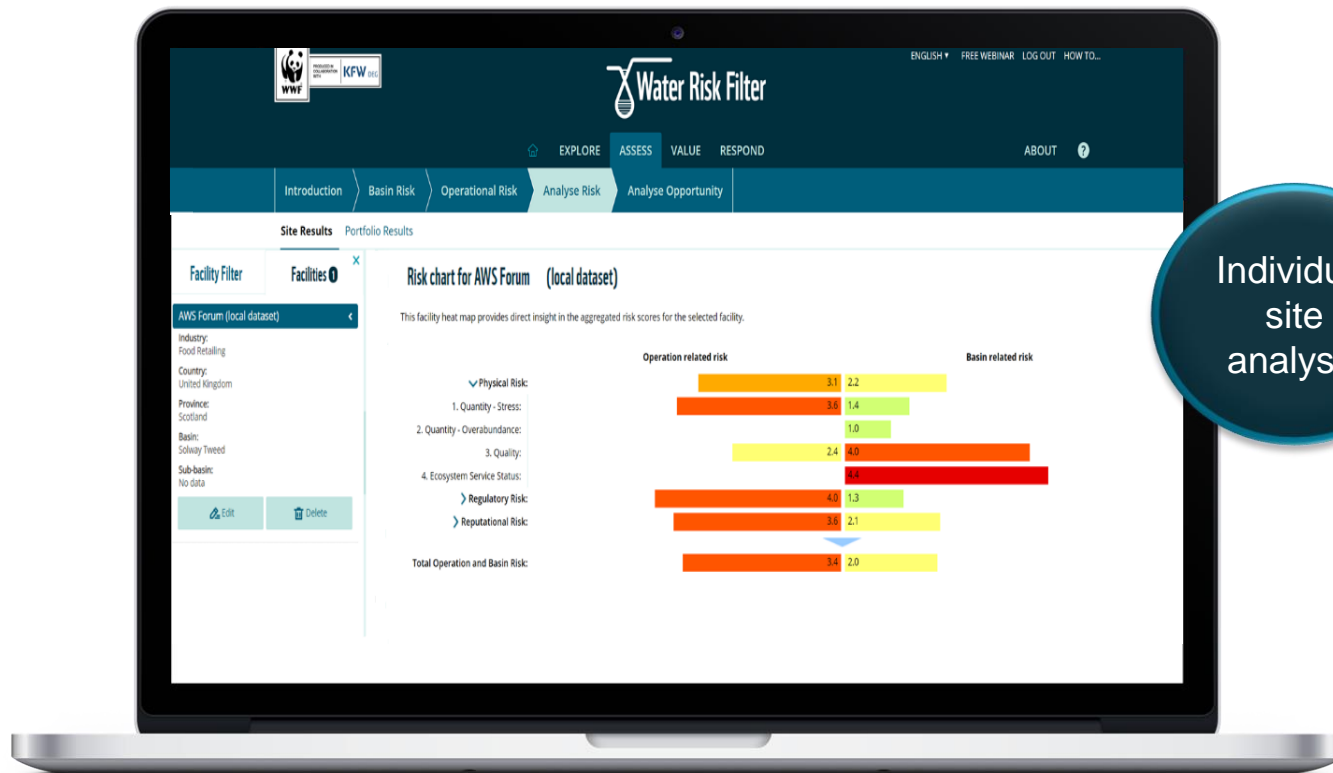
1 Input location of site



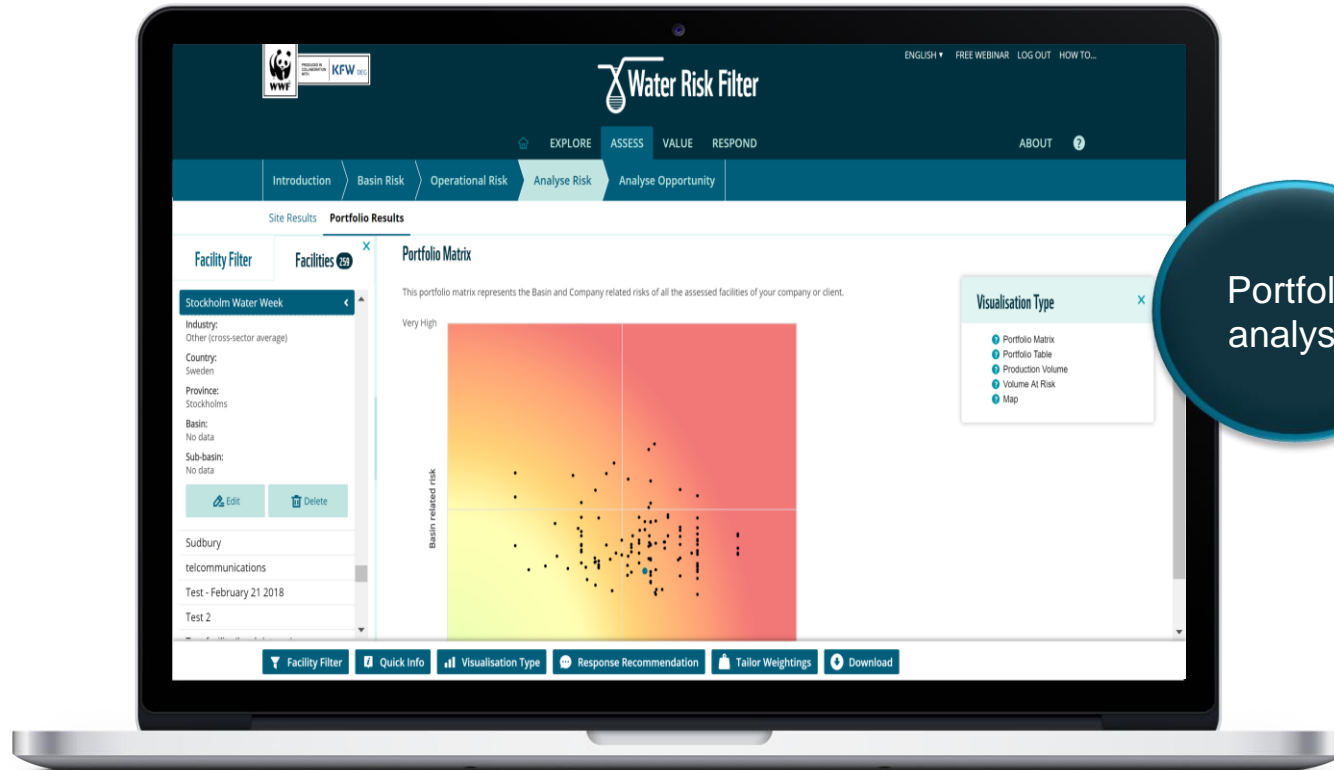
