

35th Discussion Forum, Assessment of Water Use
within LCA, ETH Zurich, 5 June 2008



Business in the World of Water
*Strengthening the fact base:
WBCSD Global Water Tool*

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(WBCSD)



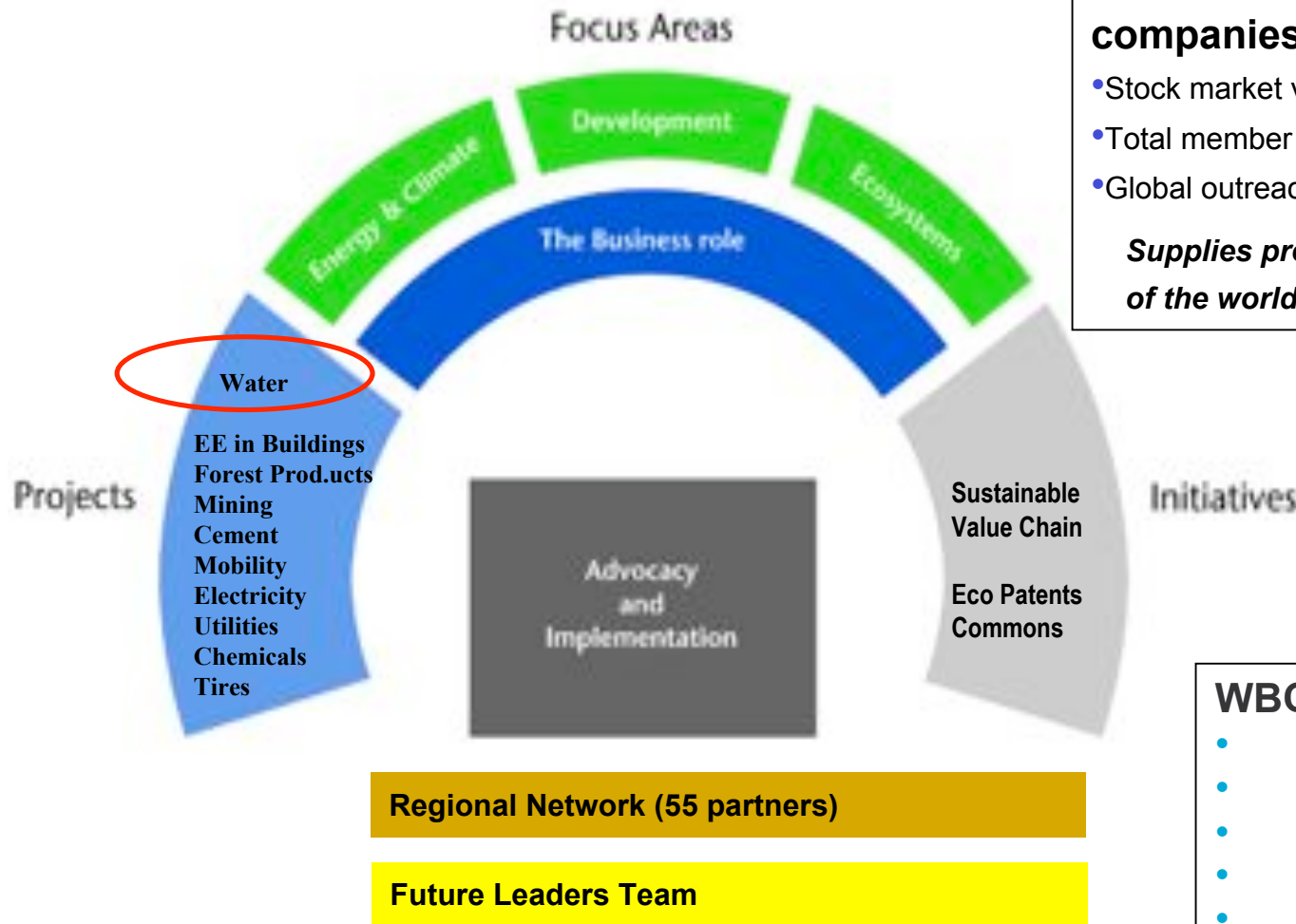
Agenda



- About the WBCSD
- WBCSD Water Project
- Global Water Tool
- Discussion



WBCSD - Work Program Overview



Coalition of 200+ leading companies

- Stock market value: USD 8,000 billion
- Total member company employees: 13 million
- Global outreach

