

Groundwater Detection Guide:

# The Scientific Approach to Supplemental Groundwater Location for Agriculture - in 4 Steps

[www.AquaterreX.com](http://www.AquaterreX.com)



## Water is the critical element to any agricultural business.

In addition to other challenges, many farmers and ranchers are facing unprecedented water shortages that impact the very existence of their families and business. As the backbone for the world's food supply, lack of water threatens our survival as we know it.

It's true that shallow aquifers, rivers, and lakes are being contaminated and depleted. Relying only on these shallow aquifers and surface water is an outdated model and as a result, we are feeling the impact of the misconception that there are "no other solutions." Yet, *new technology* to precisely locate and access deeper, alternative fresh water supplies is here today.

And the most encouraging news is that it is abundant. The US National Groundwater Association estimates there is 6,000 years of freshwater supply in the upper two kilometers of the earth's crust. AquaterreX has developed the ability to locate and economically bring to the surface these previously untapped water resources.

## How can you find this water on your land? Keep reading.

## What is This Plentiful, Accessible Source of Water?

This plentiful and accessible source of water is called Deep Seated Water. It is an almost unlimited alternative source of water. Deep Seated Water, or DSW, is high-quality groundwater, typically sourced from deeper aquifers that are located below shallow aquifers.

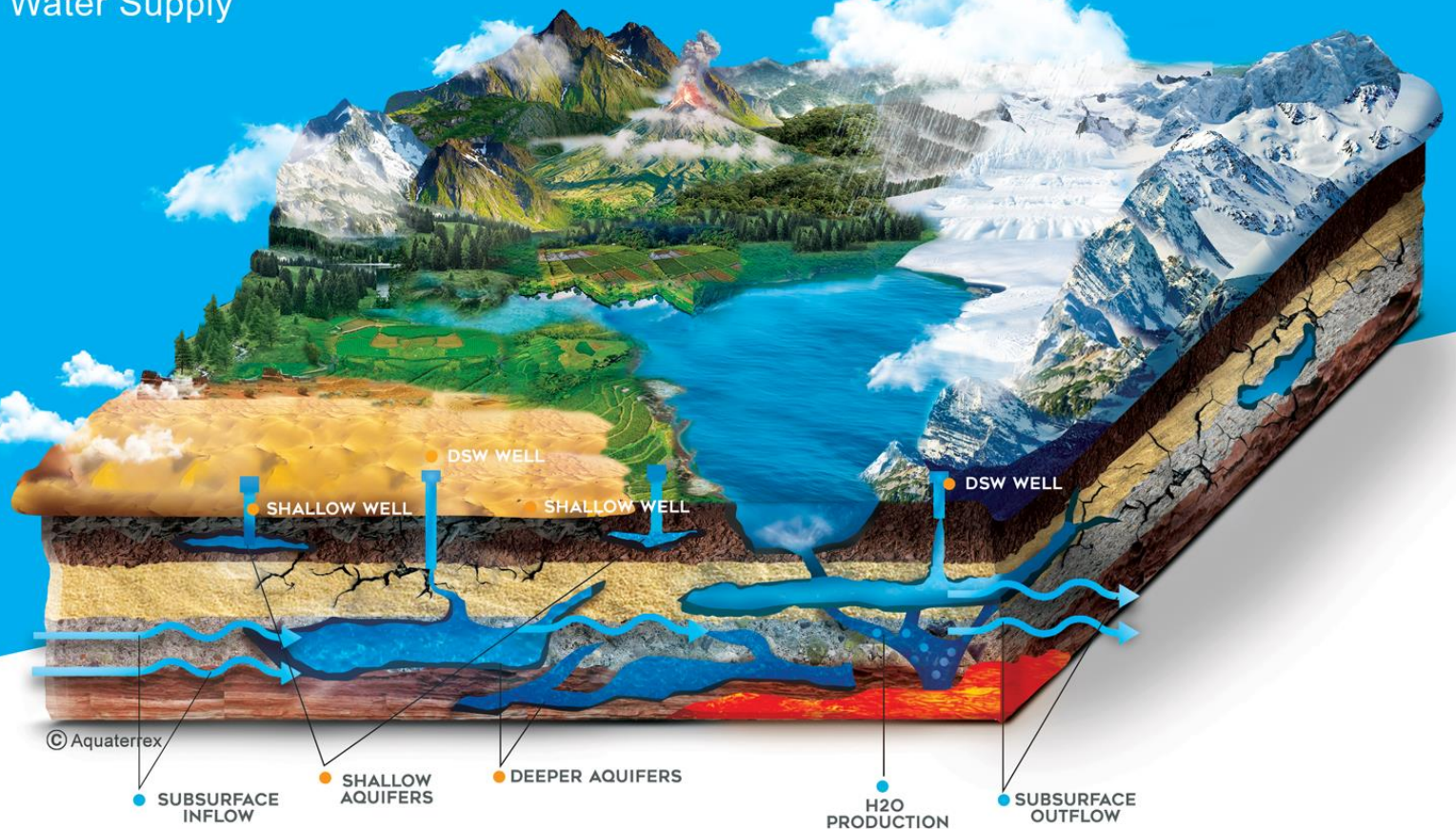
Such deep aquifers are supplied not only from local catchment basins but also by subsurface inflows across basin boundaries. Deep Seated Water also encompasses water created at the mantle level of the Earth under extreme heat and pressure.