2 Input site operational data



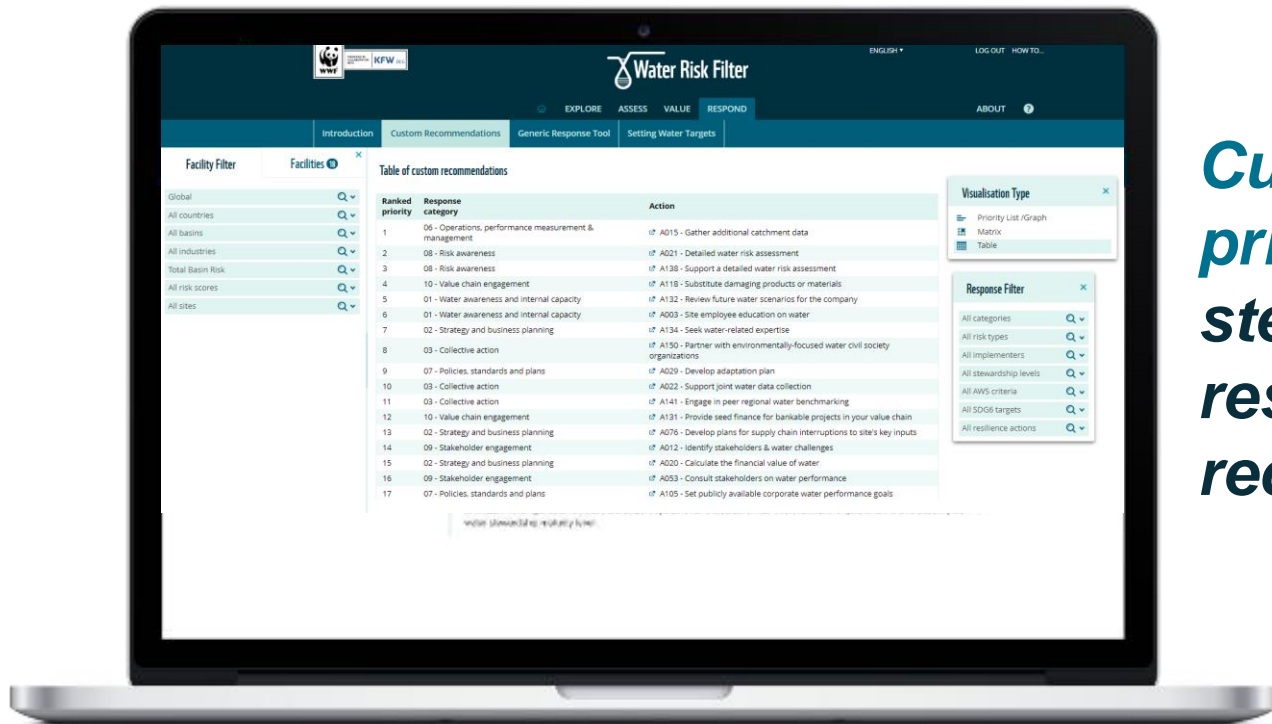
Water Risk Filter: Assess – analyse results