Supplies products and services to half of the world's population every day

WBCSD objectives include:

- Business Leadership
- Policy Development
- The Business Case
- Best Practice
- Global Outreach



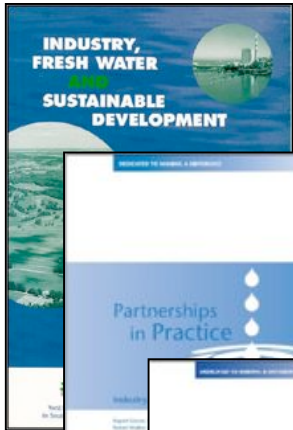
Brief background on water: Risks and ... opportunities

- Global water scarcity and quality declining faster than experts predicted
- Numerous risks to business:
 - ✓ License to operate → stranded assets
 - ✓ Increased production costs, business disruption
 - ✓ Community and regulatory pressure
 - ✓ Health of employees
 - ✓ Brand image
 - ✓ Limitations to growth of consumer markets
- IPCC: climate change will increase droughts and floods

No Water – No Business!



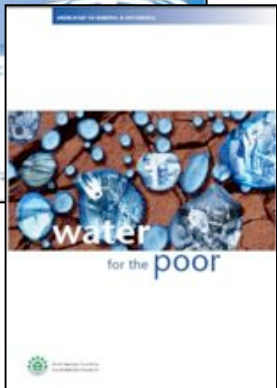
WBCSD Water Project – 10 years



✓ **Industry, Freshwater and Sustainable Development** (March 1998)



✓ **Partnerships in Practice** (April 2000)



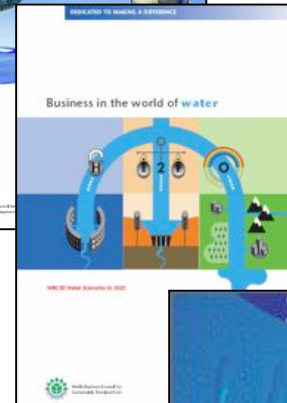
✓ **Water for the Poor** (July 2002)



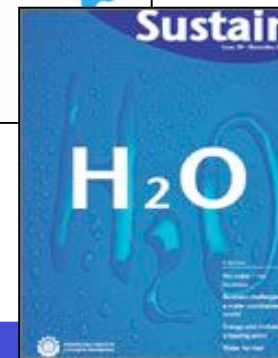
✓ **Water Facts and Trends** (Aug 2005)



✓ **Collaborative Actions for Sustainable Water Management** (Aug 2005)



✓ **Water Scenarios to 2025** (Aug 2006)



✓ **Sustain** (Jan 2008)



Global **Water tool** (Aug 2007)





Risk Management on Global Water Issues

- Requires an understanding of a company's water needs in relation to local externalities:
 - ✓ Water availability – current and projected
 - ✓ Water quality
 - ✓ Water “stress” – people, environment and agriculture
 - ✓ Access to safe drinking water sources
 - ✓ Access to sanitation
 - ✓ Population/industrial growth

- Company's needs = owned operations, employees, and supply chain.....and ultimately customers



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 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?



