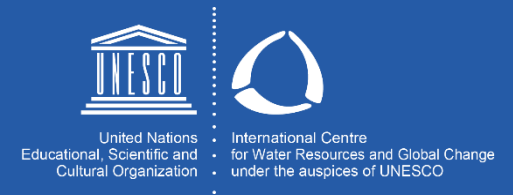


Essential Quality Assured Data and Information  
for Integrated Urban Water Management  
Regional Workshop, 23.06.2021



# Global Monitoring to Improve Water Quality For All The UNEP Global Environment Monitoring System for Freshwater (GEMS/Water)

Philipp Saile, Head of UNEP GEMS/Water Data Centre  
International Centre for Water Resources and Global Change  
at the Federal Institute of Hydrology, Koblenz, Germany

# The UNEP Global Environment Monitoring System for Freshwater (GEMS/Water)



**Goal: Water quality is known**  
**Mission: Provide freshwater quality data to support assessments and decision making**



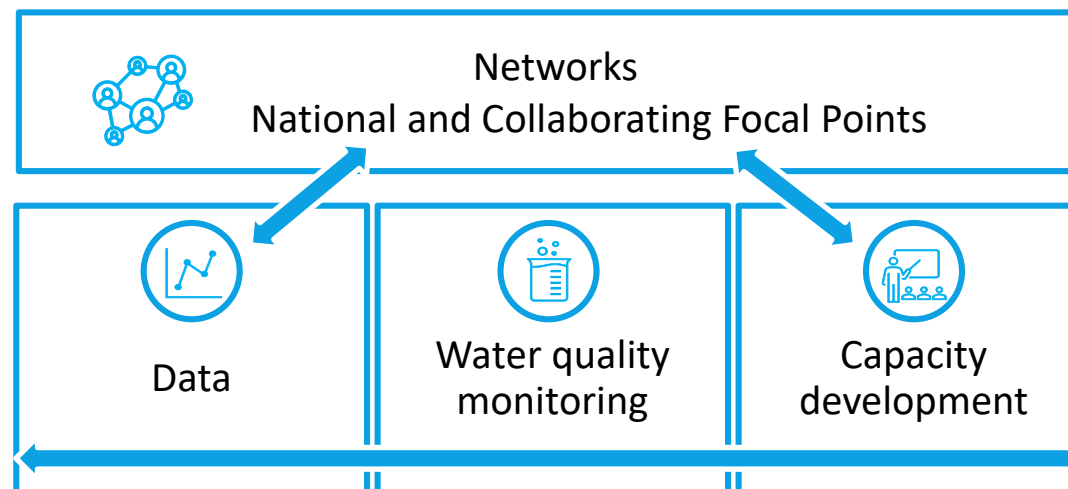
World Water Quality Assessment

GEMS/Water Data Centre  
Koblenz, Germany



Products and services

- Collection, quality assurance and provision of water quality monitoring data
- Global water quality information system **GEMStat**
- SDG Indicator 6.3.2 data collection, analysis and support
- Provision of data products (statistics, indicators, maps, dashboards)



**GEMS/Water Global Programme Coordination Unit**  
Nairobi, Kenya

- Coordination of programme activities
- Networking with partners and Member States

GEMS/Water Capacity Development  
Centre  
Cork, Ireland



Products and services

- Training courses
- E-learning study programmes in freshwater quality monitoring and assessment (MSc)
- Guidebooks
- SDG Indicator 6.3.2 training materials and support
- On demand consulting and support