Water Risk Filter: Assess – analyse results



Water Risk Filter: Respond section



Customized & prioritized water stewardship response recommendations

Water Risk Filter: Respond

Filter
actions

The screenshot shows the 'Respond' tab of the Water Risk Filter interface. It features a 'Table of custom recommendations' with columns for 'Ranked priority', 'Response category', and 'Action'. A 'Response Filter' overlay is visible on the right, allowing users to filter by categories, risk types, implementers, stewardship levels, AWS criteria, SDG targets, and resilience actions. The interface also includes a 'Facilities' sidebar and a 'Visualisation Type' dropdown.

Ranked priority	Response category	Action
1	06 - Operations, performance measurement & management	A015 - Gather additional catchment data
2	08 - Risk awareness	A021 - Detailed water risk assessment
3	08 - Risk awareness	A138 - Support a detailed water risk assessment
4	10 - Value chain engagement	A118 - Substitute damaging products or materials
5	01 - Water awareness and internal capacity	A133 - Review future water scenarios for the company
6	01 - Water awareness and internal capacity	A003 - Site employee education on water
7	02 - Strategy and business planning	A134 - Seek water-related expertise
8	03 - Collective action	A150 - Partner with environmentally-focused water civil society organizations
9	07 - Policies, standards and plans	A029 - Develop adaptation plan
10	03 - Collective action	A022 - Support joint water data collection
11	03 - Collective action	A141 - Engage in peer regional water benchmarking
12	10 - Value chain engagement	A131 - Provide seed finance for bankable projects in your value chain
13	02 - Strategy and business planning	A076 - Develop plans for supply chain interruptions to site's key inputs
14	09 - Stakeholder engagement	A012 - Identify stakeholders & water challenges
15	02 - Strategy and business planning	A020 - Calculate the financial value of water
16	09 - Stakeholder engagement	A053 - Consult stakeholders on water performance
17	07 - Policies, standards and plans	A105 - Set publicly available corporate water performance goals



