USER GUIDE

What is the Global Water Tool? How to use it?

Version 1.3 – July 2015

www.wbcsd.org/work-program/sector-projects/water/global-water-tool.aspx

Contents

Introduction

Water crises and failure of climate change adaptation are among the greatest global risks in terms of their potential impact (WEF Global Risks 2015).

- Access to water is a basic human right and a critical sustainable development challenge.
- As competing demands for water (agriculture, households, energy generation, industrial use, ecosystems) continue to rise, the effects of climate change further exacerbate the challenges associated with water quality and availability creating new risks for businesses, governments, communities and the environment.
  - According to the Water Resources Group projections, without improvements in how water is managed and used, the world could face a 40% supply gap by 2030.
- Uncertainties, tensions and dilemmas associated with water use can affect any organization as it uses water in its own operations (within the product, in the process or for consumption/use by employees), depends on it indirectly (upstream supplier dependencies, downstream consumer dependencies) or relies on certain ecosystems that help regulate the flow and quality of water.
- Water constraints can translate into significant risks (financial, operational, market-related, reputational or regulatory) for businesses operating globally. But corporations can also seize opportunities to offer sustainable water solutions via the goods, services, innovations and technologies they provide.
- Sustainable water management and cost-effective risk mitigation require action at a local level, often outside a company's direct control. Watershed collaboration among leading companies is increasingly common based on the understanding that water is a finite shared resource resulting in collective risk and requiring collective action.
- Also, water risks should not be managed in isolation from other impacts and related tradeoffs, including land use, energy consumption, and greenhouse gas emissions. Efficiency measures and circular approaches can reveal opportunities for co-benefits and co-optimized solutions capable of breaking through the silos of water, energy and waste.

Introduction
Water issues go beyond businesses' fencelines

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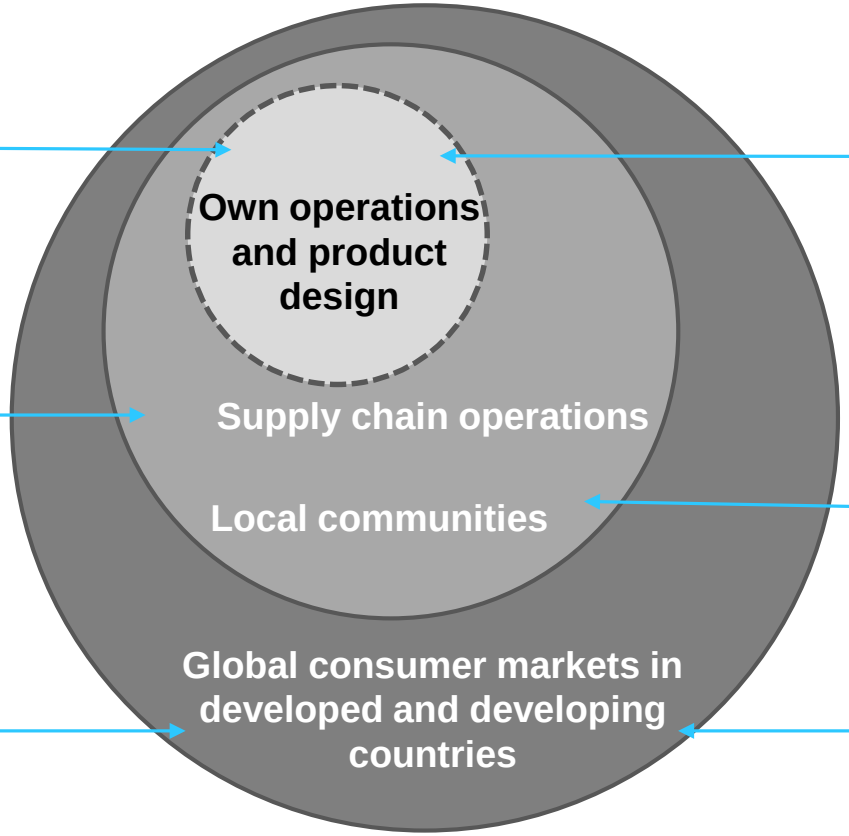
Business need

Water for operations
Ability to discharge

Healthy communities and workforce
Strong supply chains

Healthy and strong global consumer markets
Access to clean water for product use



Areas of risk

Stranded assets
Rising costs (supply, treatment)

License to operate
Community and regulatory pressure
Health of employees
Competing industries
Supply chain interruptions

Brand image
Health and growth of consumer markets

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Introduction
Mitigating corporate water risks

Have you identified your global water risks?

Phase I: Company-wide water risk assessment to determine value at risk & identify of most at risk areas

Do you understand your impacts at site?

Phase II: Development of comprehensive water strategy, including local action plans

What is your response and engagement strategy?

Phase III: Implementation of water stewardship strategies - action outside the fence line with other users in the watershed

Some resources

WBCSD GWT, IPIECA GWT for oil and gas
GEMI Local Water Tool & LWT for oil & gas
WBCSD India Water Tool
WRI Aqueduct Water Risk Atlas
WWF Water Risk Filter
WBCSD Guide to water valuation
WBCSD Water for Business
CEO Water Mandate Guide to Collective Action
AWS
OECD Water Governance Principles (June 2015)

Introduction
Do you know…

- How many of your sites are in extremely water-scarce areas? Which sites are at greatest risk? How that will change in the future?
- How much of your total production is generated from sites most exposed to risk?
- How many of your employees live in countries that lack access to improved water and sanitation?
- How many of your suppliers are in water scarce areas now and will be in 2025?

By comparing your sites with the best available water, sanitation, population and biodiversity information on a country and watershed basis, including sub-basin data, the tool allows to answer these questions.

What is the Global Water Tool (GWT)?

- A free, publicly available excel-based resource for identifying corporate water risks and opportunities, GWT provides beginners and more advanced users with easy access to and analysis of critical data.
- It includes a workbook (inventory by site, key reporting indicators, metrics calculations), a mapping function to plot sites with datasets, and Google Earth interface for spatial viewing. No personal data is stored on servers.
- Developed with an advisory board of WBCSD member companies and partner organizations, GWT encourages all stakeholders to take action, whether at global, national, watershed or site level to support sustainable water management by all.
- GWT can be used in combination with other tools to support decision-making (e.g. to capture the regulatory, reputational and climate change risk factors, as well as the socio-demographic dimension in the water scarcity assessment).
- First launched in 2007, last updated in 2011 with the addition of biodiversity hotspots, new reporting metrics and summary outputs. The latest version released in March 2015 brings in:
  - **New datasets on water stress, more recent and comprehensive data, with improved modelling (WRI),**
  - **Updated datasets (e.g. FAO, WHO/UNICEF JMP WSS),**
  - **Updated reporting metrics,**
  - **Improved GIS-based mapping,**
  - **User-friendly additions (easier data import, improved navigation and offline capabilities, improved coding).**

What is the Global Water Tool (GWT)?

Support to companies operating in multiple countries to start the journey of water management…

- Users can map their locations and water use data against water, sanitation, population and biodiversity datasets and stress indicators on a country and watershed basis, with future outlook, and in turn assess risks related to their global operations, supply chains, new projects and prioritize action.

Key benefits:

- Understand water use/needs of operations in relation to local externalities (including staff presence, industrial use and supply chain, water consumption and efficiency) to make informed decisions
- Perform a first level screening through maps, figures or charts capturing key water performance and risk indicators. These metrics can then be used for reporting under corporate disclosure initiatives like the Global Reporting Initiative, CDP Water, Bloomberg and Dow Jones Sustainability Index.

What is the Global Water Tool (GWT)?

… and an input to a long-term water management strategy for minimizing risk and building long-term resilience

- Understanding needs and potential water availability and quality risks at a global level is a first and essential step towards sustainable water management, but the GWT does not provide specific guidance on local situations.
  - The global analysis supported by the tool can guide a deeper understanding of local communities' water situations, and help prioritize actions for high risk sites with detailed response plans elaborated **at local/site level.**
  - The tool can be used in combination with other tools to support decision-making such as a company's internal environmental data tracking tool, and is compatible with GEMI's Local Water Tool™ to build water management plans at a specific site or operation.

- A robust strategy for minimizing risk and building long-term resilience will take into account community engagement, supply chain and watershed management, other impacts and related tradeoffs (energy, greenhouse gas emissions, land use…), transparency and public policy.
  - A comprehensive corporate water management strategy and holistic water stewardship approaches can also follow the global analysis, enabling effective communication/ reporting and dialogue with both internal and external stakeholders (including for instance the development of internal policy and guidelines, the education of supply chain partners, with consistent metrics and terminology).

Data selection (1/2)

The datasets were selected to meet all of the following criteria:

- Global coverage
- Availability in the public domain
- Considered valid by the global community of water stakeholders including academics, non-governmental organizations (NGOs), government organizations and industry
- Recent and regularly updated
- Accuracy of mapping and geographical distribution of the data

The original datasets have not been modified, except for harmonizing the names of countries across datasets.

Data stored within the tool:

aquastat

Food and Agriculture Organization of the United Nations

World Health Organization

unicef

Joint Monitoring Programme for Water Supply and Sanitation

Population Division of the Department of Economic and Social Affairs of the UN Secretariat – UNDESA

WORLD RESOURCES INSTITUTE (Country data)

Data stored on the WBCSD Map Server:

IWMI International Water Management Institute

CONSERVATION INTERNATIONAL

WORLD RESOURCES INSTITUTE (Watershed and Sub-basin data)

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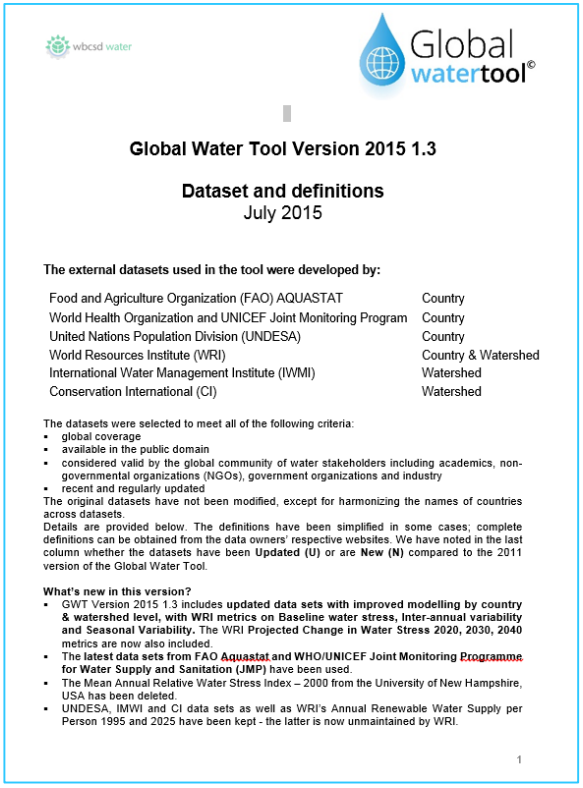
Data selection (2/2)
Dataset and definition details

Descriptions of datasets and definitions used by the GWT

www.wbcsd.org/work-program/sector-projects/water/global-water-tool.aspx



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Global Water Tool Version 2015 1.3

Dataset and definitions
July 2015

The external datasets used in the tool were developed by:

Food and Agriculture Organization (FAO) AQUASTAT	Country
World Health Organization and UNICEF Joint Monitoring Program	Country
United Nations Population Division (UNDESA)	Country
World Resources Institute (WRI)	Country & Watershed
International Water Management Institute (IWMI)	Watershed
Conservation International (CI)	Watershed

The datasets were selected to meet all of the following criteria:
- global coverage
- available in the public domain
- considered valid by the global community of water stakeholders including academics, non-governmental organizations (NGOs), government organizations and industry
- recent and regularly updated

The original datasets have not been modified, except for harmonizing the names of countries across datasets.
Details are provided below. The definitions have been simplified in some cases; complete definitions can be obtained from the data owners' respective websites. We have noted in the last column whether the datasets have been **Updated (U)** or are **New (N)** compared to the 2011 version of the Global Water Tool.