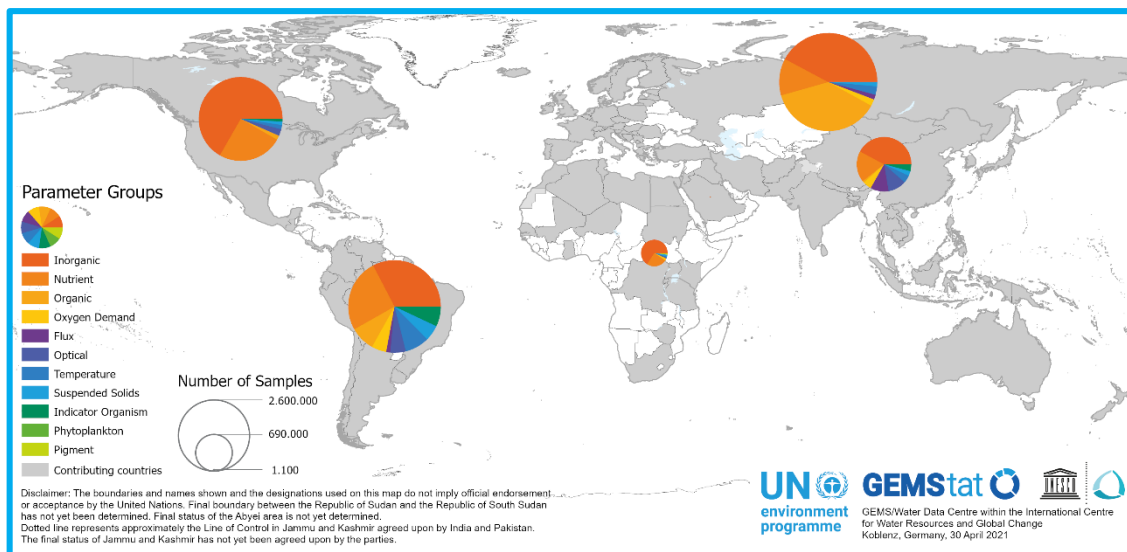
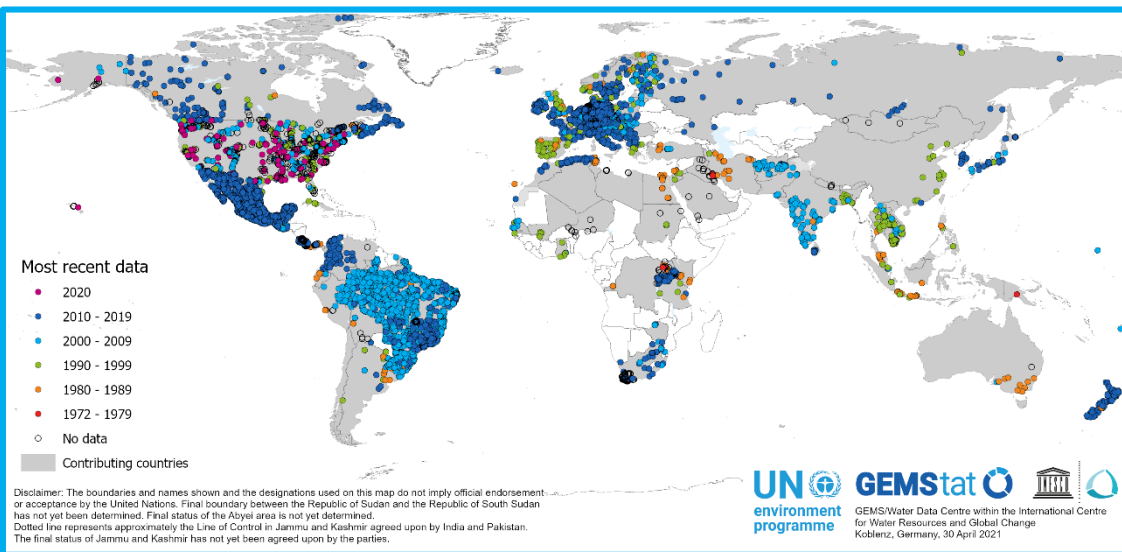
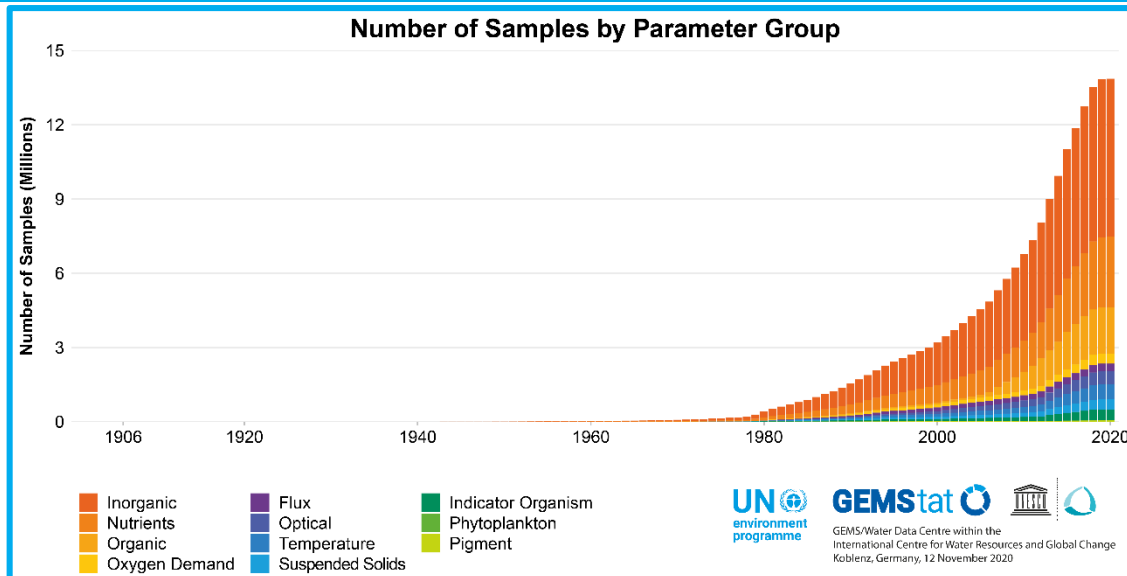
<https://gemstat.org>