The CEO Water Mandate

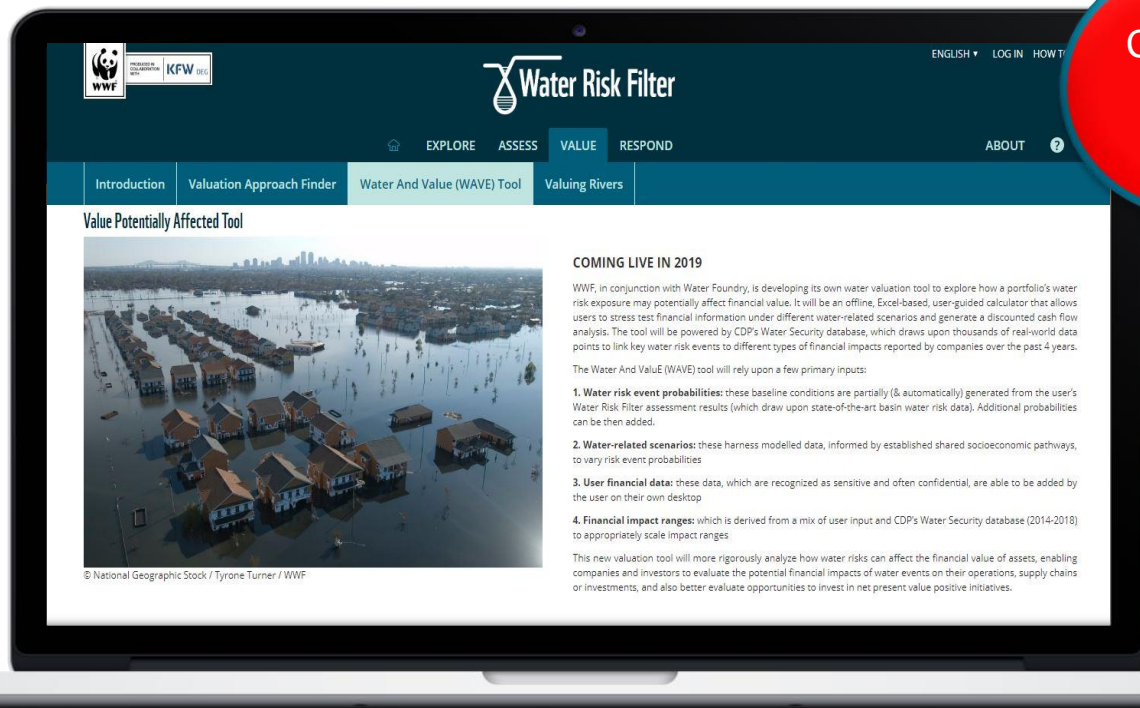
Site / Corporate

Initial / Established /
Advanced

Physical / Regulatory
/ Reputational



Water Risk Filter: Value

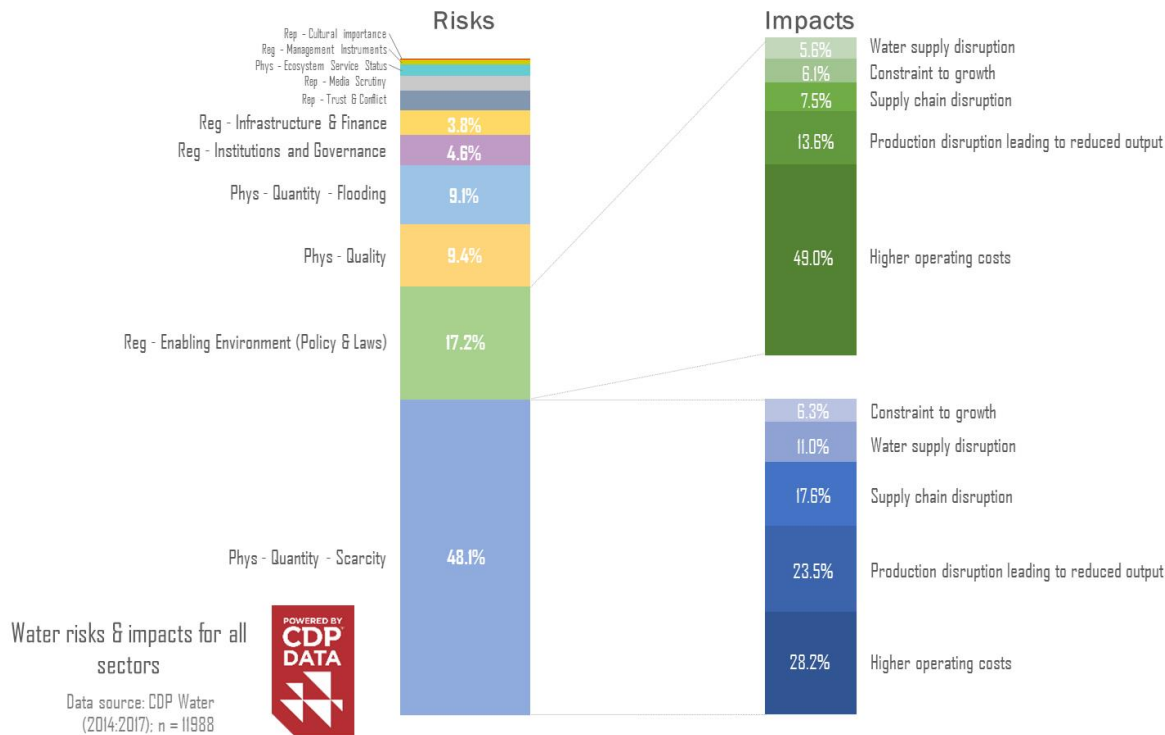


COMING
SOON
2019

- 1) Valuing Water Database
- 2) Water And Value (WAVE) Tool

Water Risk Filter: Value

How does water risk translate into financial impact?