Global Water Tool: Benefits

- Provides an **automatic link** between a company's water uses (including staff presence, industrial use, and supply chain) and key **external water-related data**
- Enables creation of **GRI Water indicators**, inventories, risk and efficiency performance metrics and **geographic mapping**
- Allows companies to establish relative water risks in their portfolios to **prioritize action** (now and in the future)
- Ensures a **standard approach** and common set of data for global assessments



Advisory Board & Organizations

Leader: CH2M HILL

Air Products and Chemicals

Alcan

Alcoa

Anglo American

Borealis

ConocoPhillips

Degussa

The Dow Chemical Company

DuPont

GrupoNueva

Holcim

ITT Corporation

Kimberly Clark

Lafarge

PepsiCo

Petro-Canada

Rio Tinto

Sanyo

Shell

Suez

Syngenta

Unilever

Data provided by:



WORLD RESOURCES INSTITUTE

World Health Organization & UNICEF
Joint Monitoring Programme

Expertise provided by:





Data Credibility

Food and
Agriculture
Organization
(FAO) AQUASTAT

World Health
Organization & UNICEF
Joint Monitoring
Program (JMP)

World
Resources
Institute
(WRI)

University of
New
Hampshire
(UNH), USA

- Dataset owners gave permission to WBCSD for use in the Tool
- Original datasets have not been modified
- The datasets
 - ✓ Have global coverage
 - ✓ Are available in the public domain
 - ✓ Are considered valid by the global community of water stakeholders
 - ✓ Are recent
 - ✓ Will be updated



Tool Functions and Data Security

Two Parts to the Tool:

 Excel Workbook: Inventory, GRI Indicators, External Data Connection and Metrics Calculations

- GRI has endorsed tool

 On-line Mapping Program

- Site Locations and External Water Maps
- Google Earth interface for spatial viewing

Company data is kept **secure** by user –
not saved on WBCSD website



GRI Indicators on total water withdrawals (**EN8**), water recycled/reused (**EN10**), and total water discharge (**EN21**) are calculated for each site, country, region and total.



Start Page

The screenshot shows the 'Start' page of the 'Water tool' by WBCSD, version 2007.01. The page is organized into several sections:

- Input:** Contains buttons for 'Water Inventory' and 'Data Form'.
- Output:** Contains buttons for 'Country Report', 'Watershed Report', 'Generate Map', and 'Google Earth'.
- References:** Contains buttons for 'Help', 'Definitions', 'FAQ', and 'Dataset Details'.
- Related links:** Lists external resources such as 'WBCSD', 'Google Maps (Lat/Long)', 'Global Gazetteer (Lat/Long)', 'Water weight-volume Conversion', 'FAQ AQUASTAT', 'WHO and UNICEF JMP', 'Univ. of New Hampshire', and 'Word Resources Institute'.

Three informational callouts are present on the right side of the page:

- Input Callout:** States that the number format for Lat/Long should be in decimals (e.g., 56.0967) and that the 'Generate Map' feature will not work if a comma is used as a decimal separator.
- Output Callout:** Notes that an internet connection is required for 'Generate Map' and that users must select an 'Operation Type' for a site from the input table's mapping sites.
- References Callout:** Advises users to read the 'Help' page before using the tool and states that WBCSD is not responsible for any changes made by users to the tool.

Limitation

The tool does not provide specific guidance on local situations, which requires more in-depth systematic analysis.



Data Form – Easy Input Sheet

Data Entry

Cloud **Water** tool wbcscd

Entity Name: Year: Show ToolTips

Inventory for Mapping Tool

Site Name	<input type="text" value="Accion RSE Chile"/>	Latitude (deg.0000)	<input type="text" value="-33.48912"/>
Site ID	<input type="text" value="1"/>	Longitude (deg.0000)	<input type="text" value="-70.641997"/>
Country	<input type="text" value="Chile"/>	<input type="button" value="FIND COORDINATES"/>	
Operation Type	<input type="text" value="OFFICE/RETAIL"/>		