### EARTH'S WATER SUPPLY

The U.S. National Groundwater Association estimates that there are 22.6 million cubic kilometers of groundwater in the upper two kilometers of the earth's crust. Total global usage is 3,717 cubic kilometers per year. That means there is enough water to supply Earth for over 6,000 years at today's global consumption rates! Tapping just 2% of this water would solve the global water crisis and double the supply of available fresh water for over 120 years.

# DEEP SEATED WATER







A New Paradigm In Fresh  
Water Supply



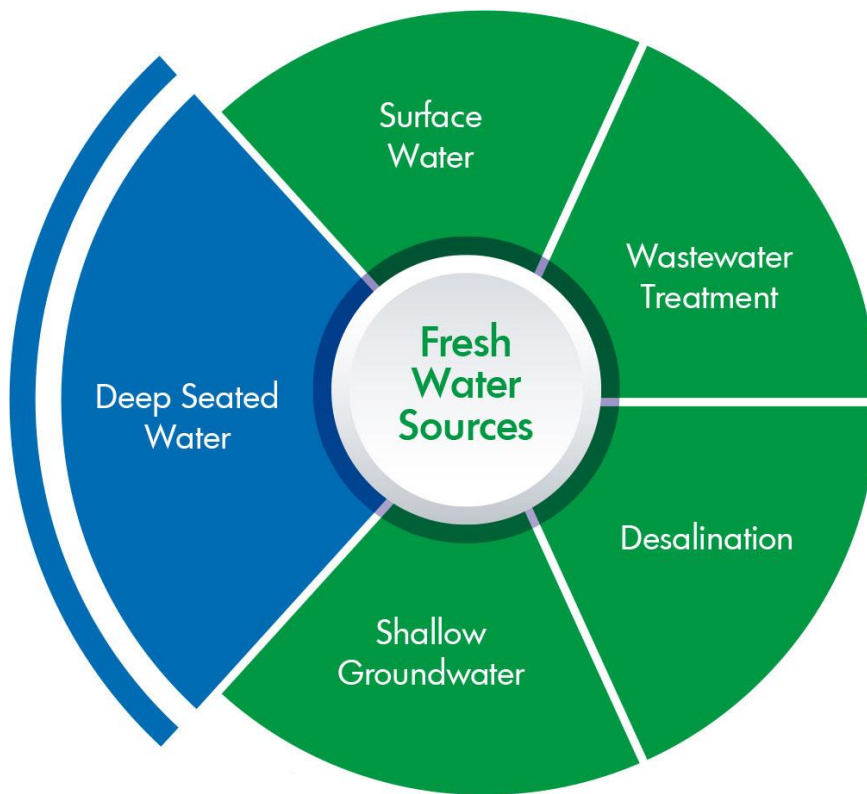
Although this freshwater source may be located deeper than shallow aquifers, new technology enables us to locate the fractures, channels and pathways that allow us to access the deeper water without having to drill wells thousands of feet (or meters) deep. Thus, this water can be made available economically and easily. With the combination of technologies available to AquaterreX, we can locate water with near-100% accuracy.