Water And ValuE (WAVE): Background



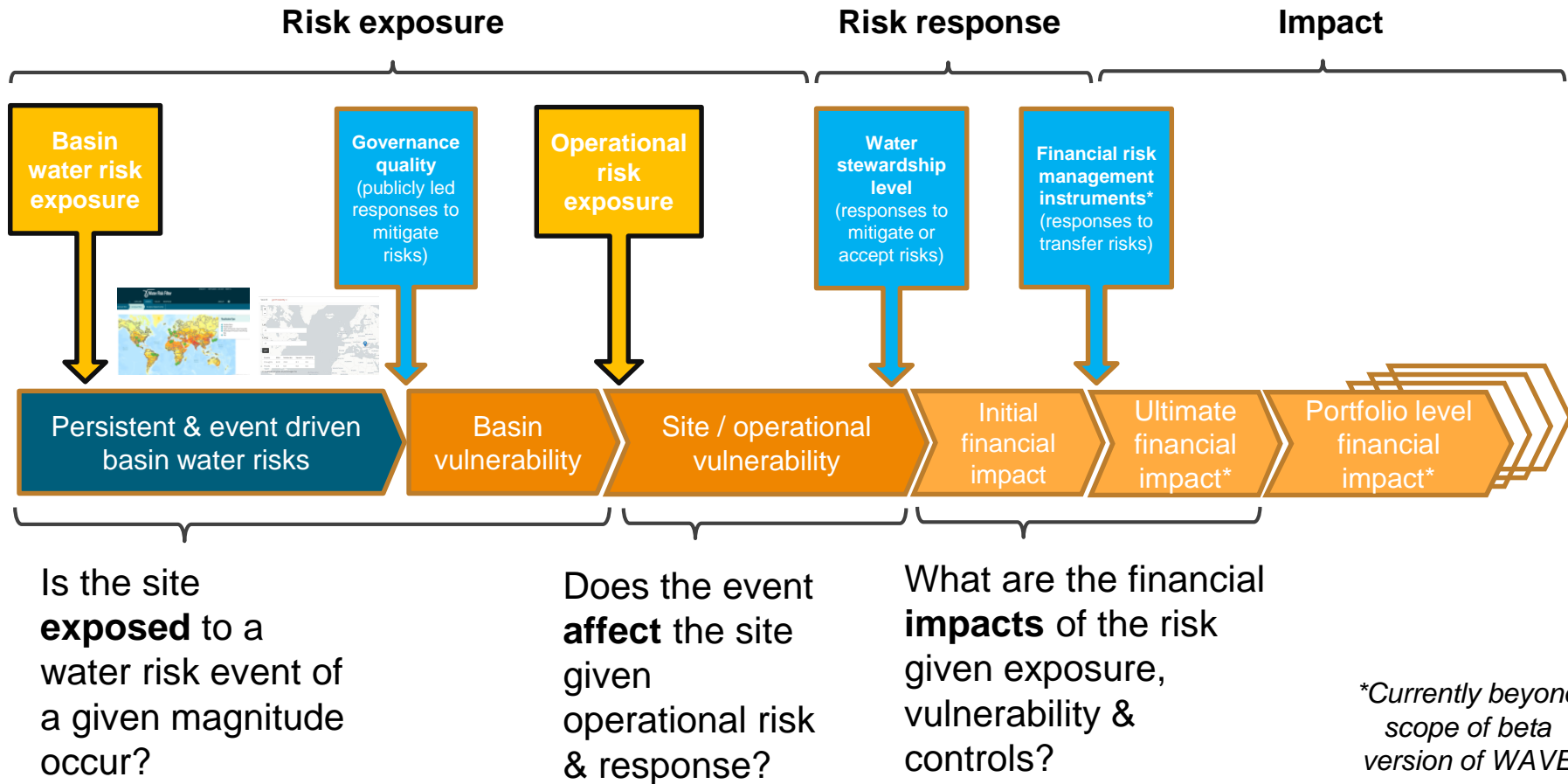
- **WWF & Water Foundry** have both been leading voices on water risk/opportunity, valuation & water stewardship strategy.
- **Water Risk Filter** offers an established leading platform for water risk assessment and response.
- **CDP** offers the world's largest database of reported water data with critical information on water risk – financial impact linkages.