What's new in this version?
- GWT Version 2015 1.3 includes **updated data sets with improved modelling by country & watershed level, with WRI metrics on Baseline water stress, Inter-annual variability and Seasonal Variability.** The WRI **Projected Change in Water Stress 2020, 2030, 2040** metrics are now also included.
- The **latest data sets from FAO Aquastat and WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)** have been used.
- The Mean Annual Relative Water Stress Index – 2000 from the University of New Hampshire, USA has been deleted.
- UNDESA, IMWI and CI data sets as well as WRI's Annual Renewable Water Supply per Person 1995 and 2025 have been kept - the latter is now unmaintained by WRI.

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How to use the new GWT?
Step 1: Install the tool on your computer

- Go to www.wbcsd.org/work-program/sector-projects/water/global-water-tool.aspx, download the Excel file and enable macros;
  - remember that your own data will not be saved on the WBCSD website
- Note any news / updates about the tool (e.g. upcoming webinars, changes to the tool, etc.)

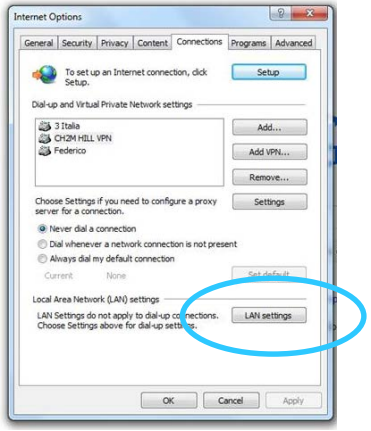
User requirements:

- MS Excel 2003 and above
- You need to have **Internet Explorer 10 and Google Earth** (pro-version for commercial use) on your computer to use the mapping application and to view the sites spatially.
  - Maps are generated on ArcGis format - ArcGis data is best supported by Internet Explorer 10, other browsers might display partial results.
  - This version of the tool automatically locates Google Earth in the right folder.
- **Firewall and security settings** for Internet must recognize WBCSD Global Water Tool as a trusted source. In order to avoid issues to display the maps and Watershed report, users should add an exception on their firewall:
  - gwt.wbcsdservers.org (online maps)
  - 54.169.49.193 (watershed report)
- **Windows must be set up in English (US).**
  - Go to “Control Panel”; region and language, and in “Formats” select English (United States)

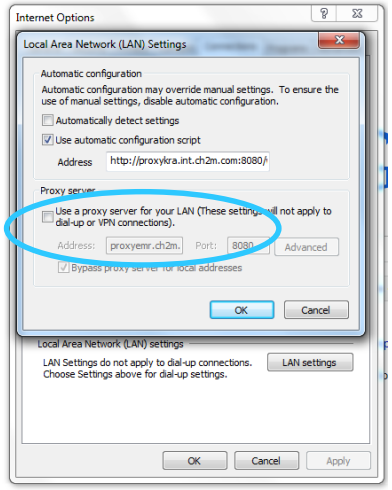
How to use the new GWT?
Step 1: Install the tool on your computer

- In case you're using a Proxy (if you are not using a Proxy, please ignore this function), please insert Proxy Name and Proxy Port in the Configuration tab (the last one) and save the tool.

- To check whether you are using a proxy:
  - Please open your browser, go to Internet Options / Connections / LAN Settings.



  - Check if the flag 'Use a proxy server for your LAN' is active. If it is active, address and port are the two values to be entered in the Configuration tab in tool.

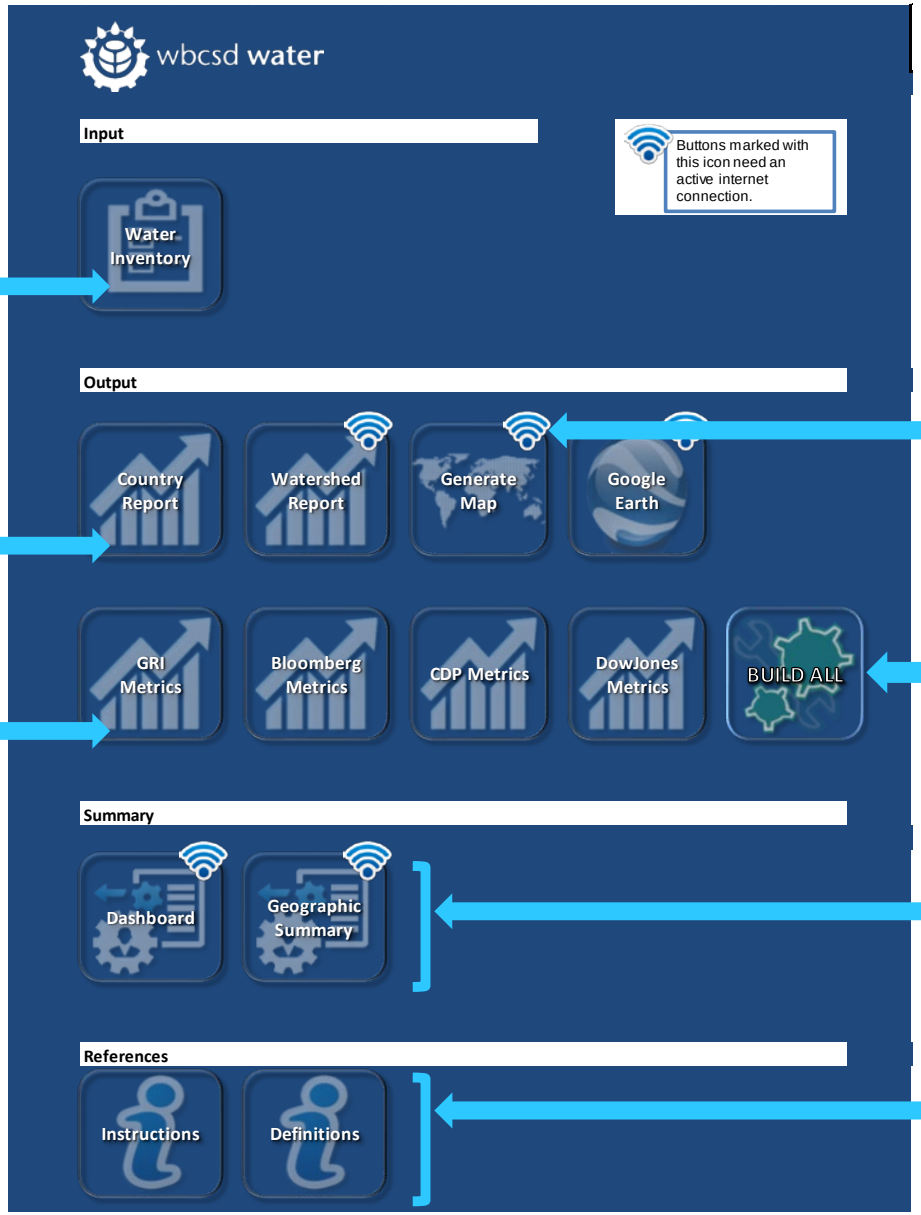


Step 2: Familiarize yourself with the tool (1/3)

Input or paste your data in the Water Inventory input page

Compare your site locations with COUNTRY or WATERSHED water data

Reporting metrics: GRI, DJSI, Bloomberg, CDP Water



Generate map links to WBCSD mapping server

To build all the reports at once

Summary worksheets by WATERSHED

Instructions, definitions, help

Step 2: Familiarize yourself with the tool (2/3)

The Instructions tab summarizes the functionalities of the GWT and help users use them in the most effective way.

Actions (such as “Build”, “Clear”, etc.) are not Excel actions: they’re code fragments (like macros) and **cannot be undone** using the “back” button.

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INSTRUCTIONS — Global Water Tool 2015 1.7.6

The Global Water Tool uses this MS Excel Workbook (for data entry and reports) and an online mapping service (developed on ESRI ArcGIS) to provide basin-level data aggregation (Watershed Report) and water resources graphics (Online Map, best displayed on Google Chrome with limited support for other browsers). You may use Google Earth to explore the global map of your facilities.

User Requirements: This tool is geared to MS Excel 2003 and above. In addition, you will need Google Chrome and Google Earth (Pro version for commercial use) installed on your computer to use the mapping application and view the sites spatially. Also ensure that your firewall and internet security settings enlist WBCSD Global Water Tool as a trusted source.

Limited technical support and reporting of bugs can be requested through WBCSD at GlobalWaterTool@wbcsd.org

Component	Functionality
INTRODUCTION	The **Introduction** page provides general information on the tool and background information on its development.
START	The **Start** page provides a menu with all the features of Global Water Tool. Click any button on the page to access the required component. The page is divided into four sections: **Input, Output, Summary and References.** All pages are open at all times.
INPUT WATER INVENTORY	The first step in using the Global Water Tool is to populate the Water Inventory table located on the **Input Water Inventory** sheet with relevant data (site information, location coordinates, and site-specific water consumption data). Enter data on the Input Water Inventory table.
	The Input Water Inventory worksheet allows an Entity to enter water use data for each site. **Whenever a cell offers a droplist, choose from it use rather than typing manually to avoid malfunctions.** The data is then used to create standard reports and maps aimed to communicate water risk information to stakeholders. The features available on Input Water Inventory worksheet and its functionalities are provided below:
Add new	Use this button to use a form to insert a new record in the Water Inventory table. You'll be requested to enter generic data, whilst other details will be typed directly within excel table. You can also copy existing data from another source (please take care the columns order is the same) and then press "Set" to let GWT process your data.
Set	Click this button after having pasted existing data from other worksheets (please take care that the column order is the same) to let the tool process the data and apply the proper formatting.
Clear	Use this button to delete all data before inserting new records. You'll be prompted to confirm your choice
	Use this button (located near column names) to sort data. Re-click to reverse the order
Start Water Inventory Geographical Summary Country Report Watershed Report Metrics	Use the buttons on the left menu to go to the corresponding page

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Step 2: Familiarize yourself with the tool (3/3)

- The Definitions tab provides a set of background information to clarify water terms and calculations, in particular for accurate reporting of water-related metrics.

- For example: “Total freshwater consumed by facility” is the difference between freshwater intake and freshwater discharge. This is the freshwater:
  a) Evaporated for cooling purposes
  b) Evaporated from water storage facilities
  c) Lost via transmission
  d) Used directly in the organization’s products
  e) Onsite uses, including irrigation and road maintenance

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DEFINITIONS — **Global Water Tool 2015 1.7.6**

The purpose of the definitions is to clarify water terms and calculations for the accurate reporting of water-related metrics in a range of industrial sectors and business operations. The Global Reporting Initiative (GRI) was used as a basis for definitions to promote alignment for those companies that wish to report in accordance with the GRI.