Inventory for Metrics and GRI Indicators

Water Withdrawal (m3/ year)		Non-Freshwater Sources	
Freshwater Sources		Ocean	<input type="text" value="0"/>
Surface	<input type="text"/>	Surface (Other than ocean)	<input type="text" value="0"/>
Ground water	<input type="text"/>	Groundwater	<input type="text" value="0"/>
Municipal Supply	<input type="text"/>	External Wastewater	<input type="text" value="0"/>
Rainwater	<input type="text"/>		
Water Discharge (m3/year)		Non-Freshwater Discharge by Receiving Body	
Freshwater Discharge by Receiving Body		Ocean	<input type="text"/>
Ocean	<input type="text"/>	Surface	<input type="text"/>
Surface	<input type="text"/>	Subsurface/Well	<input type="text"/>
Subsurface/Well	<input type="text"/>	Off-Site Water Treatment	<input type="text"/>
Off-Site Water Treatment	<input type="text"/>		



Input Inventory Sheet

Data Form
Start
Help

Grey cells values are calculated values and therefore no use
 Click the "Sort" button for sorting. Click it again to reverse it

Water Inventory
 Entity Name: **WBCSD**
 Year: **2007**

Total Sites: **58**

Tip:
 Always use the "droplist" whenever applicable to enter data.
 Never type in your own data in a droplist field as the Output reports will return erroneous data.

Sort	Sort	Sort	Latitude		Longitude		Sort	Water Freshness [m]				
			Site Name	Country	Site ID	deg.dddd		deg.dddd	Operation Type	Surface	Groundwater	Municipal Supp
			<i>(use the droplist)</i>						<i>(use the droplist)</i>			[m]
			Accor RSE Chile	Chile	1	-33.4891	-70.8420	OFFICE/RETAIL				
			AED Asociacion de Empresas para el Desarrollo	Costa Rica	2	9.8342	-83.8985	OFFICE/RETAIL			3.482	
			Association of Enterprises for Env. Conservation	Egypt	3	30.8981	31.2122	OFFICE/RETAIL		1.200		
			Association pour la Promotion de l'Eco-efficacite	Algeria	4	36.7397	3.8510	OFFICE/RETAIL	156.898			
			Austrian BCSD (ABCSD)	Austria	5	48.2099	16.3895	OFFICE/RETAIL		850		
			BCSD Argentina (CEADE)	Argentina	6	-34.8118	-58.4173	OFFICE/RETAIL			752	
			BCSD Bolivia (CEDES)	Bolivia	7	-17.7888	-63.1974	OFFICE/RETAIL			958	
			BCSD Brazil (CEBS)	Brazil	8	-22.8878	-43.3634	OFFICE/RETAIL				
			BCSD Colombia (CECODES)	Colombia	9	4.8099	-74.9521	OFFICE/RETAIL				
			BCSD Croatia	Croatia	10	45.8089	15.9814	OFFICE/RETAIL				
			BCSD Czech Republic	Czech Republic	11	50.0878	14.4288	OFFICE/RETAIL				
			BCSD Ecuador (CEADES)	Ecuador	12	-2.2038	-79.2875	OFFICE/RETAIL				
			BCSD El Salvador (CEDES)	El Salvador	13	13.7889	-89.2018	OFFICE/RETAIL				
			BCSD Guatemala - ContraRSE	Guatemala	14	14.8245	-90.5326	OFFICE/RETAIL				
			BCSD Honduras (CEHDES)	Honduras	15	15.3815	-88.9827	OFFICE/RETAIL				
			BCSD Hungary	Hungary	16	47.4984	19.3408	OFFICE/RETAIL				

Start Input Water Inventory Output GRI Indicators Output Country Data Raw Country Data Output Watershed Data Combined Metrics Country Combined