Develop a new tool, embedded in the Water Risk Filter, to explore how water risk can affect financial value

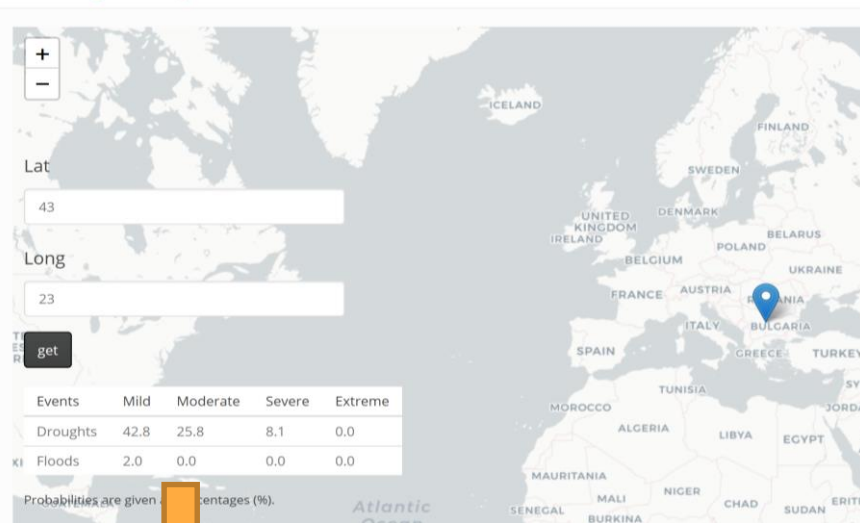


Adapted catastrophic risk model for WAVE



WAVE: Accessing higher resolution water event probability data

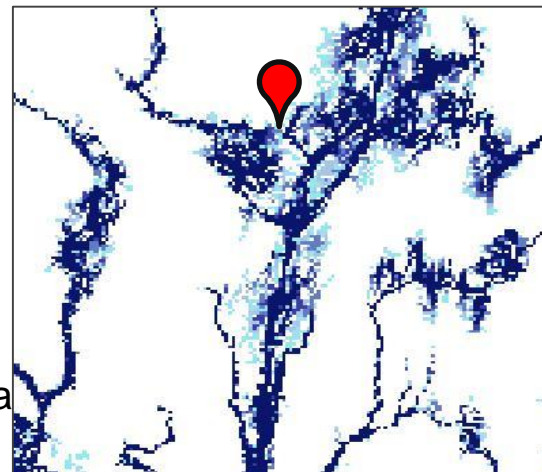
User uses app linked to Water Risk Filter to obtain probability data by entering lat/long coordinates



Spatial query



Probability data



Tabular probability data copied & pasted into WAVE



Organizing financial impacts



DIRECT: Operational & Maintenance Expenditures

- Increased operating costs –energy costs (from water)
- Increased operating costs – water procurement costs
- Increased operating costs – water treatment costs (if distinct from procurement)
- Increased operating costs – Other water-dependent good costs (agricultural commodities, chemicals, etc.)
- Upfront costs to adopt/deploy new practices and processes

DIRECT: Capital expenditures

- Increased capital costs (including need for new water infrastructure)
- Impaired assets (including asset repairs)
- Write-offs and early retirement of existing assets / closure of operation

INDIRECT: Administrative & Compliance Expenditures

- Other water-related permitting & compliance costs
- Water-related staffing costs
- Water-related fines and penalties
- Water-related litigation costs

INDIRECT: Financial & Shareholder costs

- Brand damage
- Water-related insurance costs and increased insurance premiums
- Increased financing costs (reduction in capital availability)

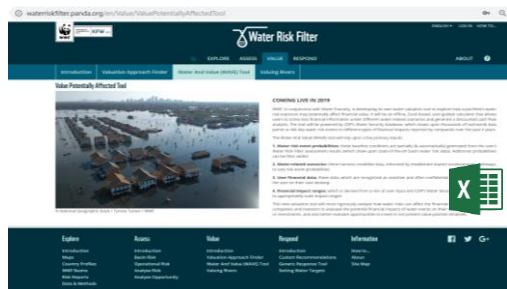
DIRECT: Revenue impacts

- Site disruption leading to impact on production/output (including loss of license to operate)
- Delays in permitting (including loss of license to establish)
- Constraint to growth (including loss of license to grow)