The definitions enable reporting on Core GRI Indicators EN8 (Total Water Withdrawal) and EN22 (Total Water Discharge) and Additional Indicator EN10 (Percentage and Total Volume of Water Recycled and Reused). At this time, additional Indicators EN9 (Water Sources Significantly Affected by Withdrawal of Water) and EN25 (Water Sources Significantly Affected by Discharge) are not addressed due to complexity of obtaining detailed local water information.

Freshwater: The constituent content of freshwater should be defined by local regulations. In the absence of local regulations, a limit of 1000 mg/L of TDS (total dissolved solids) – the limit recommended by the World Health Organization – is the guidance for categorization of fresh and non-fresh for surface and groundwater.

A) Freshwater Withdrawal and Consumption

1) Total freshwater withdrawal (A1):
The sum of all freshwater drawn into the boundaries of the reporting organization from the following sources for any use over the course of the reporting periods:
a) Surface water
b) Groundwater
c) Municipal/Water Potable supply (including water purchased from other industries)

2) Total Freshwater Withdrawal and Rainfall (A2):
The sum of total freshwater withdrawal (A1) and rainwater/precipitation collected onsite for any use over the course of the reporting period.

3) Total Freshwater Consumed by Facility (A3):
The quantity of freshwater:
a) Evaporated for cooling purposes
b) Evaporated from water storage facilities
c) Lost via transmission
d) Used directly in the organization’s products
e) Onsite uses, including irrigation and road maintenance
Freshwater consumption is the difference between freshwater intake and freshwater discharge. Consumption removes water from a water system and makes it unavailable for further use.

4) Total Freshwater Consumed by Agriculture Operations (A4):
The quantity of freshwater absorbed by crops and transpired.

B) Non-Freshwater Withdrawal and Consumption

1) Total Non-Freshwater Withdrawal (B1):
The sum of all non-freshwater drawn into the boundaries of the reporting organization from the following sources for any use over the course of the reporting periods:
a) Seawater
b) Surface water – brackish or saline source
c) Groundwater – brackish or saline source
d) External wastewater – untreated or partially treated wastewater from municipal or other external industrial source

2) Total Non-Freshwater Consumed by Facility (B2):
The quantity of non-freshwater:
a) Evaporated for cooling purposes
b) Evaporated from water storage facilities
c) Lost via transmission
d) Onsite uses, including irrigation and road maintenance

Non-Freshwater consumption is the difference between non-freshwater intake and non-freshwater discharge. Consumption removes water from a water system and makes it unavailable for further use.

3) Total Non-Freshwater Consumed by Agriculture Operations (B3):
The quantity of non-freshwater absorbed by crops and transpired.

C) Total Water Withdrawal and Consumption

1) Total Water Withdrawal (Meets G4-EN8 Definition) (C1):
The sum of Total Freshwater Withdrawal and Rainfall (A2) and Total Non-Freshwater Withdrawal (B1) for any use over the course of the reporting period.

2) Total Water Consumed by Facility (C2):
The quantity of fresh (A3) and non-freshwater (B2):
a) Evaporated for cooling purposes
b) Evaporate from water storage facilities
c) Lost via transmission
d) Used directly in the organization’s products
e) Onsite uses, including irrigation and road maintenance

3) Total Water Consumed by Agriculture Operations (C3):
The quantity of fresh (A4) and non-freshwater (B3) absorbed by crops and transpired.

D) Freshwater Discharge

1) Freshwater Discharge (D1):
Water effluents from fresh sources (A3) discharged outside a reporting organization boundary over the course of the reporting period to subsurface waters, surface waters, sewers that lead to rivers, oceans, lakes, wetlands, treatment facilities, and groundwater through:
- A defined discharge point (point source discharge) – including sales of water to an external facility
- Over land in a dispersed or undefined manner (non-point source discharge)
- Wastewater removed from the reporting organization via truck

Discharge of collected rainwater and domestic sewage are regarded as wastewater discharge

E) Non-Freshwater Discharge

1) Total Water Discharge (relevant to G4-EN 22 – but not exactly identical) (E1):
Water effluents from non-freshwater sources (B2) discharged outside a reporting organization boundary over the course of the reporting period to subsurface waters, surface waters, sewers that lead to rivers, oceans, lakes, wetlands, treatment facilities, and groundwater through:
- A defined discharge point (point source discharge) – including sales of water to an external facility
- Over land in a dispersed or undefined manner (non-point source discharge)
- Wastewater removed from the reporting organization via truck

Discharge of collected rainwater and domestic sewage are regarded as wastewater discharge

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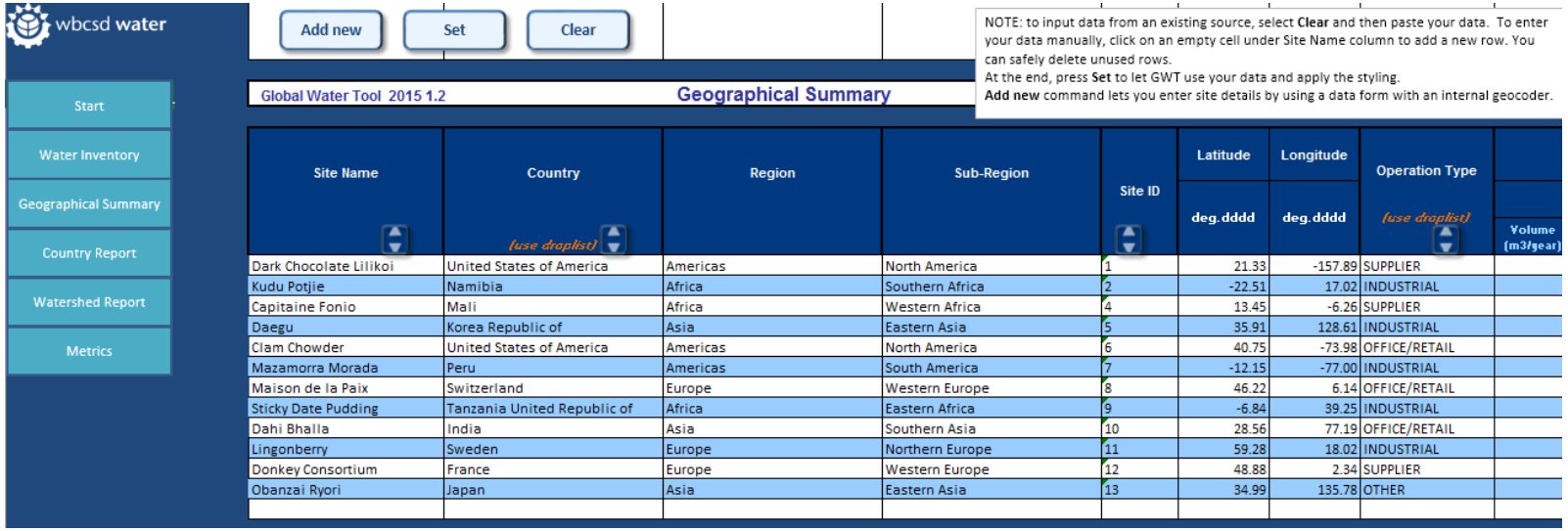
Step 3: Input your information



Site Name	Country (use droplist)	Region	Sub-Region	Site ID	Latitude deg.dddd	Longitude deg.dddd	Operation Type (use droplist)	Volume (m3/year)
Dark Chocolate Lilikoi	United States of America	Americas	North America	1	21.33	-157.89	SUPPLIER	
Kudu Potjie	Namibia	Africa	Southern Africa	2	-22.51	17.02	INDUSTRIAL	
Capitaine Fonio	Mali	Africa	Western Africa	4	13.45	-6.26	SUPPLIER	
Daegu	Korea Republic of	Asia	Eastern Asia	5	35.91	128.61	INDUSTRIAL	
Clam Chowder	United States of America	Americas	North America	6	40.75	-73.98	OFFICE/RETAIL	
Mazamorra Morada	Peru	Americas	South America	7	-12.15	-77.00	INDUSTRIAL	
Maison de la Paix	Switzerland	Europe	Western Europe	8	46.22	6.14	OFFICE/RETAIL	
Sticky Date Pudding	Tanzania United Republic of	Africa	Eastern Africa	9	-6.84	39.25	INDUSTRIAL	
Dahi Bhalla	India	Asia	Southern Asia	10	28.56	77.19	OFFICE/RETAIL	
Lingonberry	Sweden	Europe	Northern Europe	11	59.28	18.02	INDUSTRIAL	
Donkey Consortium	France	Europe	Western Europe	12	48.88	2.34	SUPPLIER	
Obanzai Ryori	Japan	Asia	Eastern Asia	13	34.99	135.78	OTHER	

1. Input or paste your data in the **Input Water Inventory tab:**

- **To use data from an existing source, click Clear to delete existing data and then paste your new data** (new function 2015)
  - Please ensure that the country names pasted match the country names on the drop list.
- **To enter your data manually, click on an empty cell under Site Name column to add a new row** (you can safely delete unused rows).
  - **The Add new button lets you enter site details by using a data form with an internal geocoder. Click on "Geocoder" to find the coordinates (latitude/longitude) after entering your address.**
  - The site ID can be inserted as number or text.

2. Once you have entered your data, **click Set** on the top of the page to process your data.

3. You can delete a row directly and then click Set to format the table.

Step 4: Water Metrics (1/2)

Water Withdrawal Freshwater Sources (TDS < 1000 mg/l)																	
Surface				Groundwater				Municipal/Potable Water Supply				External Wastewater				Total Freshwater	Rainwater	Total FW & Rainwater
Volume (m3/year)	pH	TDS		Volume (m3/year)	pH	TDS		Volume (m3/year)	pH	TDS		Volume (m3/year)	pH	TDS				
				2349000.00								1220000.00				3569000.00		3569000.00
				110000.00				12000.00								122000.00		122000.00
1000000.00				1567890.00												2567890.00		2567890.00
				8760000.00				500000.00				760000.00				10020000.00	14500.00	10034500.00

The metrics calculated on Water Inventory Sheet are:

- Freshwater Withdrawal and Consumption;
- Non-Freshwater Withdrawal and Consumption;
- Total Water Withdrawal and Consumption;
- Freshwater Discharge;
- Non-Freshwater Discharge;
- Total Water Discharge;
- Recycling and Reuse.

