Monitoring Monday - Let's look at World Water Day and groundwater.

Join us each Monday as the Clean Water Team shares resources on a water quality monitoring. This Monday is about World Water Day and groundwater.

Celebrated annually on March 22, since 1993, World Water Day is an annual observance day that highlights the importance of fresh water. The day is used to advocate for the sustainable management of freshwater resources. This year the theme for World Water Day is “Groundwater - Making the Invisible Visible”.

Groundwater is the largest source of freshwater on earth. However, being stored underneath the surface, it is often overlooked. Therefore, IGRAC and UNESCO-IHP initiated a World Water Day exclusively focused on this resource. The campaign is built around three main groundwater-related topics/issues, namely: (1) The invisible ingredient in food, (2) a resource without borders, and (3) a finite supply. The campaign also built around other products and events in this so-called 'year of groundwater'. The groundwater catalogue will be launched during the World Water Forum in Dakar, Senegal. The final event related to the campaign will be the Groundwater Summit 2022, held in Paris, France.

Why this joint global effort? Groundwater is a major water-supply source, while also sustaining aquatic ecosystems and maintaining baseflow in rivers and being a critical storage element for climate-change adaptation. Despite these impressive facts, groundwater (being invisible) is ‘out of mind’ for most people. At the same time, water scarcity is increasing, already affects about 2.7 billion people around the world for at least one month per year. As surface water availability decreases (due to human activities and climate change), reliance- and pressure on groundwater is growing. Yet we still do not know sufficient about the state of groundwater resources globally and we do not manage aquifers well enough.

UN WATER
22 MARCH
WORLD WATER DAY

GROUNDWATER - MAKING THE INVISIBLE VISIBLE

Groundwater is invisible, but its impact is visible everywhere.
Out of sight, under our feet, groundwater is a hidden treasure that enriches our lives.
Almost all of the liquid freshwater in the world is groundwater.
As climate change gets worse, groundwater will become more and more critical.
We need to work together to sustainably manage this precious resource.
Groundwater may be out of sight, but it must not be out of mind.
www.worldwaterday.org/

World Water Day is just one of the ways in which the theme of groundwater is being highlighted this year, click to view groundwater related activities in 2022.

STORIES FROM AROUND THE WORLD

https://www.worldwaterday.org/stories

TAKE THE ONE MINUTE CHALLENGE!
Shoot a 60 second video and tell us… How does groundwater affect your life? Is there enough? Is it safe? What needs to be done to protect groundwater? Share your groundwater story!
Make your film…

- One-minute max.
- Landscape orientation.
- Civil and truthful.
- In English or with English subtitles.

Don't forget to include the hashtags #MyGroundwaterStory & #WorldWaterDay, upload to YouTube or Vimeo, and send us the link at mygroundwaterstory@un-igrac.org.
https://www.dropbox.com/sh/pxk05660dg22mhd/AABVbWYhhm3fXKsWSG-f9HiKa?dl=0

COLORING PAGE
Download the World Water Day 2022 T-shirt print and make your own groundwater coloring page.

WORLD WATER COUNCIL

9th World Water Forum, Dakar 2022 - Water Security for Peace and Development

From 22-27 March 2022, participants from every horizon, including political and economic decision-makers, multilateral institutions, academia, civil society and the private sector will gather in Dakar, Senegal for the 9th World Water Forum.

Building upon previous World Water Forums, the 9th Forum will, through an innovative framework, seek to identify, promote and implement concrete responses and actions for water and sanitation in an integrated way.

It will be the first time the World Water Forum, the largest international water-related event, will be held in sub-Saharan Africa.