Built from Value
of Water report
+ adapted from
(& broadly
aligned to) CDP
Water

WAVE: User process for Beta version

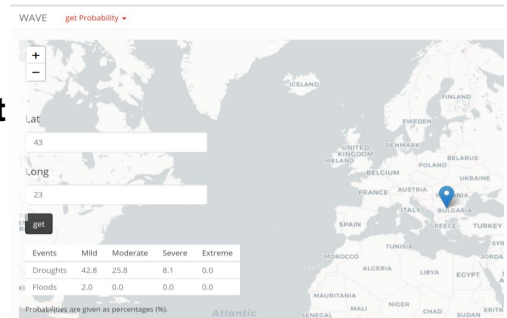
1) Download WAVE Excel file



2) Export risk assessment results for priority sites

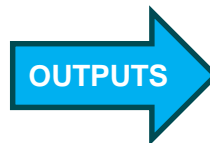
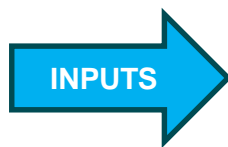


3) Get additional event probability data (via App)



Water And ValuE Tool

Offline,
confidential
data entry of
additional
financial data

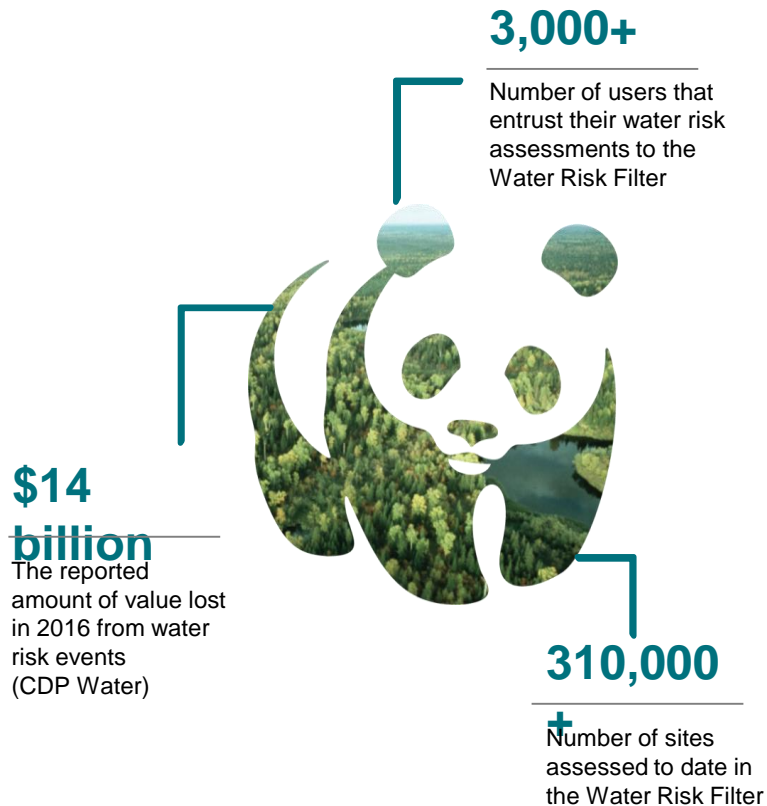


- Monte Carlo simulation
- DCF (10 years)

*Present value
& future value
potentially
affected*



Thank you! Questions?



For more information:

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WWF-Germany

alexis.morgan@wwf.de



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[@WWFWaterRisk](https://twitter.com/WWFWaterRisk)



Thank you for visiting

<http://waterriskfilter.org>

The image shows a vast, arid landscape. The foreground and middle ground are covered in parched, cracked earth, with deep fissures forming a grid-like pattern. A dark, straight line, possibly a road or a ditch, stretches across the middle of the frame. In the background, a lush green field is visible, followed by a line of trees and distant hills under a clear, light blue sky.

ADDITIONAL SLIDES

Appendix: Water Risk tool comparison

	 AQUEDUCT	
Basin/Operational risk	Basin	Basin & Operational
National/Global	Global	Global & National
Assessment/Response	Assessment	Assessment & Response
Focus	Physical (9), Regulatory & Reputational (3)	Physical (12), Regulatory (14) & Reputational (7)
Data update frequency	Every 2 years	Annually
Industry risk weightings	Yes – Adjustable	Yes – Adjustable
Additional differences	Flooding and Food	Response and Value