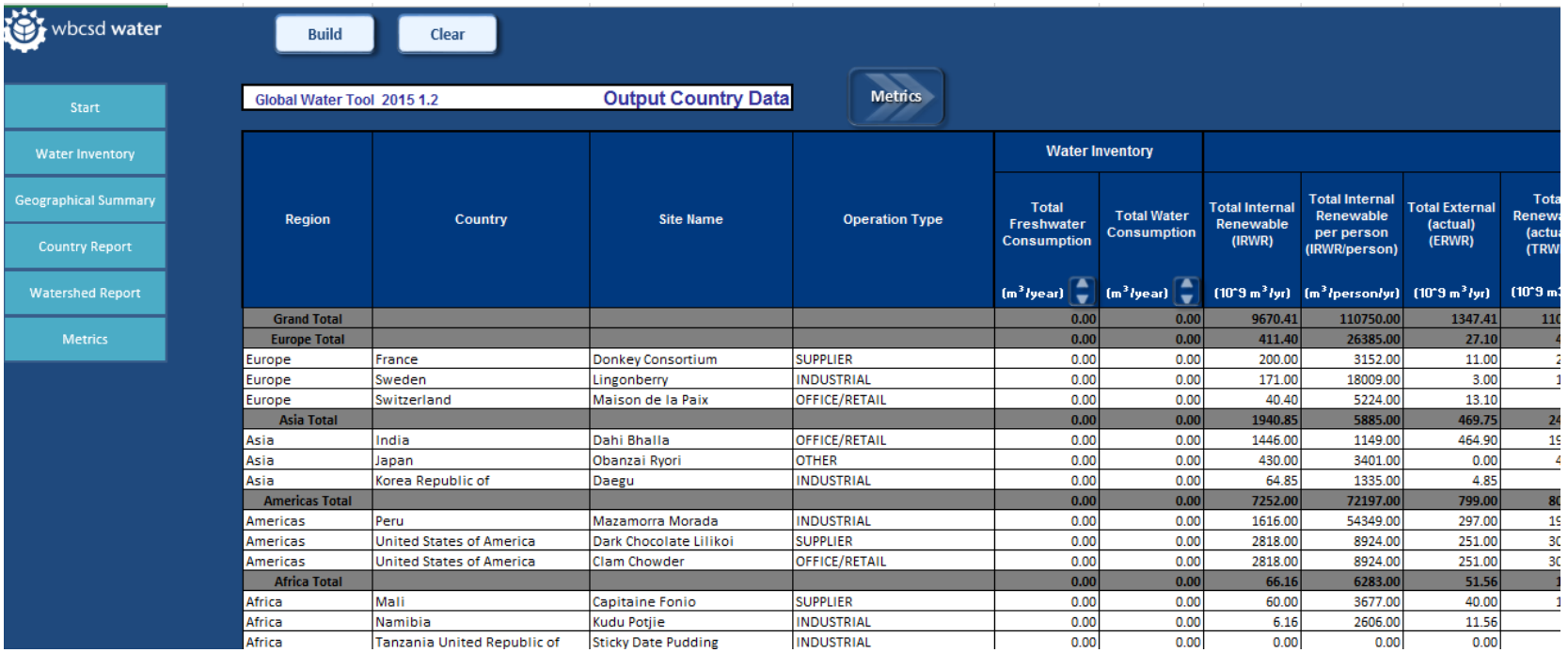
The Global Reporting Initiative (GRI) was used as a basis for definitions to promote alignment.

Step 4: Water Metrics (2/2)
GRI G4 standard

- GWT uses Global Reporting Initiative's G4 standard.
- The definitions enable reporting on GRI Indicators G4-EN8 (Total water withdrawal by source), G4-EN10 (Percentage and total volume of water recycled and reused), and G4-EN22 (Total water discharge by quality and destination).
  - At this time, Indicators G4-EN9 "Water sources significantly affected by withdrawal of water" and G4-EN26 "Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff", are not addressed in this tool due to the complexity of obtaining detailed local water information.
- Any of the information generated with this tool can form part of a GRI-based report.
  - For example, while GRI does not request "total water consumption", organizations may choose to include this in their GRI-based report to complement the GRI Water Indicators.
  - Similarly, GRI requests total figures for the entire organization. However, organizations may also wish to provide a breakdown by site, region or operation type, if it will provide appropriate context on significant impacts.

Step 5: Output Country data table (1/4)

- Country Report: Click to go to Output Country Data sheet. Click Build to generate the Output Country Data and Combined Metrics Country report.
- **Any time you make changes on the Input Water Inventory page, you will need to click the Build button again** to regenerate the report.



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Build | Clear

Start
Water Inventory
Geographical Summary
Country Report
Watershed Report
Metrics

Global Water Tool 2015 1.2 — Output Country Data

Metrics

Region	Country	Site Name	Operation Type	Water Inventory: Total Freshwater Consumption (m^3/year)	Water Inventory: Total Water Consumption (m^3/year)	Total Internal Renewable (IRWR) (10^9 m^3/yr)	Total Internal Renewable per person (IRWR/person) (m^3/person/yr)	Total External (actual) (ERWR) (10^9 m^3/yr)	Tota Renew (actu (TRW (10^9 m
Grand Total				0.00	0.00	9670.41	110750.00	1347.41	110
Europe Total				0.00	0.00	411.40	26385.00	27.10	4
Europe	France	Donkey Consortium	SUPPLIER	0.00	0.00	200.00	3152.00	11.00	2
Europe	Sweden	Lingonberry	INDUSTRIAL	0.00	0.00	171.00	18009.00	3.00	1
Europe	Switzerland	Maison de la Paix	OFFICE/RETAIL	0.00	0.00	40.40	5224.00	13.10	
Asia Total				0.00	0.00	1940.85	5885.00	469.75	24
Asia	India	Dahi Bhalla	OFFICE/RETAIL	0.00	0.00	1446.00	1149.00	464.90	19
Asia	Japan	Obanzai Ryori	OTHER	0.00	0.00	430.00	3401.00	0.00	4
Asia	Korea Republic of	Daegu	INDUSTRIAL	0.00	0.00	64.85	1335.00	4.85	
Americas Total				0.00	0.00	7252.00	72197.00	799.00	80
Americas	Peru	Mazamorra Morada	INDUSTRIAL	0.00	0.00	1616.00	54349.00	297.00	19
Americas	United States of America	Dark Chocolate Lilikoi	SUPPLIER	0.00	0.00	2818.00	8924.00	251.00	30
Americas	United States of America	Clam Chowder	OFFICE/RETAIL	0.00	0.00	2818.00	8924.00	251.00	30
Africa Total				0.00	0.00	66.16	6283.00	51.56	1
Africa	Mali	Capitaine Fonio	SUPPLIER	0.00	0.00	60.00	3677.00	40.00	1
Africa	Namibia	Kudu Potjie	INDUSTRIAL	0.00	0.00	6.16	2606.00	11.56	
Africa	Tanzania United Republic of	Sticky Date Pudding	INDUSTRIAL	0.00	0.00	0.00	0.00	0.00	

General information: Country, Site name, Operation type, and Water Inventory (Total Freshwater Consumption and Total Water Consumption) – sorted by scarcity level

Step 5: Output Country data - indicators (2/4)

- FAO Aquastat
  - Total internal renewable – (IRWR);
  - Total internal renewable per person – (IRWR/person);
  - Total external renewable – (actual);
  - Total renewable – (actual) (TRWR);
  - Total renewable per person – (actual) (TRWR/person);
  - Projected total renewable per person (actual) (TRWR/person) – 2025 and 2050 m3/person/year;
  - Dependency ratio;
  - Agricultural water withdrawal as part of total water withdrawal;
  - Municipal water withdrawal as part of total water withdrawal;
  - Industrial water withdrawal as part of total water withdrawal;
  - Total water withdrawal per person;
  - Total freshwater withdrawal (surface water + groundwater);
  - Total freshwater withdrawal as % of TRWR;
  - Desalinated water produced.

- WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)
  - Population total;
  - Urban population;
  - Rural population;
  - Proportion of total population served with improved water;
  - Proportion of Urban population served with Improved Water;
  - Proportion of Rural population served with Improved Water;
  - Proportion of Total population served with Improved Sanitation;
  - Proportion of Urban population served with Improved Sanitation;
  - Proportion of Rural population served with Improved Sanitation.

Step 5: Output Country data - indicators (3/4)

- Population Division of the Department of Economic and Social Affairs of the UN Secretariat:
  - Urban annual growth rate for 2015 – 2020

- World Resources Institute (WRI)
  - Baseline water stress: total annual water withdrawals (municipal, industrial, and agricultural) expressed as a percent of the total annual available flow. Higher values indicate more competition among users. It is calculated as Water withdrawals (2010) divided by mean available blue water (1950-2008);
  - Inter-annual variability: variation in water supply between years. It is calculated as the standard deviation of annual total blue water divided by the mean of total blue water (1950-2008);
  - Seasonal Variability: variation in water supply between months of the year. It is calculated as deviation of monthly total blue water divided by the mean of monthly total blue water (1950-2008);

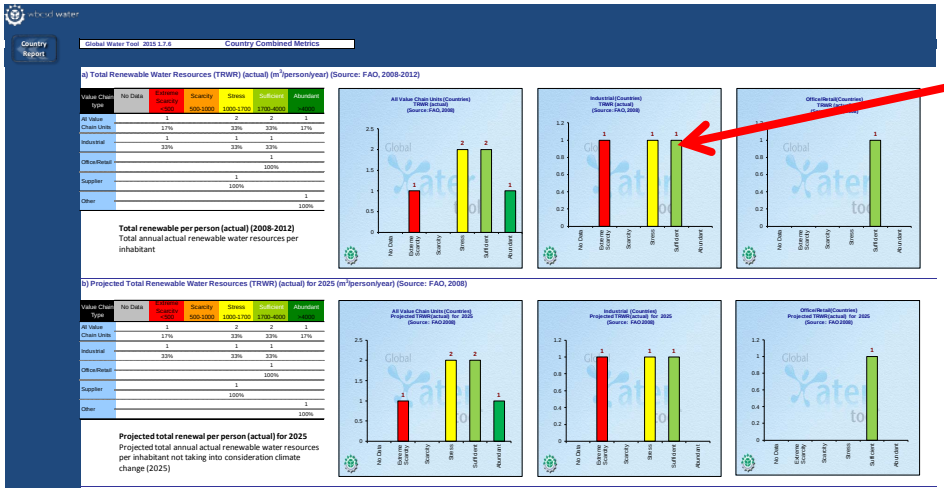
Projected Change in Water Stress 2020, 2030, 2040 data will be included in the GWT when released by the WRI.

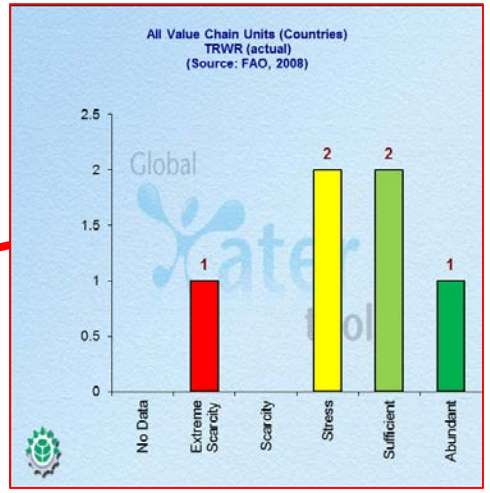
For each indicator (baseline water stress, seasonal and inter-annual variability), WRI offers the results at three different scales: sub-catchment, country and river basin. **The result for any given indicator at any given location varies based on the scale at which the indicator is measured.** WRI gives the example of Pretoria, facing Extremely High Water Stress when using the sub-catchment scale, high water stressed when looking at the country score, low water stressed when using the river basin scale (Orange River Basin).