More information: www.worldwaterforum.org

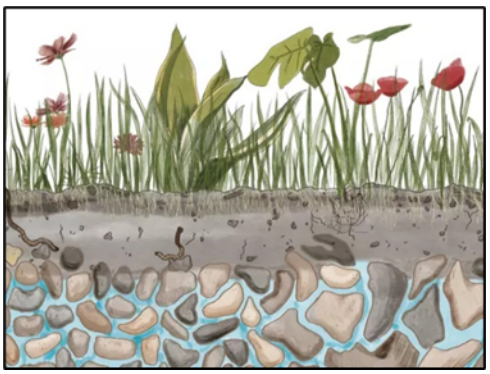
Groundwater Summit 2022 - Making the invisible visible
Held in December 2022, the Summit will use the UN World Water Development Report 2022 as a baseline and the SDG 6 Global Acceleration Framework to define actions towards more responsible and sustainable use and protection of this vital natural resource. The Summit will unify the statements from all major water-related events in 2021 and 2022 into one comprehensive groundwater message for the UN 2023 Water Conference.
www.un-igrac.org/agenda/groundwater-summit

New Book: Managing Aquifer Recharge
A new book, Managing Aquifer Recharge: A showcase for resilience and sustainability, published by UNESCO-IHP (Intergovernmental Hydrological Programme) and partners, showcases 28 real-life examples of Managed Aquifer Recharge (MAR) from around the world. The book, free to download or read online, demonstrates that MAR is a well-established technology and a vital approach in the fight against climate change and to ensure water security. Find out more and access the book here.

Webinar: Groundwater and Climate Change – Multi-Level Law and Policy Perspectives
This International Water Resources Association webinar brought together experts from around the world to explore different case studies of groundwater law and policy in the context of climate change. The aim of the discussion was to find the cross-sectorial linkages between ways that groundwater is used, including agricultural and energy, and managed. Watch the Webinar here.

Webinar Series: Groundwater Success Stories
Groundwater is not only a story of over-exploitation, depletion and negative impacts. There are locations in which groundwater is managed successfully and problems solved by good cooperation and governance.

Between June 2021 and March 2022, the International Water Resources Association Groundwater Task Force is running a series of bi-monthly webinars on groundwater success stories.



RESOURCES

Citizen's Guide to Ground-Water Protection
This guide is intended to help you take an active and positive role in protecting your community's ground-water supplies. It will introduce you to the natural cycle that supplies the earth with ground Water, briefly explain how ground water can become contaminated, examine ways to protect our vulnerable ground-water supplies, and, most important of all, describe the roles you and your community can play in protecting valuable ground-water supplies.
https://www.epa.gov/sites/default/files/2015-10/documents/2006_08_28_sourcewater_guide_citguidegwp_1990.pdf

California's Groundwater Live: California's Latest Groundwater Information and Conditions
Groundwater is a vital resource in California. It sustains our ecosystems, supports our agriculture, fuels our economy, quenches our thirst, and reduces the impacts of drought and our changing climate. Groundwater accounts for 40 percent of the State's total annual water supply in normal years and almost 60 percent in drought years. This is why the California Department of Water Resources (DWR) is committed to protecting this precious resource and has developed California's Groundwater Live in conjunction with the public release of California's Groundwater Update 2020. We welcome you to explore our newest groundwater tool which features the latest groundwater information, live statistics and a series of interactive dashboards that can be accessed by clicking the icons below.
https://sgma.water.ca.gov/CalGWLive/

Water Boards Groundwater Programs

- Groundwater Basics
- How do the Water Boards protect groundwater?
- Sustainable Groundwater Management Act (SGMA)

Groundwater Management Program
The Groundwater Management Program oversees the responsibilities assigned to the State Water Board by the Sustainable Groundwater Management Act (SGMA).
www.waterboards.ca.gov/water_issues/programs/gmp/groundwatermanagement.html

- Groundwater Workplan

Groundwater Ambient Monitoring and Assessment Program (GAMA)
The Groundwater Ambient Monitoring and Assessment (GAMA) Program is California's comprehensive groundwater quality monitoring program that was created by the State Water Resources Control Board (State Water Board) in 2000. It was later expanded by Assembly Bill 599 - the Groundwater Quality Monitoring Act of 2001. AB 599 required the State Water Board, in coordination with an Interagency Task Force (ITF) and Public Advisory Committee (PAC) to integrate existing monitoring programs and design new program elements as necessary, resulting in a publicly accepted plan to monitor and assess groundwater quality in basins that account for 95% of the state's groundwater use. The GAMA Program is based on interagency collaboration with the State and Regional Water Boards, Department of Water Resources, Department of Pesticide Regulations, U.S. Geological Survey, and Lawrence Livermore National Laboratory, and cooperation with local water agencies and well owners.
www.waterboards.ca.gov/water_issues/programs/gama/about.html