<https://www.unep.org/explore-topics/water/what-we-do/monitoring-water-quality>

<https://www.ucc.ie/en/gemscdc/>



	River	Lake/ Reservoir	Ground- water	Wetland	Total
<b># Stations</b>	7440	1197/791	3561	20	13009
	Physical	Biological	Organic	Inorganic	
<b># Parameters</b>	24	9	276	174	516
<b># Values</b>	1884973	492838	2299198	7190399	15305315



# Data availability in selected countries



Country	Focal point organization	Stations	Temporal coverage	Observations	Last updated
Afghanistan	National Environmental Protection Agency (NEPA)	67	2004-2005	3960	2007
Armenia	Ministry of Nature Protection	<i>No data provided yet</i>			
Azerbaijan	Ministry of Ecology and Natural Resources	<i>No data provided yet</i>			
Bangladesh	Department of Environment	95	1979-2004	6580	2012
Egypt	Ministry of Water Resources & Irrigation (MWRI)	8	1979-1980	2284	1981
India	Central Pollution Control Board (CPCB)	72	1978-2008	237278	2010
Iran	Department of Environment	20	1980-1992	6030	1993
Iraq	<i>No Focal Point</i>	41	1973-2007	1229	2009
Oman	<i>No Focal Point</i>				
Pakistan	Ministry of Climate Change	7	1979-2003	31928	2004
Qatar	<i>No Focal Point</i>				
Sri Lanka	Ministry of Environment and Renewable Energy	49	1979-2015	29530	2017
Syria	<i>No Focal Point</i>				
Tajikistan	Committee for Environmental Protection	<i>No data provided yet</i>			
Turkey	<i>No Focal Point</i>	14	1971-2002	11730	2003
Uzbekistan	<i>No Focal Point</i>				