GWT includes the country and sub-catchment scales. **The Output Country tab aggregates data by country, using the country scale.**

Step 5: Output Country - combined metrics (4/4)

- For all sites and each value chain type the following graphs are available:
  - Total renewable water resources per person (FAO) + Projections for 2025 and 2050
  - Total water withdrawal per person (FAO)
  - Dependency ratio (FAO)
  - Industrial water withdrawal as part of total (FAO)
  - Population served with improved water (WHO / UNICEF)
  - Population served with improved sanitation (WHO / UNICEF)



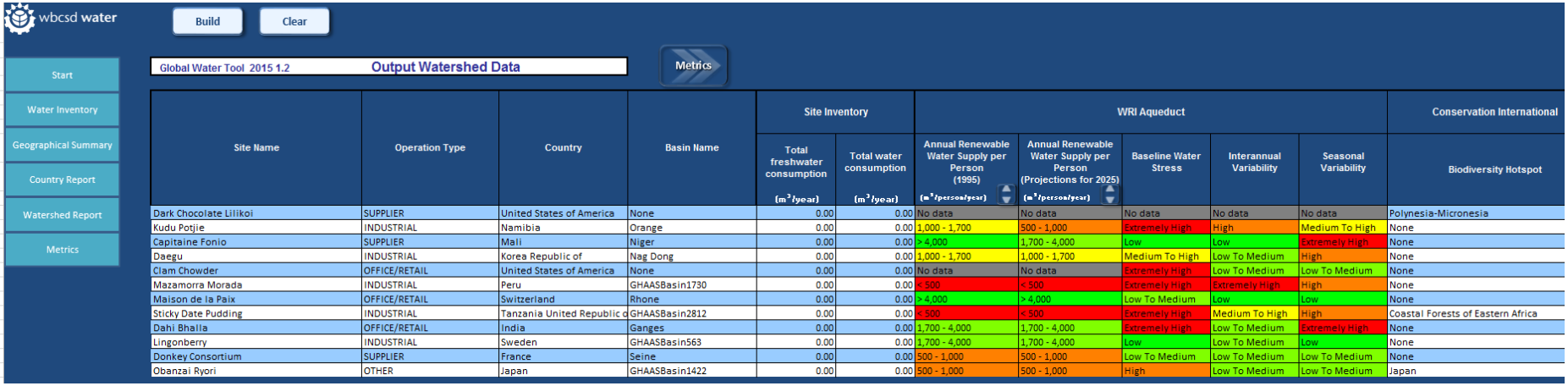


Available blue water: *available blue water is the total amount of water available to a catchment before any uses are satisfied. Calculated as all water flowing into the catchment from upstream catchments plus any imports of water to the catchment minus upstream consumptive use plus runoff in the catchment.*

Total blue water: *total blue water for each catchment is the accumulated runoff upstream of the catchment plus the runoff in the catchment.*

Step 6: Output Watershed data table (1/2)

Watershed Report: Click this button to go to Output Watershed Data sheet. Click Build to generate the Output Watershed Data, Combined Metrics Watershed, Dashboard, and Geographical Summary reports.



Site Name	Operation Type	Country	Basin Name	Site Inventory		WRI Aqueduct					Conservation International
				Total freshwater consumption (m^3/year)	Total water consumption (m^3/year)	Annual Renewable Water Supply per Person (1995) (m^3/person/year)	Annual Renewable Water Supply per Person (Projections for 2025) (m^3/person/year)	Baseline Water Stress	Interannual Variability	Seasonal Variability	Biodiversity Hotspot
Dark Chocolate Lilikoi	SUPPLIER	United States of America	None	0.00	0.00	No data	No data	No data	No data	No data	Polynesia-Micronesia
Kudu Potjie	INDUSTRIAL	Namibia	Orange	0.00	0.00	1,000 - 1,700	500 - 1,000	Extremely High	High	Medium To High	None
Capitaine Fonio	SUPPLIER	Mali	Niger	0.00	0.00	> 4,000	1,700 - 4,000	Low	Low	Extremely High	None
Daegu	INDUSTRIAL	Korea Republic of	Nag Dong	0.00	0.00	1,000 - 1,700	1,000 - 1,700	Medium To High	Low To Medium	High	None
Clam Chowder	OFFICE/RETAIL	United States of America	None	0.00	0.00	No data	No data	Extremely High	Low To Medium	Low To Medium	None
Mazamorra Morada	INDUSTRIAL	Peru	GHAASBasin1730	0.00	0.00	< 500	< 500	Extremely High	Extremely High	High	None
Maison de la Paix	OFFICE/RETAIL	Switzerland	Rhone	0.00	0.00	> 4,000	> 4,000	Low To Medium	Low	Low	None
Sticky Date Pudding	INDUSTRIAL	Tanzania United Republic o	GHAASBasin2812	0.00	0.00	< 500	< 500	Extremely High	Medium To High	High	Coastal Forests of Eastern Africa
Dahi Bhalla	OFFICE/RETAIL	India	Ganges	0.00	0.00	1,700 - 4,000	1,700 - 4,000	Extremely High	Low To Medium	Extremely High	None
Lingonberry	INDUSTRIAL	Sweden	GHAASBasin563	0.00	0.00	1,700 - 4,000	1,700 - 4,000	Low	Low To Medium	Low	None
Donkey Consortium	SUPPLIER	France	Seine	0.00	0.00	500 - 1,000	500 - 1,000	Low To Medium	Low To Medium	Low To Medium	None
Obanzai Ryori	OTHER	Japan	GHAASBasin1422	0.00	0.00	500 - 1,000	500 - 1,000	High	Low To Medium	Low To Medium	Japan

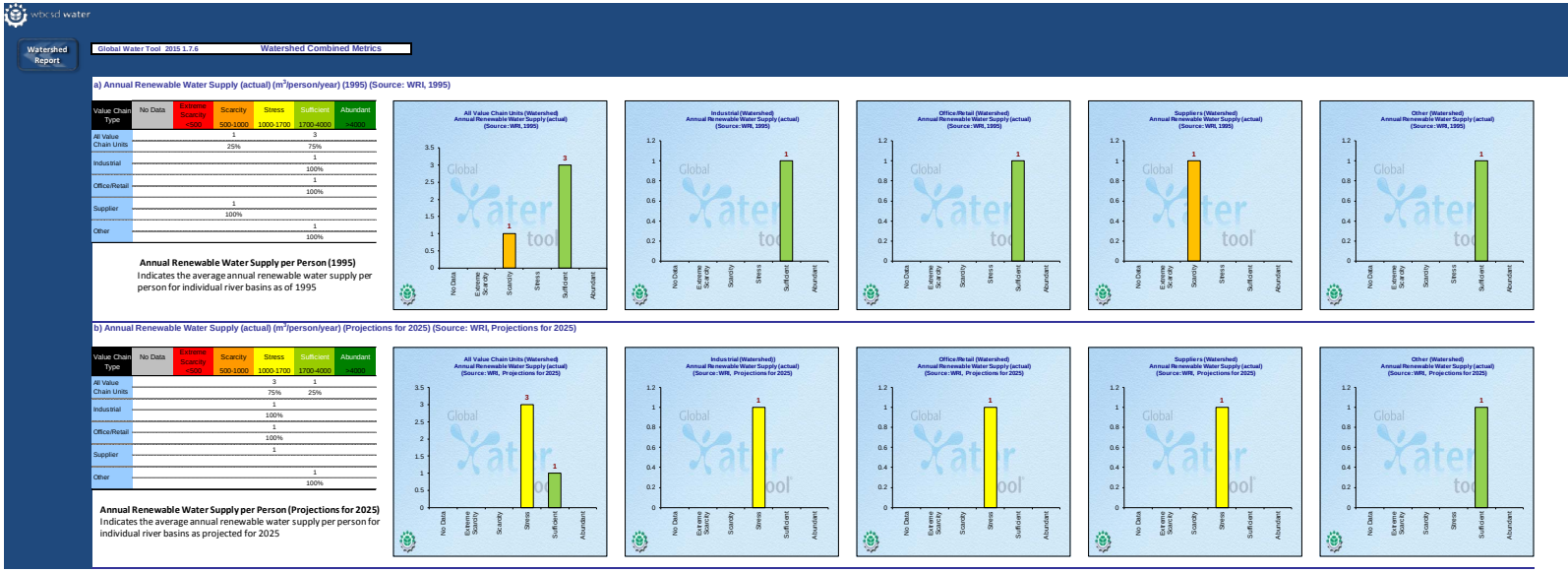
Indicators displayed at the watershed level:

- Annual renewable water supply per person (1995 and 2025) (WRI)
- Biodiversity hot spots (Conservation International)
- Baseline water stress
- Inter-annual variability
- Seasonal variability

For each indicator (baseline water stress, seasonal and inter-annual variability), WRI offers the results at three different scales: sub-catchment, country and river basin. **The result for any given indicator at any given location varies based on the scale at which the indicator is measured.** GWT includes the country and sub-catchment scales. **The Output Watershed tab aggregates data by watershed, using the sub-catchment scale.**

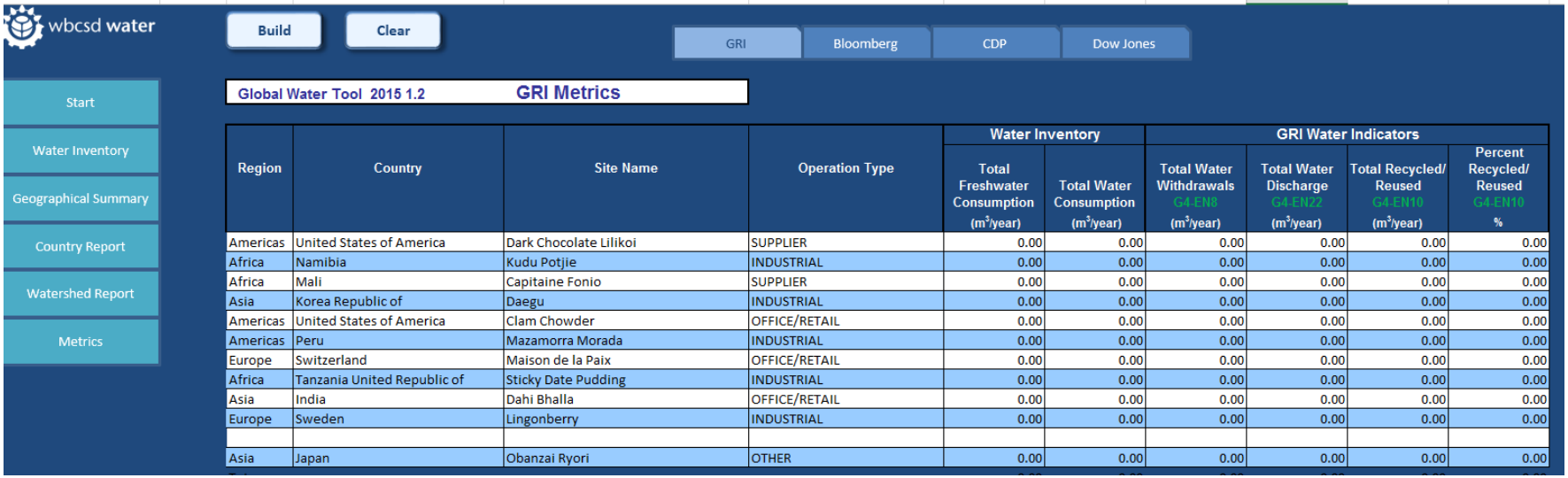
Step 6: Output Watershed combined metrics – graphs (2/2)

- For all sites and each value chain type the following graphs are available:
  - Annual renewable water supply per person (1995 and 2025) (WRI)
  - Biodiversity hot spots (Conservation International)
  - Production by Annual Renewable Water Supply (actual) (m3/person/year) (Projections for 2025) (WRI, Projections for 2025)



Step 7: Output water metrics pages
GRI, Bloomberg, CDP Water and DJSI

- The output section includes also to create key water reporting indicators.