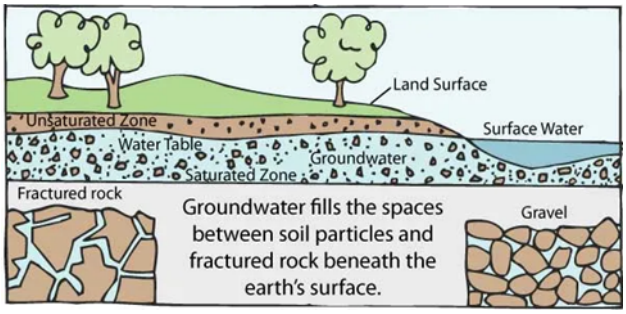
- GAMA OnLine Tools

Data and Databases – Groundwater
his topic includes ambient groundwater level and groundwater quality sampling data throughout California, well construction information for regulated sites, and a range of information and sampling data for sites that impact groundwater or require cleanup to protect groundwater resources.
www.waterboards.ca.gov/resources/data_databases/groundwater.html

USGS California Groundwater Resources
- Groundwater Topics
- Groundwater Data for California
- Sustainable Groundwater
- California Active Water Level Network
- Groundwater Modeling
- Drought & Groundwater
- Explore Search: Groundwater and Aquifers

USEPA Ground Water and Drinking Water
Groundwater Topics
Ground Water Rule

STUDENT & TEACHER RESOURCES

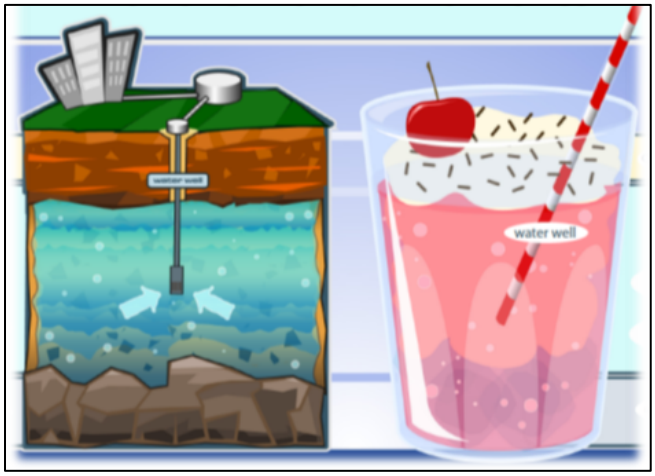


WHAT IS GROUNDWATER?
Groundwater is water that exists underground in saturated zones beneath the land surface. The upper surface of the saturated zone is called the water table. Contrary to popular belief, groundwater does not form underground rivers. It fills the pores and fractures in underground materials such as sand, gravel, and other rock, much the same way that water fills a sponge. If groundwater flows naturally out of rock materials or if it can be removed by pumping (in useful amounts), the rock materials are called aquifers.
https://www.usgs.gov/faqs/what-groundwater

Groundwater Foundation's the Basics
- What Is Groundwater?
- The Hydrologic Cycle
- Glossary
- https://www.groundwater.org/get-informed/basics/

Learn About Groundwater

- At Home!
- Students & Educators
- Drinking Water Activities for Students and Teachers
- Science Sustainability Sleuths - Discovery Cube Connect



Edible Aquifers

- The Edible Earth Parfaits
- Groundwater Parfait
- Build your own aquifer parfait!
    - Need some wildlife? Add gummy worms and gummy “water” bears (tardigrades)

Erick Burres
Clean Water Team Coordinator
California Water Quality Collaboration Network Facilitator
Safe to Swim Network Co-facilitator
erick.burres@waterboards.ca.gov
213 712 6862 mobile
Mailing address:
Erick Burres – Clean Water Team
C/O SARWQCB
3737 Main Street, Suite 500
Riverside, CA 92501-3348