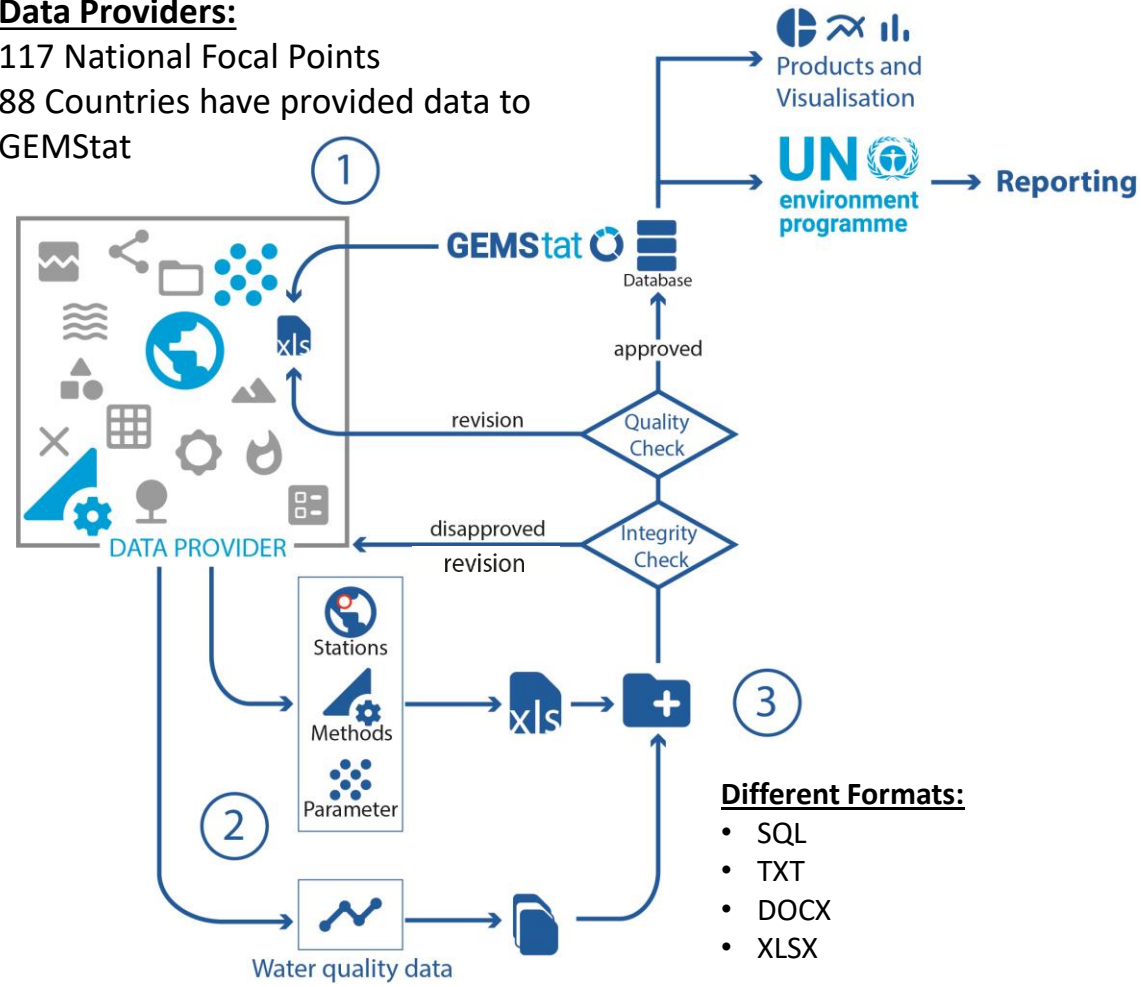


## Data acquisition

### Data Providers:

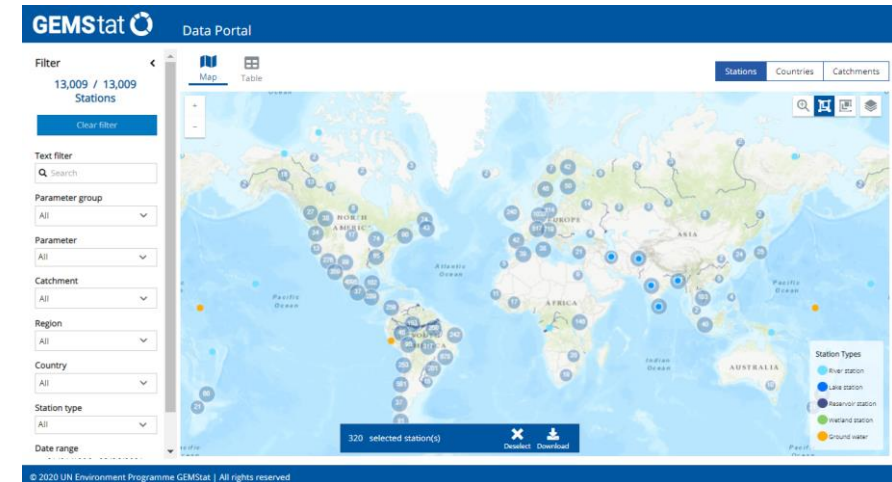
117 National Focal Points

88 Countries have provided data to GEMStat



## Data sharing

- GEMS/Water promotes free and unrestricted sharing of data
- Data remains property of data providers
- Data providers can decide how their data is shared:
  - Open: Unrestricted use, attribution required
  - Limited: Non-commercial use, attribution required
  - Restricted: Only used internally for assessments
- All data products are shared openly (CC-BY 4)
- Users can download data and aggregated statistics from [GEMStat Data Portal](#)