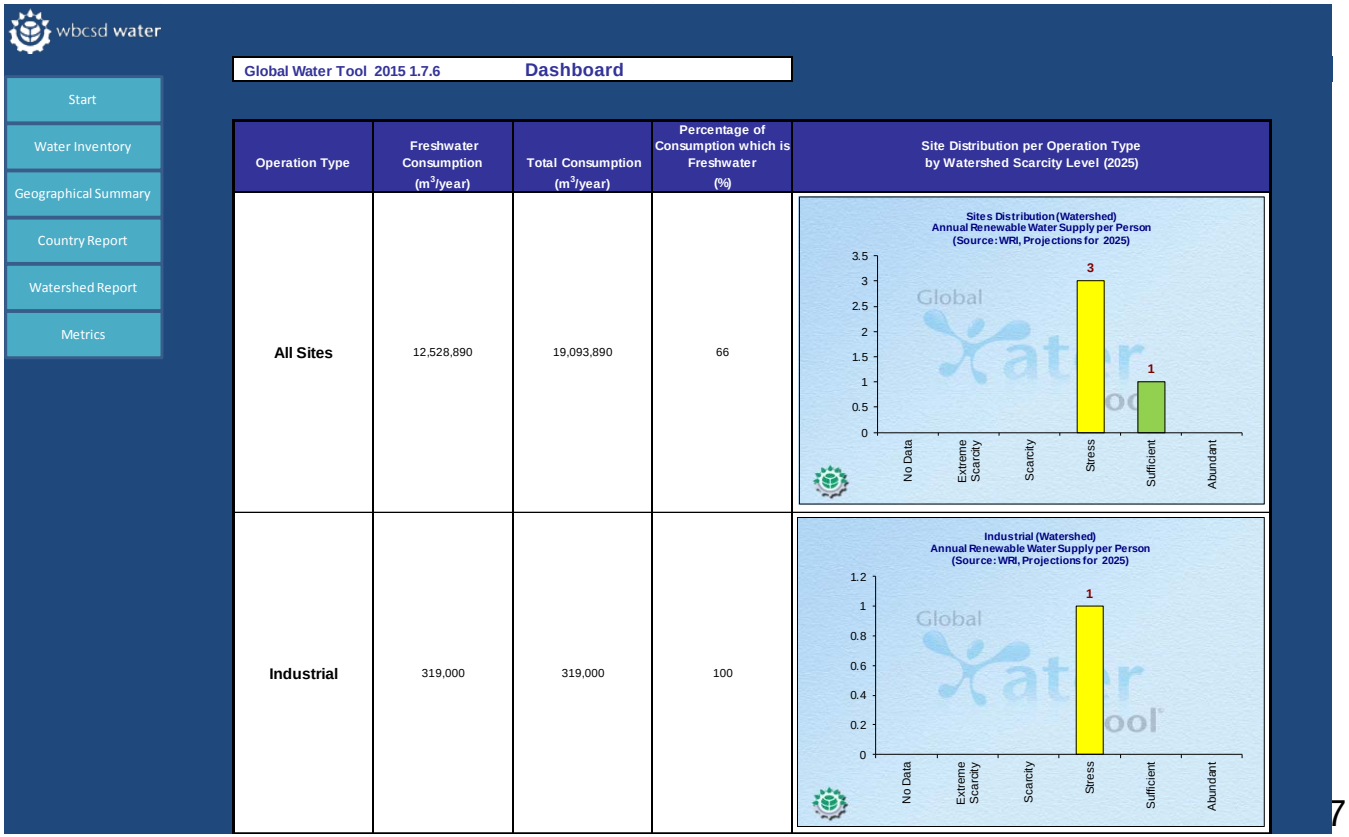


Region	Country	Site Name	Operation Type	Water Inventory		GRI Water Indicators			
				Total Freshwater Consumption (m^3/year)	Total Water Consumption (m^3/year)	Total Water Withdrawals G4-EN8 (m^3/year)	Total Water Discharge G4-EN22 (m^3/year)	Total Recycled/ Reused G4-EN10 (m^3/year)	Percent Recycled/ Reused G4-EN10 %
Americas	United States of America	Dark Chocolate Lilikoi	SUPPLIER	0.00	0.00	0.00	0.00	0.00	0.00
Africa	Namibia	Kudu Potjie	INDUSTRIAL	0.00	0.00	0.00	0.00	0.00	0.00
Africa	Mali	Capitaine Fonio	SUPPLIER	0.00	0.00	0.00	0.00	0.00	0.00
Asia	Korea Republic of	Daegu	INDUSTRIAL	0.00	0.00	0.00	0.00	0.00	0.00
Americas	United States of America	Clam Chowder	OFFICE/RETAIL	0.00	0.00	0.00	0.00	0.00	0.00
Americas	Peru	Mazamorra Morada	INDUSTRIAL	0.00	0.00	0.00	0.00	0.00	0.00
Europe	Switzerland	Maison de la Paix	OFFICE/RETAIL	0.00	0.00	0.00	0.00	0.00	0.00
Africa	Tanzania United Republic of	Sticky Date Pudding	INDUSTRIAL	0.00	0.00	0.00	0.00	0.00	0.00
Asia	India	Dahi Bhalla	OFFICE/RETAIL	0.00	0.00	0.00	0.00	0.00	0.00
Europe	Sweden	Lingonberry	INDUSTRIAL	0.00	0.00	0.00	0.00	0.00	0.00
Asia	Japan	Obanzai Ryori	OTHER	0.00	0.00	0.00	0.00	0.00	0.00

Note: Click Build on each Metrics sheet to generate GRI, Bloomberg, CDP and Dow Jones Metrics. **Any time changes are made on the Input Water Inventory page, you will need to click Build again to generate a new report.**

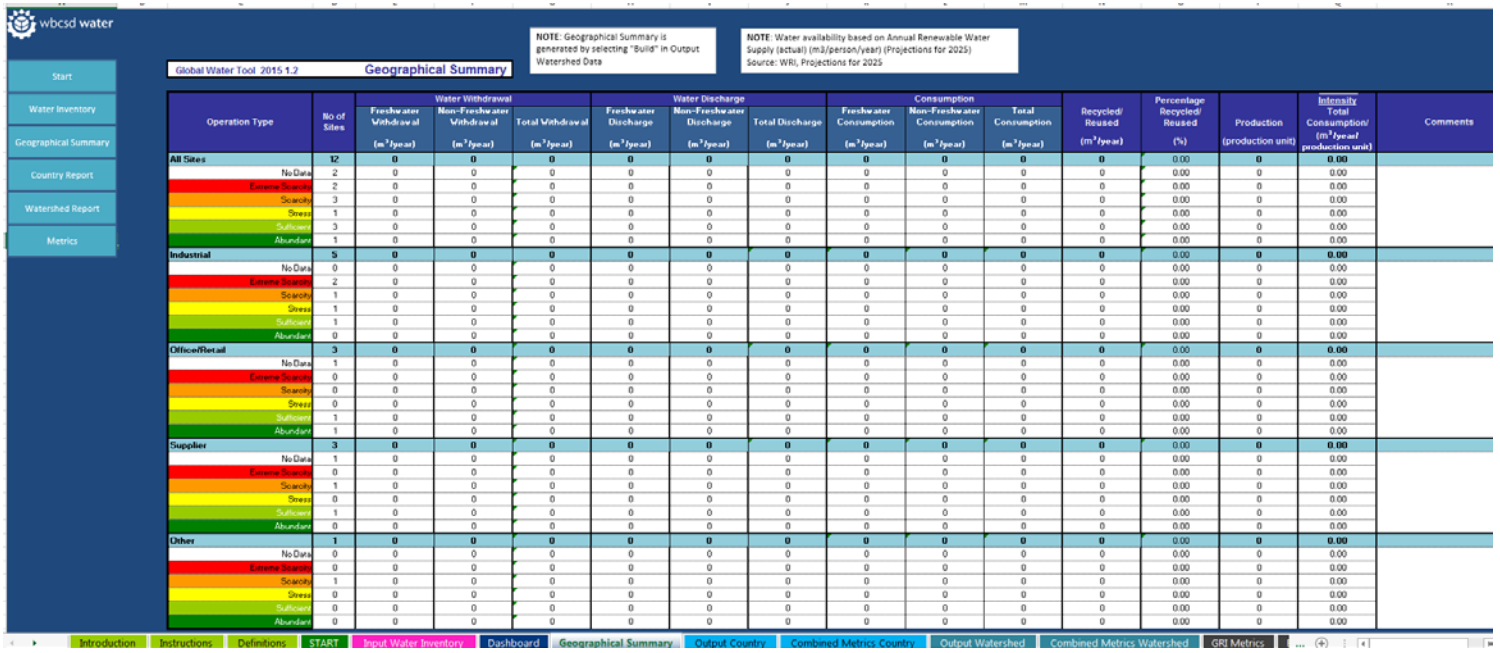
Step 8: Summary output – dashboard (1/2)

- After running the Output Watershed Reports, the Dashboard is automatically generated with an overall summary for all sites and each operation type (freshwater consumption, total water consumption…).
- **Any time changes are made on the Input Water Inventory page, Watershed Reports must be run again in order to update the Dashboard.**



Step 8: Summary output – geographical (2/2)

- After running Output Watershed Reports, the Geographical Summary is automatically generated with a regional breakdown view;
- Any time changes are made on the Input Water Inventory page, Watershed Reports must be run again in order to update the Geographical Summary.
- Water availability calculations are based on Annual Renewable Water Supply (actual) (m3/person/year) (Projections for 2025);



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Start
Water Inventory
Geographical Summary
Country Report
Watershed Report
Metrics

Global Water Tool 2015 1.2 — Geographical Summary

NOTE: Geographical Summary is generated by selecting "Build" in Output Watershed Data