Water Consumption and GRI Metrics

Water Consumption and GRI Water Indicators

WBCSD 2007

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 Withdrawn (m ³ /year)	Total Water Discharge (m ³ /year)	Total Recycling Received (m ³ /year)	Percent Recycling Received (%)
		Confederation of Norwegian Enterprises (C)	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
	Poland	Total (Country)		0	0	0	0	0	0.00%
		BCSD Poland	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
	Portugal	Total (Country)		0	0	0	0	0	0.00%
		BCSD Portugal	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
	Russian Federation	Total (Country)		0	0	0	0	0	0.00%
		Vernadsky Foundation	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
	Spain	Total (Country)		0	0	0	0	0	0.00%
		Fundacion Forum Ambiental Spain	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
		Fundacion Entorno - BCSD Spain	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
	United Kingdom of Great Britain	Total (Country)		0	0	0	0	0	0.00%
		BCSD UK	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
Oceania			Total (Region)	0	0	0	0	0	0.00%
	Australia	Total (Country)		0	0	0	0	0	0.00%
		Business Council of Australia	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
		WASD Centre of Excellence in Cleaner Pro	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
	New Zealand	Total (Country)		0	0	0	0	0	0.00%
		BCSD New Zealand	OFFICERETAIL	No Data	No Data	No Data	No Data	No Data	No Data
Total (All Operations Types)				157,526	157,526	162,726	5,194	0	0.00%
Total (Office/Retail)				157,526	157,526	162,726	5,194	0	0.00%
Total (Industrial)				0	0	0	0	0	0.00%
Total (Suppliers)				0	0	0	0	0	0.00%

Navigation: Home | Input Water Inventory | Output GRI Indicators | Output Country Data | Raw Country Data | Output Watershed Data | Combined Metrics Country | Combined | 14

