

Groundwater Assessment Platform (GAP)

www.gapmaps.org

Over 300 million people worldwide use groundwater as a source of drinking water that contains natural contaminants, (e.g. arsenic or fluoride). The Swiss Federal Institute for Aquatic Science and Technology (Eawag) applies statistical and machine learning methods to estimate the risk of geogenic contamination using geological, topographical and further environmental data without having to test all ground- water wells. Corresponding risk maps of safe and unsafe groundwater were produced at regional to global scales. These maps and over 100,000 measured groundwater data are available free of charge on the online Groundwater Assessment Platform (GAP), accessible at www.gapmaps.org.



GAP's interactive WebGIS interface

The potential of GAP

GAP's initial focus has been on the geogenic contaminants arsenic and fluoride. However, the online GIS interface, statistical modelling framework and Wiki exchange platform can be applied equally well to different data and topics.

We envision broadening the scope of GAP to subjects such as

- Groundwater vulnerability
- Surface water quality
- Contaminants in soils and foodcrops

The **Groundwater Assessment Platform (GAP)** is an interactive WebGIS portal for mapping and modelling of groundwater contamination and other environmental hazards. It provides the following features:

Mapping:

View data layers hosted on GAP or upload your own

Modelling:

Produce hazard maps with your own data

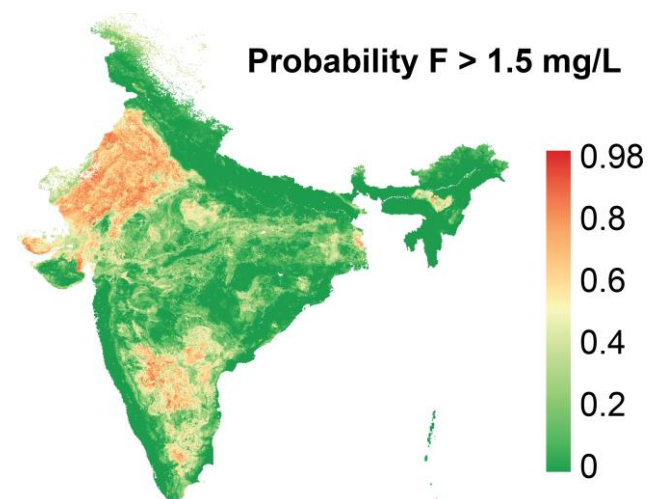
Sharing:

Share data and maps publicly or privately with selected colleagues

Wiki:

Information portal on geogenic contaminants

Example:



Fluoride prediction map of India. The color scale indicates the modelled probability of natural (geogenic) groundwater fluoride concentrations exceeding the WHO guideline of 1.5 mg/L (Podgorski et al., Environ. Sci. Technol. 2018). This is an example of the types of groundwater hazard maps that can be viewed and produced in GAP.



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