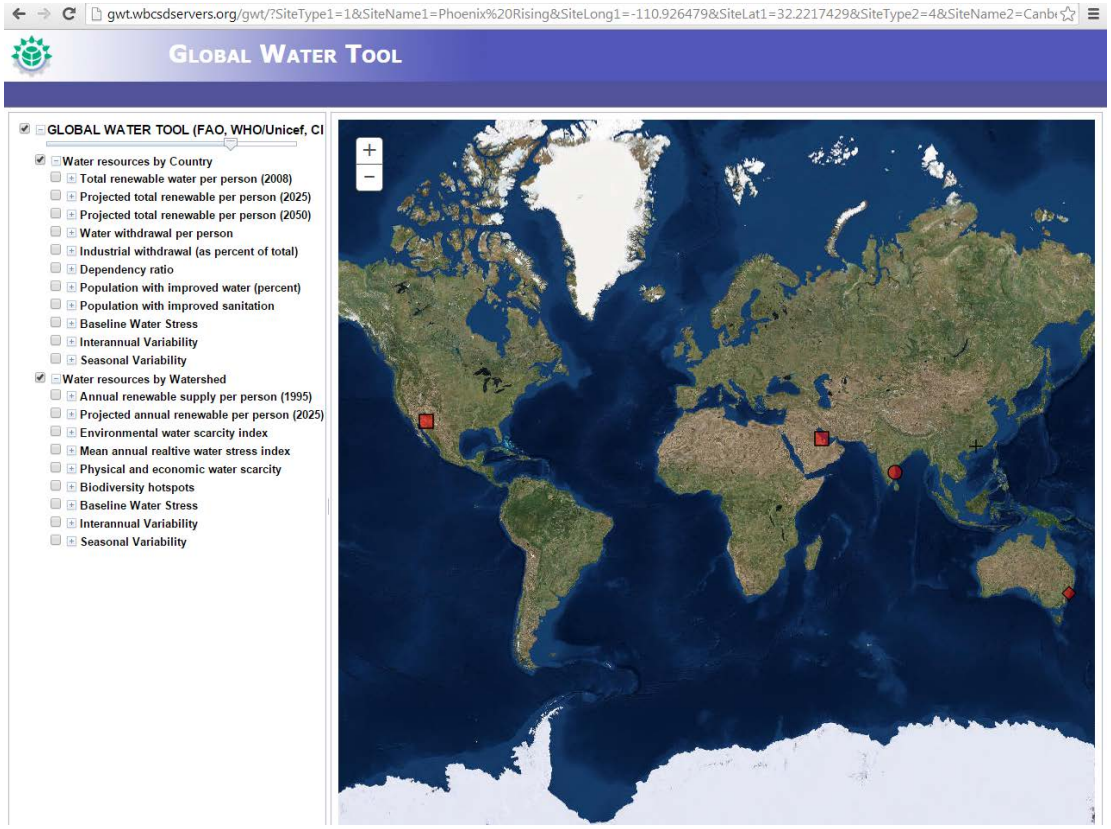
NOTE: Water availability based on Annual Renewable Water Supply (actual) (m3/person/year) (Projections for 2025) Source: WRI, Projections for 2025

Operation Type	No of Sites	Water Withdrawal: Freshwater Withdrawal (m³/year)	Water Withdrawal: Non-Freshwater Withdrawal (m³/year)	Water Withdrawal: Total Withdrawal (m³/year)	Water Discharge: Freshwater Discharge (m³/year)	Water Discharge: Non-Freshwater Discharge (m³/year)	Water Discharge: Total Discharge (m³/year)	Consumption: Freshwater Consumption (m³/year)	Consumption: Non-Freshwater Consumption (m³/year)	Consumption: Total Consumption (m³/year)	Recycled/ Reused (m³/year)	Percentage Recycled/ Reused (%)	Production (production unit)	Intensity: Total Consumption/ (m³/year/ production unit)	Comments
All Sites	12	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
No Data	2	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Extreme Scarcity	2	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Scarcity	3	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Stress	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Sufficient	3	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Abundant	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Industrial	5	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
No Data	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Extreme Scarcity	2	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Scarcity	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Stress	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Sufficient	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Abundant	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Office/Retail	3	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
No Data	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Extreme Scarcity	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Scarcity	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Stress	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Sufficient	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Abundant	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Supplier	3	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
No Data	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Extreme Scarcity	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Scarcity	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Stress	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Sufficient	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Abundant	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Other	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
No Data	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Extreme Scarcity	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Scarcity	1	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Stress	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Sufficient	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	
Abundant	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	

Introduction | Instructions | Definitions | START | Input Water Inventory | Dashboard | Geographical Summary | Output Country | Combined Metrics Country | Output Watershed | Combined Metrics Watershed | GRI Metrics

Step 9: Global visualization of the sites

- **Generate Map:** Click to map your sites on the GWT mapping application. Data is displayed on the web using the mapping application and not stored.
- **The user needs to select an Operation Type for a site from the drop down menu on the Input Water Inventory page to map sites, otherwise the sites will not be presented.**



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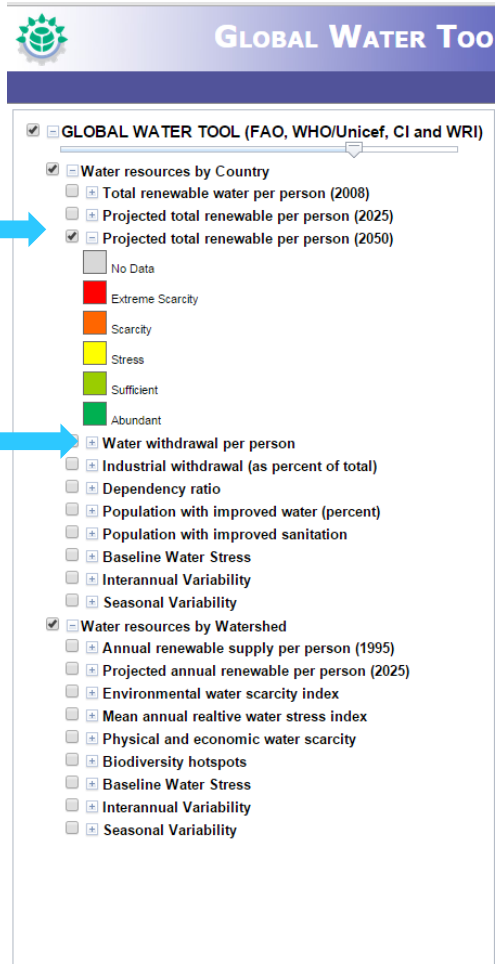
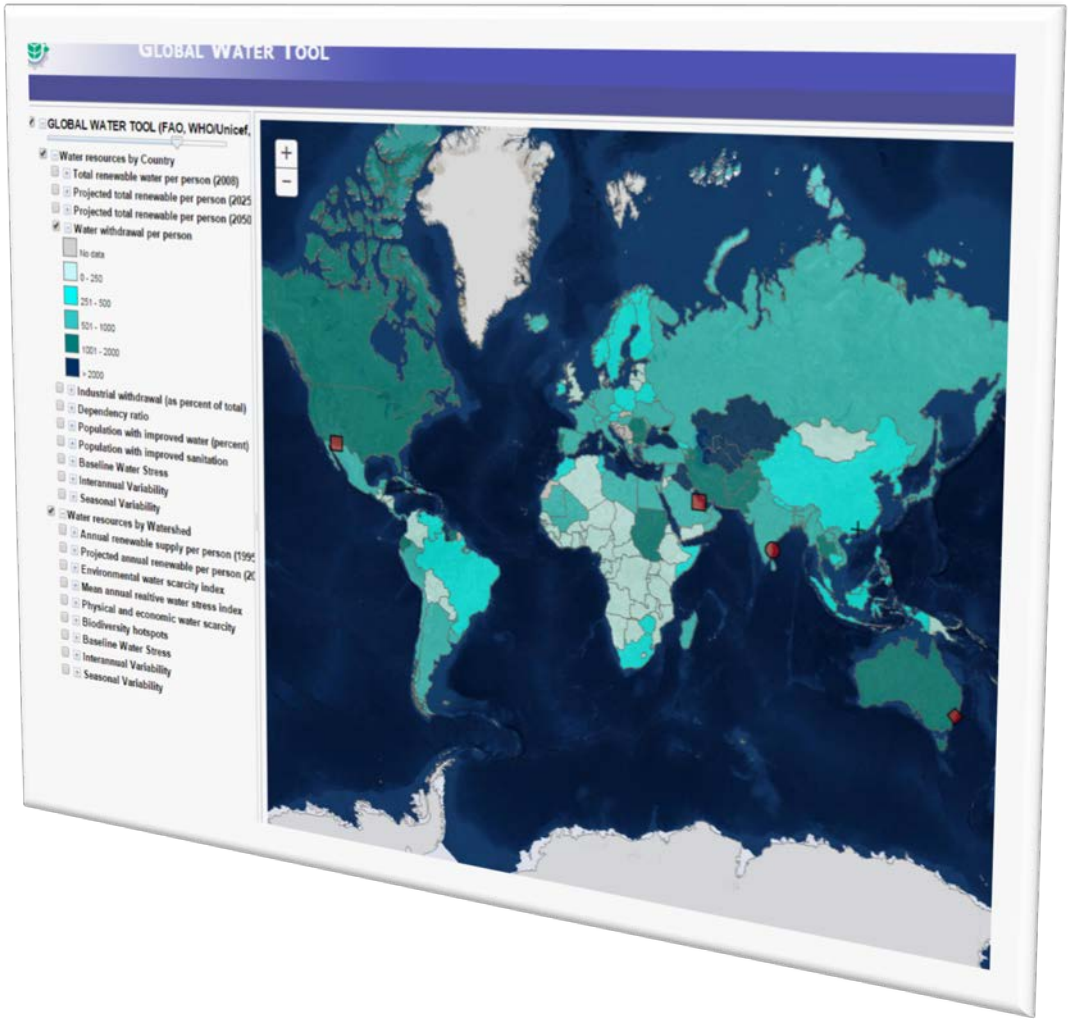
Step 9: View options, including different maps

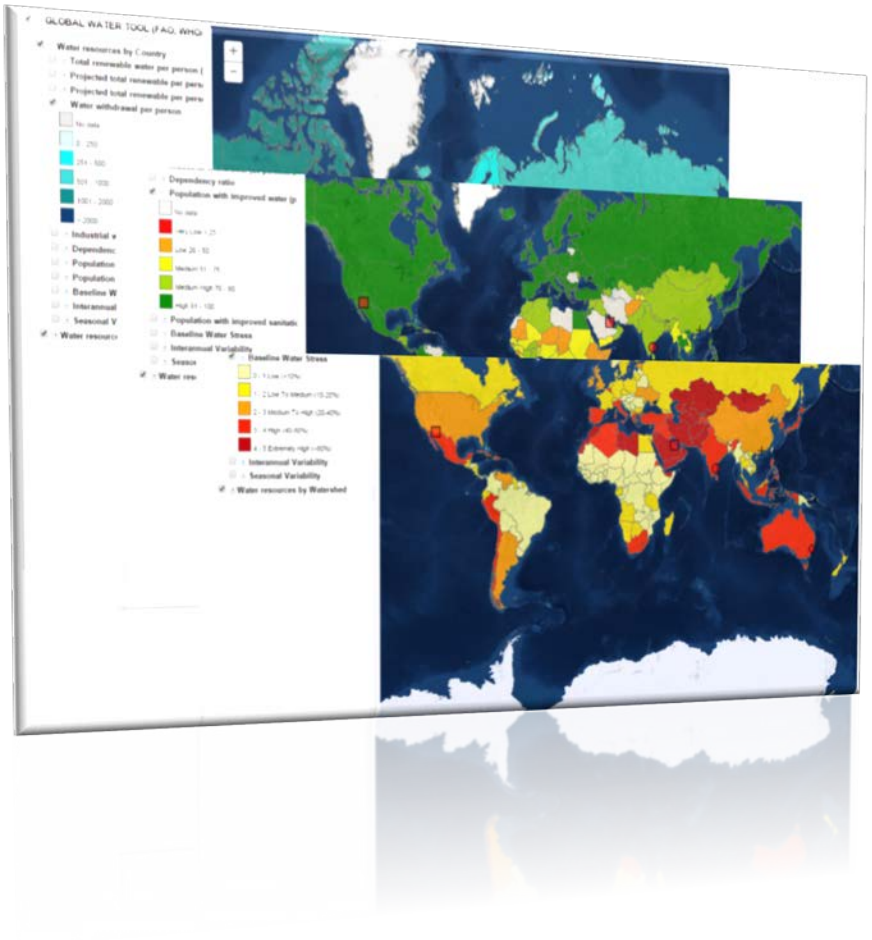
Tick the box to select the map

Click on + to view the legend





Step 9: Country maps



- Country-speficic maps are provided, together with the related indexes.
  - Total renewable water per person (FAO)
  - Projected total renewable water per person 2025 (FAO)
  - Projected total renewable water per person 2050 (FAO)
  - Water withdrawal per person (FAO)
  - Industrial water withdrawal as par of total (FAO)
  - Dependency ratio (FAO)
  - Population served with improved water (WHO / UNICEF)
  - Population served with improved sanitation (WHO / UNICEF)
  - Baseline water stress (WRI)
  - Inter-annual variability (WRI)
  - Seasonal variability (WRI)