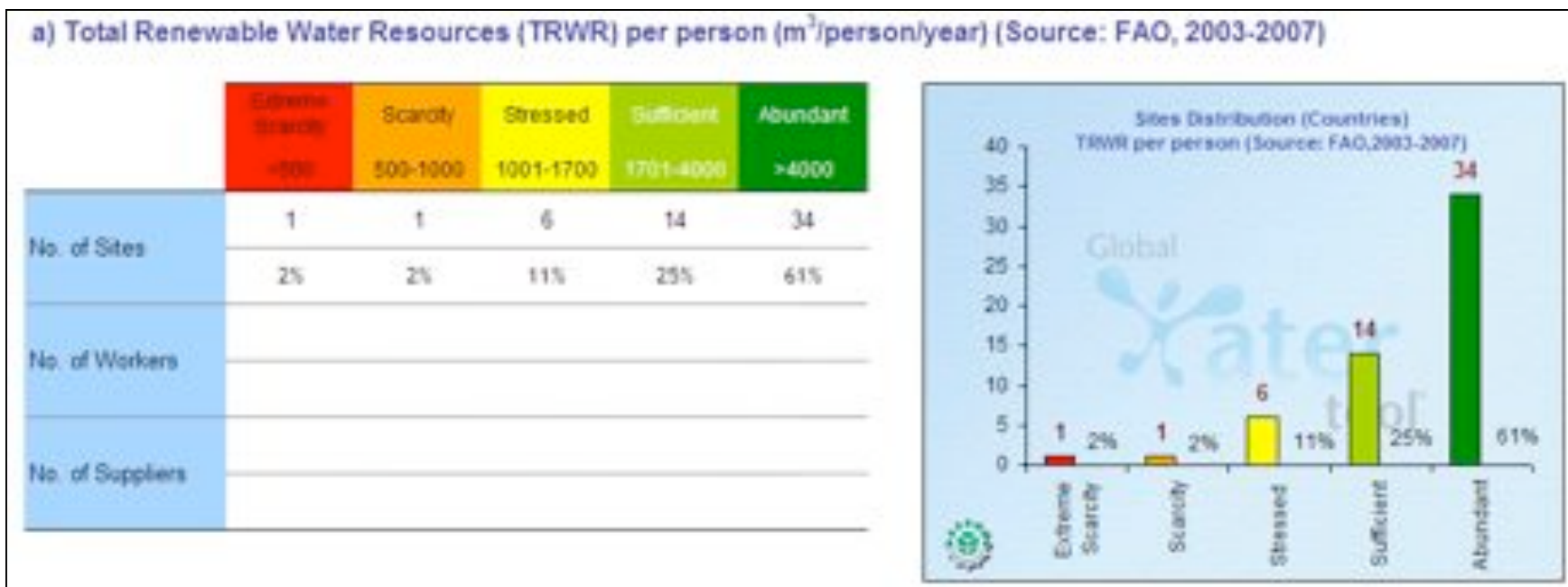


Combined Company and Country Metrics





Workbook Output – Charts





Generate Maps

Click
Generate
Map

The screenshot shows the 'Water tool' web interface. At the top left is the 'Water tool' logo, and at the top right is the 'wbcSD' logo and 'Version 2007.01'. The main content is organized into sections: 'Start', 'Input', 'Output', 'References', and 'Related links'. The 'Output' section contains a button labeled 'Generate Map' which is highlighted with a blue callout bubble. Other buttons in the 'Output' section include 'Country Report', 'Watershed Report', and 'Google Earth'. The 'Input' section has 'Water Inventory' and 'Data Form'. The 'References' section has 'Help', 'Definitions', 'FAQ', and 'Dataset Details'. The 'Related links' section lists various external resources. On the right side of the interface, there are three informational text blocks: one about decimal formatting for Lat/Long, one about internet connectivity requirements, and one about reading the help page.

Start

Input

- Water Inventory
- Data Form

Output

- Country Report
- Watershed Report
- Generate Map
- Google Earth

References

- Help
- Definitions
- FAQ
- Dataset Details

Related links

- [WBCSD](#)
- [Google Maps \(Lat/Long\)](#)
- [Global Gazetteer \(Lat/Long\)](#)
- [Water weight-volume Conversion](#)
- [FAQ AQUASTAT](#)
- [WHO and UNICEF JMP](#)
- [Univ. of New Hampshire](#)
- [Word Resources Institute](#)

The number format for Lat/Long should be in decimals (for e.g., 56.0367) if the format is anything other than a decimal (such as a comma), the **Generate Map** feature will not work.

Connection to the Internet is required to use the **Generate Map** feature. In addition, user need to select an **Operation Type** for a Site from the drop down menu on the input table form mapping sites.

Please read the **Help** page before using this tool. **WBCSD** is not responsible for this tool if the user modifies or makes any changes to the tool.



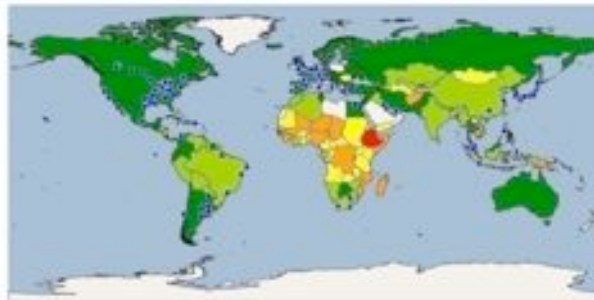
GIS Mapping Application

A screenshot of the 'GLOBAL WATER TOOL' web application. The interface includes a top navigation bar with the 'wbcscd' logo and 'GLOBAL WATER TOOL' text. Below this is a 'Map Info' section with a 'Keymap' thumbnail. A central map displays a world map with a color-coded overlay representing water resources, ranging from green (high) to red (low). A blue callout bubble with the text 'Save As' points to a button in the top toolbar. On the left side, there are several panels for layer management: 'Layers' (Facilities), 'Base Maps' (Annotations, Borders, World Map), 'Water Resources by Country' (Access to Improved Water, Access to Improved Sanitation), and 'Water Resources by Watershed' (Annual Renewable Water Supply per Person (1995)). A scale bar in kilometers is located in the bottom right corner of the map area.