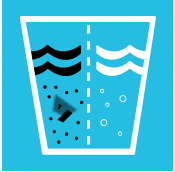




# SDG Indicator 6.3.2 – Proportion of water bodies with good ambient water quality

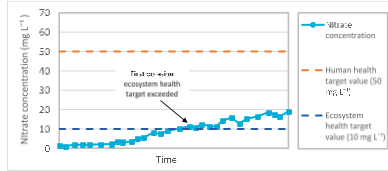
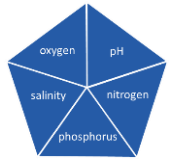


TARGET 6.3



IMPROVE WATER QUALITY, WASTEWATER TREATMENT AND SAFE REUSE

Ambient quality of surface and groundwater bodies is assessed through checking the compliance of monitoring data for general physico-chemical parameters with national water quality guidelines



SDG 6.3.2 Helpdesk:

<https://communities.unep.org/display/sdg632>

## Global reporting workflow

Establish focal points

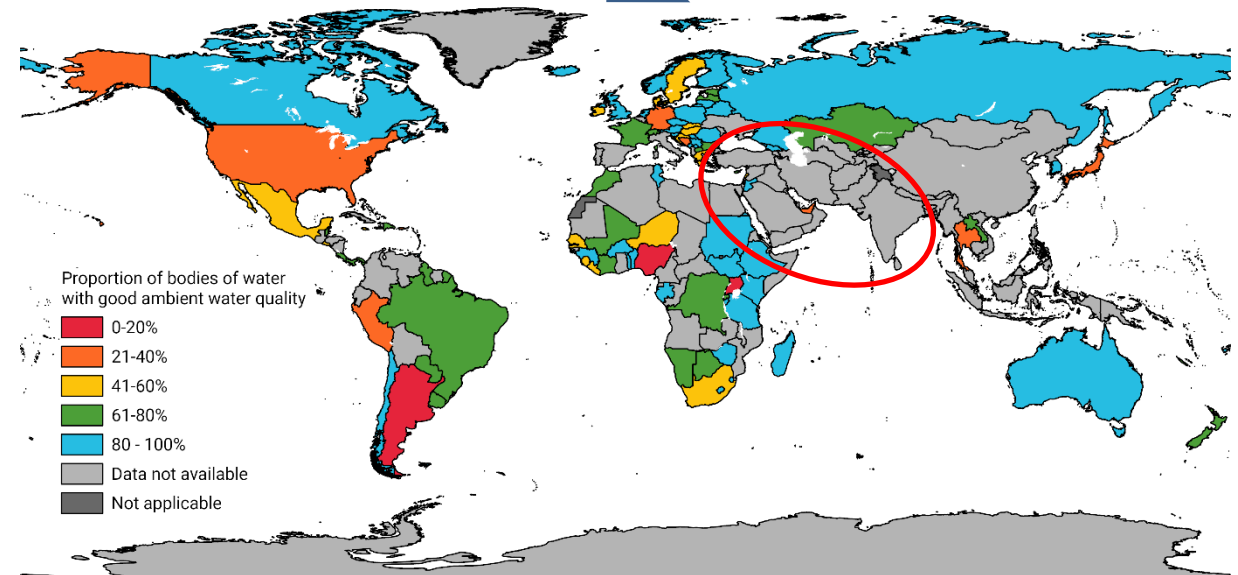
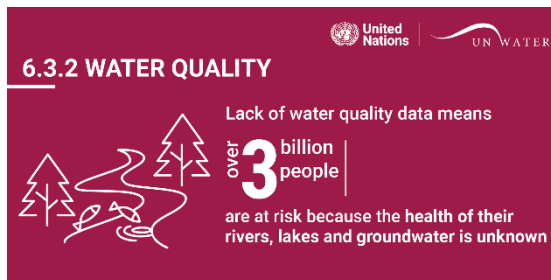
Send data request to countries