## Deep Seated Water Benefits

-  Alternative Source of Fresh Water for Drought-Stricken Areas
-  Complements Existing Water Conservation Measures
-  Protects Against Contamination or Pollution
-  Permits Shallow Aquifers to Recharge and Restores Surface Water
-  Reinforces Sustainable Water Management and Security
-  Economical, Fast, and Scalable. Large scale solutions, such as desalination and wastewater treatment, can cost hundreds of millions of dollars and take years to plan, build and implement. Deep Seated Water can be located and water-producing wells can be completed within just a few months. DSW can also be scaled up over time based on the magnitude of the need, rather than an up-front commitment of a large budget and construction cycle.

## Deep Seated Water is the Missing Piece in Your Water Strategy



Many water strategies focus on conservation, rather than additional supply. Other solutions such as desalination and wastewater treatment are potential answers for some, but they also come with trade-offs such as high cost, high energy usage, long planning periods and toxic waste.

Deep Seated Water is abundant, fresh, accessible, and it can be added to your mix of solutions as a supplemental freshwater source that is not subject to pollution. It is fast and easy to implement and is economical and scalable. What are the steps to access it?

## The Water Location Technology

Exploration techniques for locating and extracting metals, gas, oil, and other minerals have advanced dramatically over the course of the past century with well-established operating standards and procedures across these industries.

However, the technologies and methodologies for the detection and exploration of groundwater have not progressed at the same rate, and therefore have not been proven to be significantly reliable and economical. Indeed, a large percentage of water locators still use “water witching” or “dowsing” to try to find water. That’s why the reported success rate of finding water in arid regions is less than 40%.



Under 40%  
Success Rate

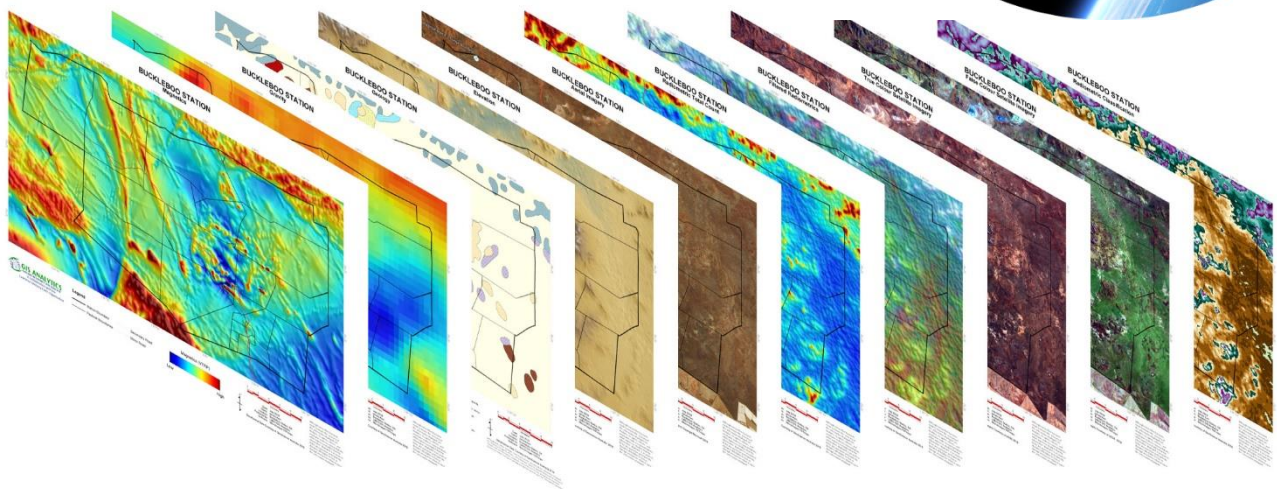
## The New Water Location Technology

**That has all changed.** AquaterreX possesses a unique Geospatial Data Analysis and Assessment Method for the Mapping, Locating and Extraction of high quality, high quantity, fresh water. In fact, our success rate is over 90% and is approaching 100%.

