

About GEMS/Water

GEMS/Water, a programme of the United Nations Environment Programme (UN Environment), was founded in 1978. In cooperation with participating countries, the programme is creating a unique global water quality monitoring network that provides water quality monitoring data to the global water quality database and information system GEMStat. These data can be used for assessing status and trends in global inland water quality and tracking progress towards Goal 6 of the new Sustainable Development Goals.

In addition to collecting water quality data, GEMS/Water provides support and encouragement to developing countries wishing to establish or improve monitoring programmes and conduct assessments of water quality, by providing training, advice and assessment tools.



International Centre
for Water Resources and Global Change
GEMS/Water Data Centre



United Nations
Educational, Scientific and
Cultural Organization



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

Contact & Information

International Centre for Water Resources and Global Change




GEMS/Water Data Centre
Federal Institute of Hydrology
P.O. Box 200253 • 56002 Koblenz • Germany
Telephone: +49 (0)261/1306-5435
Telefax: +49 (0)261/1306-5422
gwdc@bafg.de • www.gemstat.org

Global Water Quality Monitoring
Data and Products



GEMStat 

bfg Bundesanstalt für
Gewässerkunde

 Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety



UN 
environment

Water 
GEMS

About the Centre

The UN Environment GEMS/Water Data Centre was established within the International Centre for Water Resources and Global Change, an UNESCO Category 2 Centre hosted by the German Federal Institute of Hydrology (BfG) in Koblenz, Germany in 2014. Its objectives include collecting, controlling and providing water quality monitoring data and products for regional and global water quality assessments for UN Environment and other UN and international organisations.

Building on BfG's expertise in water quality monitoring, data management, reporting and collaborating with the Global Runoff Data Centre (GRDC) of WMO, the Centre is equipped with the technical facilities, knowledge base and professional personnel to operate and further develop GEMStat. Working with the water programmes and networks of UN Environment, UNESCO-IHP and WMO, the Centre contributes to the agenda 2030 and SDGs by developing global water quality products and indicators supporting decision-making for water management and policies.



Global Water Quality Database and Information System GEMStat

- **Collecting water quality monitoring data**

The Centre compiles environmental water quality data from the GEMS/Water Global Network of governmental and collaborating organisations covering more than 80 countries.

- **Controlling and assuring data quality**

A global dictionary of Analytical Methods for Environmental Water Quality (AMD) and state-of-the-art data checks ensure the provision of quality-controlled datasets and derived products.

- **Visualising and analysing data**

A web-based information system gives access to statistical and graphical analysis of the data at single sampling sites, aggregated by countries and catchments.

- **Harmonising and standardising monitoring data exchange**

The Data Centre supports the development and implementation of open, standardised exchange formats for monitoring data and metadata to improve the exchange of data at national and international levels.

- **Enhancing data discoverability and accessibility**

The Centre works towards enhancing the availability and accessibility of GEMStat data and products by integrating them into existing global environmental information systems.



Water Quality Data Products and Information

- Water quality indices
- Interactive water quality maps
- Dynamic data visualisations
- Statistical water quality analysis
- Water quality reports
- Supporting the development of an ambient water quality indicator for SDG monitoring and reporting
- Assisting member states in implementing water quality monitoring, indicator computation and reporting