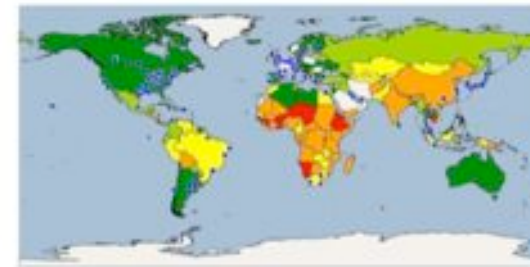


Other Global Maps Available

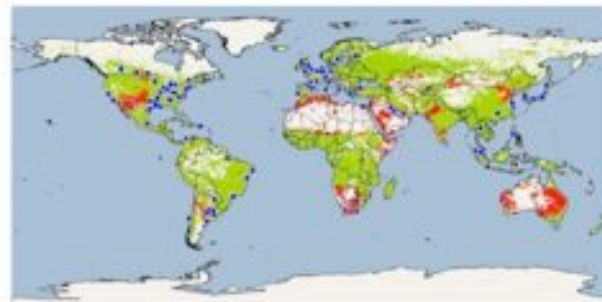
Access to Improved Water



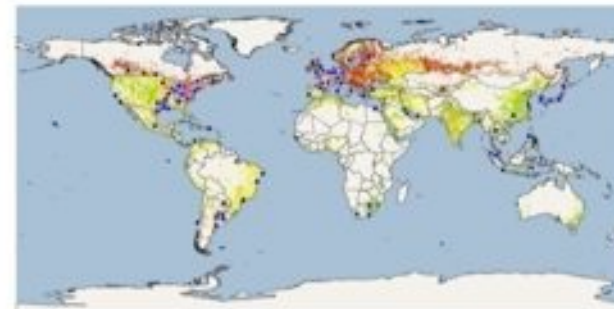
Access to Improved Sanitation



Mean Annual Relative Water Stress Index



Ratio of Industrial to Total Water Use





Map Sites with Google Earth

The screenshot shows the 'Water tool' interface with the following sections:

- Start**
- Input**: Water Inventory, Data Form
- Output**: Country Report, Watershed Report, Generate Map, Google Earth
- References**: Help, Definitions, FAQ, Dataset Details
- Related links**: WBCSD, Google Maps (Lat/Long), Global Gazetteer (Lat/Long), Water weight-volume Conversion, FAQ AQUASTAT, WHO and UNICEF JMP, Univ. of New Hampshire, Word Resources Institute

Informational text on the right side of the interface:

- The number format for Lat/Long should be in decimals (for e.g., 56.0967). If the format is anything other than a dot (such as a comma), the **Generate Map** feature will not work.
- Connection to the Internet is required to use the **Generate Map** feature. In addition, user need to select an **Operation Type** for a Site from the drop-down menu on the Input table form mapping sites.
- Please read the **Help** page before using this tool. **WBCSD** is not responsible for this tool if the user modifies or makes any changes to the tool.

Click Google Earth



Google Earth Interface – Global Perspective





Global Water Tool - Marketing and Maintenance

- Uptake since launch Aug '07
 - ✓ Estimate approx. 1'000 individuals have tried the tool including 150 companies among which:

ABN Amro	DuPont
Akzo Nobel	Ford Motor Company
Alcan	GrupoNueva
Anglo Coal	ITT Corporation
ArcelorMittal	Pakistan State Oil
Borealis	Pepsi
CEMEX	Petro-Canada
CH2M HILL	Shell
Chevron	StatoilHydro
ConocoPhillips	Unilever
Dow	Nestlé

- ✓ 2008 update with revised drinking water & sanitation data





Interested in knowing more?

The Global Water Tool provides a comprehensive and dynamic picture of our operations' water footprint and is the basis for the strategic management of water risks, Borealis

Q & A

Download free from:

www.wbcSD.org/web/watertool.htm

Or contact: boffi@wbcSD.org **THANK YOU**