High-Tech advancements give science-based certainty and accuracy on where to drill and where not to drill. No more dry holes!

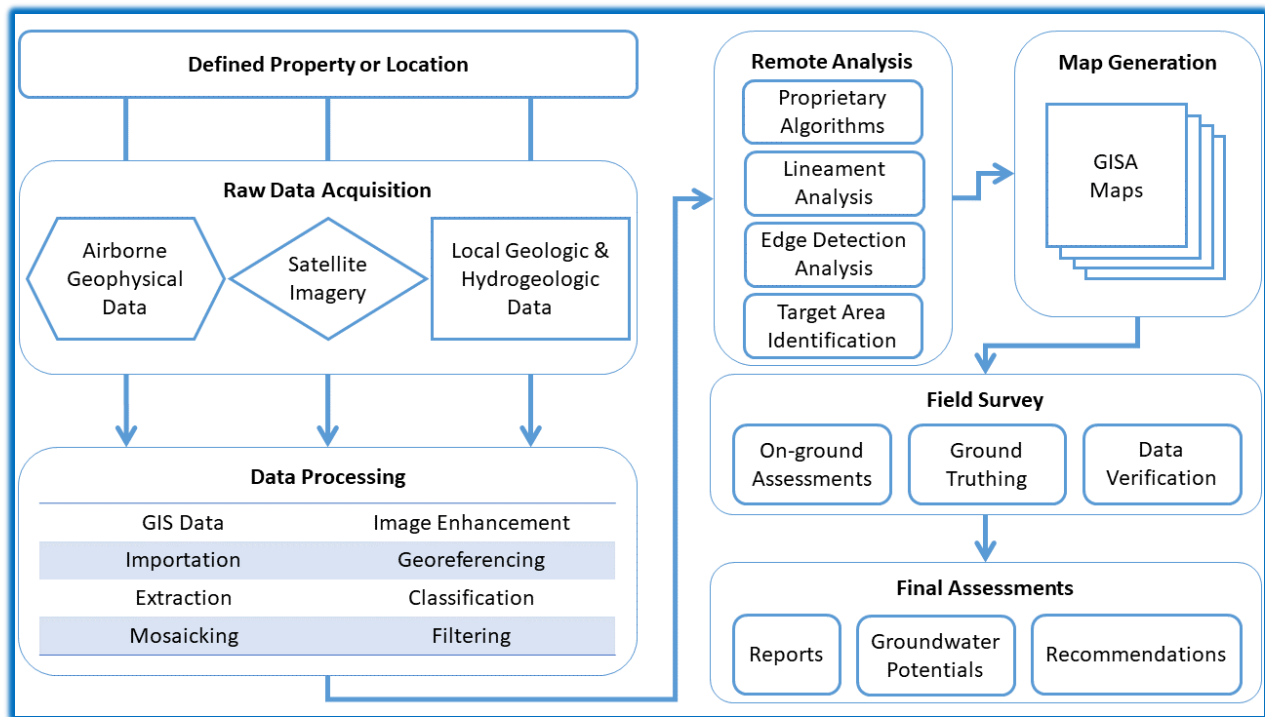
The technical process of locating and extraction of deep-seated water spans several different fields of science and engineering technology. The 4 basic steps follow.