Step 9: Watershed maps

- Watershed maps are provided, together with the related indexes.
  - Annual renewable water supply per person 1995 (WRI)
  - Projected annual renewable water supply per person 2025 (WRI)
  - Environmental water scarcity index (IWMI)
  - Physical and economic water scarcity (IWMI)
  - Biodiversity hot spots (Conservation International)
  - Baseline water stress (WRI)
  - Inter-annual variability (WRI)
  - Seasonal Variability (WRI)

Step 9: Focus on the Biodiversity data layer

- **Just like managing water,** managing biodiversity or ecosystem-related issues **globally** requires an understanding of a company's ecosystem impact & dependence **locally**. In addition, mapping areas of water scarcity/stress which are in proximity to, or overlap with, areas of biodiversity importance is of business value for recognizing and managing these combined risks.
- The addition of **biodiversity hotspots** data enables a first macro-level assessment providing the context to a site specific evaluation of impacts and dependencies.
- By clicking on "Watershed report" on the Start page, your site locations will be linked to Conservation International's **biodiversity hotspots** data, informing you of:
  - How many of your sites are in a **biodiversity hotspot** (in a chart),
  - Which sites are in a **biodiversity hotspot** (in the Excel sheet),
  - Where are all your sites on a **biodiversity hotspot** map (using the mapping function).

Step 9: Focus on the Biodiversity data layer (2)

- Understanding the results requires some background on how a **biodiversity hotspot** is defined.

  To qualify as a hotspot, a region must meet two strict criteria:

  – it **must contain at least 1,500 species of endemic vascular plants** (0.5% of the world's total),

  – and it has to have **lost at least 70% of its original native habitat.**

  Therefore, it is a representation of both high biodiversity value / endemism *and* high threat.

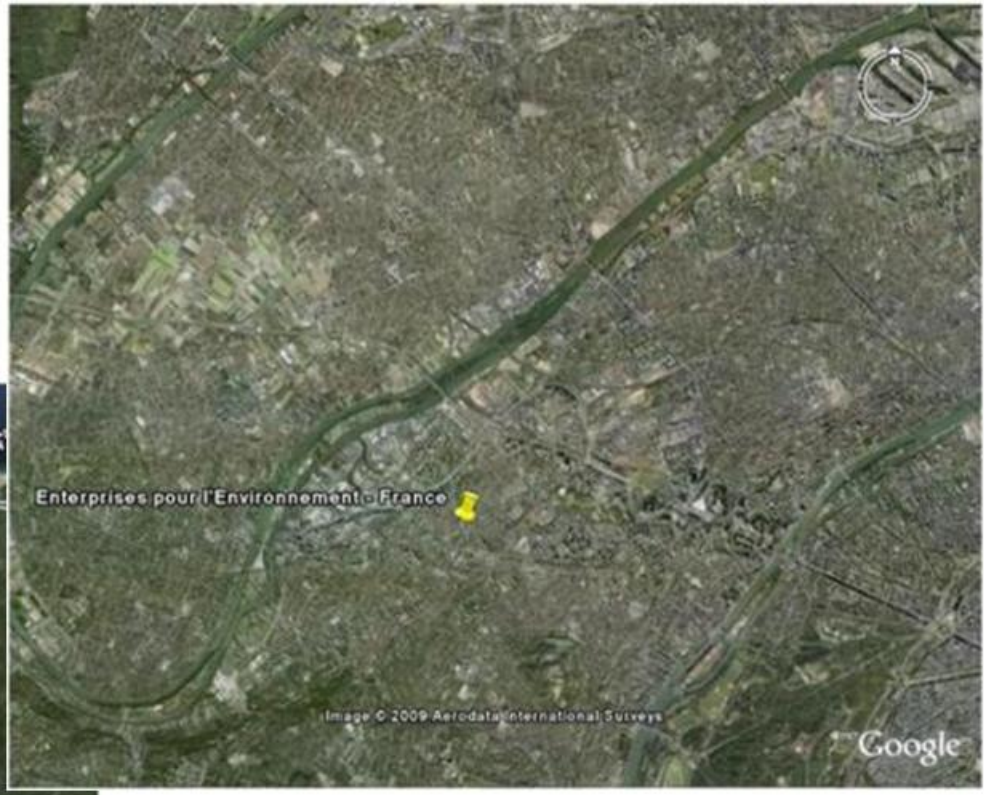
- 34 **biodiversity hotspots** have been identified - between them they contain around 50% of the world's endemic plant species and 42% of all terrestrial vertebrates. 86% of their original habitat has already been lost.
- These rather broad regions are not a detailed representation of the total biodiversity or ecosystem status or value at a fine scale location. Not being in a hotspot does not necessarily mean the area is not of interest, or *vice versa*.
- The additional data layer aims to prioritize sites that have a higher chance of being within ecosystems of interest and should be looked at in more detail by subsequent assessment at a local scale.
  - A wealth of finer scale information relevant to specific locations is available for many areas to support more detailed assessment and planning (e.g. via sources such as the Integrated Biodiversity Assessment Tool for business).

Step 10: Google Earth interface – global perspective

With Google Earth, data and info are mapped spatially, which allows to double-check in real time the situation of a specific site.

Step 10: Zoom in – real impressions

- Are you near a river / lake / sea?



- Are you in a densely-populated area?

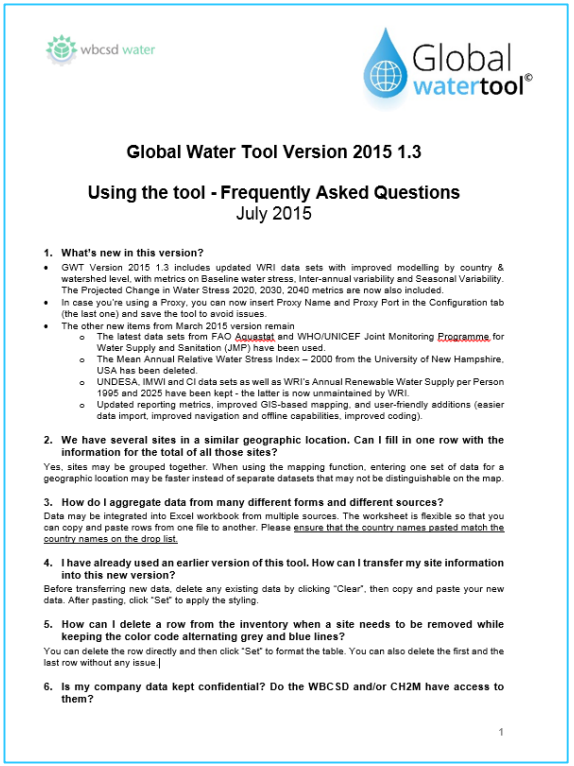
FAQs answer questions related to…

Software and system requirements

Data entry

Technical issues

www.wbcsd.org/work-program/sector-projects/water/global-water-tool.aspx



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Global watertool©

Global Water Tool Version 2015 1.3

Using the tool - Frequently Asked Questions
July 2015

1. **What's new in this version?**

- GWT Version 2015 1.3 includes updated WRI data sets with improved modelling by country & watershed level, with metrics on Baseline water stress, Inter-annual variability and Seasonal Variability. The Projected Change in Water Stress 2020, 2030, 2040 metrics are now also included.
- In case you're using a Proxy, you can now insert Proxy Name and Proxy Port in the Configuration tab (the last one) and save the tool to avoid issues.
- The other new items from March 2015 version remain
  - The latest data sets from FAO Aquastat and WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) have been used.
  - The Mean Annual Relative Water Stress Index – 2000 from the University of New Hampshire, USA has been deleted.
  - UNDESA, IMWI and CI data sets as well as WRI's Annual Renewable Water Supply per Person 1995 and 2025 have been kept - the latter is now unmaintained by WRI.
  - Updated reporting metrics, improved GIS-based mapping, and user-friendly additions (easier data import, improved navigation and offline capabilities, improved coding).

2. **We have several sites in a similar geographic location. Can I fill in one row with the information for the total of all those sites?**

Yes, sites may be grouped together. When using the mapping function, entering one set of data for a geographic location may be faster instead of separate datasets that may not be distinguishable on the map.

3. **How do I aggregate data from many different forms and different sources?**

Data may be integrated into Excel workbook from multiple sources. The worksheet is flexible so that you can copy and paste rows from one file to another. Please ensure that the country names pasted match the country names on the drop list.

4. **I have already used an earlier version of this tool. How can I transfer my site information into this new version?**

Before transferring new data, delete any existing data by clicking "Clear", then copy and paste your new data. After pasting, click "Set" to apply the styling.

5. **How can I delete a row from the inventory when a site needs to be removed while keeping the color code alternating grey and blue lines?**

You can delete the row directly and then click "Set" to format the table. You can also delete the first and the last row without any issue.

6. **Is my company data kept confidential? Do the WBCSD and/or CH2M have access to them?**

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We welcome feedback on the use and value of this tool to your company.
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Acknowledgements

The **WBCSD** **Water Leadership Group** stewarded the development of the Global Water Tool and provided financial and intellectual contributions. WBCSD member and global engineering company, **CH2M** developed the tool.

An Advisory Board of 21 WBCSD member companies in a wide range of industries provided oversight and pilot testing to launch the first version of the tool in 2007. The Nature Conservancy and Global Reporting Initiative provided expertise during the first stages of development.

Advisory Board for the 2015 version: **BASF, DSM, DuPont, EDF, GDF Suez, Italcementi, Pepsico and Shell,** with the contribution of **IPIECA.**

The World Resources Institute and Global Reporting Initiative provided knowledge and technical input for tool development. **GEMI, CDP and Dow Jones Sustainability Initiative** were consulted to ensure alignment.

Data provided by the World Resources Institute, FAO AQUASTAT, WHO & UNICEF Joint Monitoring Programme, United Nations Population Division, International Water Management Institute and Conservation International