Countries compile and report data

UNEP validate reporting data

Data included in global database

- In 2020 89 countries reported on ~75 K water bodies
- ~ 60 % of assessed water bodies have good quality
- For the majority of countries and waterbodies we have no information
  - None of the workshop countries has reported (Oman and Turkey pending)

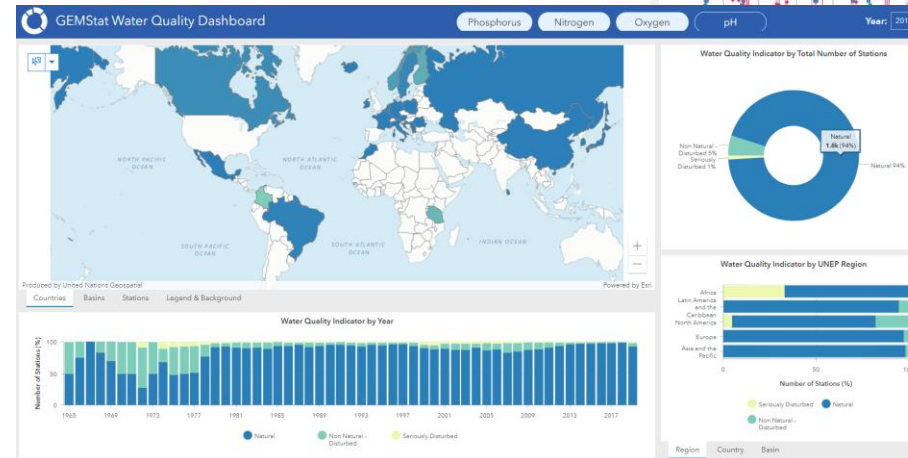
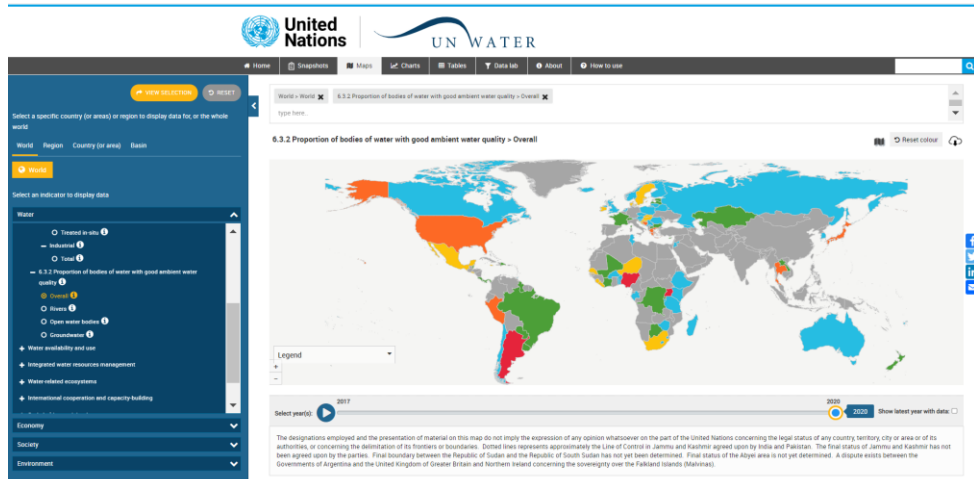


Background info on IMI-SDG 6: [www.sdg6monitoring.org](http://www.sdg6monitoring.org), data at [www.sdg6data.org](http://www.sdg6data.org)

# Data products and services



- All products accessible through GEMStat website: <https://gemstat.org>
- Data portal for interactive visualisation and data download: <https://portal.gemstat.org>
- Interactive maps and dashboards provided through UNEP World Environment Situation Room: <https://wesr.unep.org/topic/index/24>
- SDG 6.3.2 reporting data and products provided through SDG 6 Data Portal: [www.sdg6data.org](http://www.sdg6data.org)





# Thank you for your attention!

## Contact:

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Head of the GEMS/Water Data Centre



United Nations  
Educational, Scientific and  
Cultural Organization



International Centre  
for Water Resources and Global Change  
under the auspices of UNESCO

bfg Bundesanstalt für  
Gewässerkunde

**GEMStat** 

<https://gemstat.org>