OVER 90%  
Success Rate



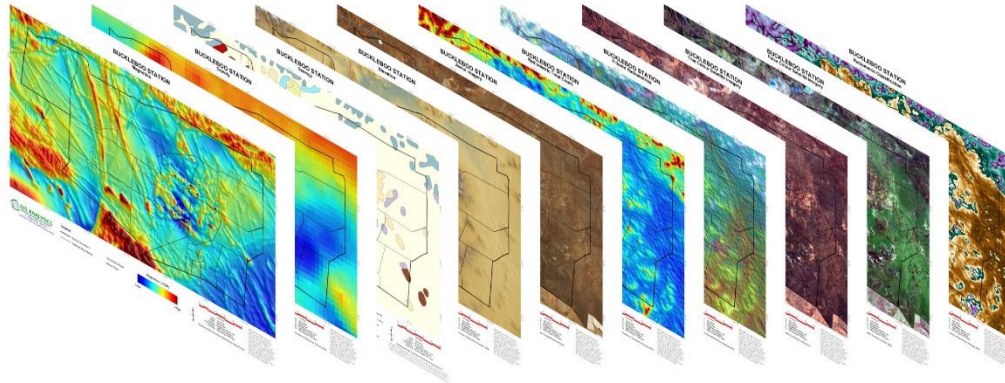


## AquaterreX Groundwater Location Methodology Stages



## Groundwater Location Step #1

### Acquire Remotely Sensed Geospatial Data



Remotely sensed geospatial data is acquired via satellite and airborne geophysical surveys. This includes:

- satellite imagery
- magnetic
- gravity
- gamma-ray (radiometric),
- digital elevation datasets
- atmospheric
- geology
- hydrology
- regional water well data
- historical data sets

Available data varies by region, but higher resolution data results in significantly better target detection.

## Groundwater Location Step #2

### Processing, Integration and Analysis of Data Sets

The geospatial data sets obtained in Step 1 are then processed, integrated, and analyzed with geographic information software systems (GIS) using a variety of proprietary techniques.

These unique methodologies allow for the detection of shallow and deep groundwater systems, and result in identified Areas of Interest for field surveys.



## Groundwater Location Step #3

### On-site Field Survey

An on-site, on-the-ground field survey and inspection is conducted by an AquaterreX team. The field survey is conducted to verify and validate the findings of the remote analysis, allowing for the accurate identification of exact locations for bore sites (within 1 meter). This includes the deployment of seismic and electro-resistivity measurement devices to map underground structures and locate water.

The combination of remote analysis and on-ground survey information significantly improves the chances of finding water.





## Groundwater Location Step #4

### Time to Drill the Well!

With the scientific data to hand, you now know where to drill with near 100% accuracy! No guesswork, no witching, just pure science!



Well drilling costs and effort will vary greatly depending on the location, geology, size, and depth of the well. In some cases, for example, it will require drilling rigs with a capacity to drill through hard rock. Although many bore holes are shallower, the typical depth for a DSW well is 100-200 meters (328-656 feet). AquaterreX can provide and manage the drilling process or work with your preferred drilling contractor.

Now it's time to put your new, fresh, supplemental water source to good use!

## Your Next Steps:

Please answer these questions about your property:

1. Your Name:
2. Property address:
3. Phone:
4. Email:
5. GPS coordinates: (if you have this data)
6. How long have you owned the property?
7. What is the size of your property?
8. Purpose of property (what type of activity do you have on it?):

## Your Next Steps Continued:

9. Any history of the property that could somehow have an impact on a water well location and well drilling project?

10. How much water do you need?

11. Are there existing well bores on the site?

a) if so, flow rate?

b) issues with water quality?

12. Anything else you would like to mention about the property that you feel is pertinent or might have an impact on this project?

## Your FRONT OF THE LINE access!

Because you have done some of the legwork, we will bump you to the front of the line and get you scheduled with one of our senior consultants in your area right away!

Either:

1. Email your completed information to [info@aquaterrex.com](mailto:info@aquaterrex.com)  
OR
2. Call 661-550-0880. If you have to leave a message, be sure to say you have “front of the line access”!



## Over 1500 Deep Seated Water Wells Completed on Four Continents

AquaterreX is a global environmental services organization with a mission to broadly implement effective water and food security solutions.

Simply put, we specialize in finding water, even where others say “there is none.” We offer a free consulting service to explore how we can help solve the freshwater challenges of municipalities, agriculture, industry, developers and others. Contact us to find out how we can help.

### Contact Us

<https://aquaterrex.com/>

Phone Number: +1 661-550-0880

Email: [info@aquaterrex.com](mailto:info@aquaterrex.com)