

GROUND WATER RELIEF

MEET THE MEMBER - LUCIANO MARQUETTO



Area of Expertise: GeoSciences
Job Title: Professor at the Federal University of Santa Maria (UFSM), Brazil
Years' Experience:16
Nationality: Brazilian

PROFESSIONAL BACKGROUND.

Can you tell us a bit about your background in groundwater?

I graduated in 2010 and began my career in consultancy, working with various municipalities and companies. During this period, I gained some experience in groundwater-related work. Around nine years ago, I started volunteering with Groundwater Relief, which gradually led me to focus more on groundwater. In 2023, I joined the Federal University of Santa Maria in Brazil, where I have been fully dedicated to developing my research in groundwater.

What inspired you to pursue a career in groundwater?

It felt like a meaningful way to contribute to society—an area where you can genuinely make an impact.

Could you share a brief overview of your day job outside of GWR, and what you enjoy the most about it?

My job involves a lot of teaching (undergraduate and graduate classes), and working on research and outreach projects. I also have some projects going on, all of these related to groundwater. One is an outreach project which aims to communicate groundwater science to the general public. I really enjoy being with the students, inspiring them and being inspired by them.

INSIGHTS AND EXPERIENCES.

Can you describe a particularly challenging groundwater issue you've encountered and how you addressed it...

The issue / problem with groundwater is that it is often described as 'invisible'. It is below ground, not easily seen, so for the general public it is hard to grasp. This creates a perception of invulnerability and unlimited abundance for the resource. This then contributes to the challenges we see today, of aquifer contamination and depletion world-wide. It is hard to get people in general, to understand the situation.



What is the best piece of advice you have ever received?

I don't have one particular piece of advice I can think of, but working with more experienced geologists and hydrogeologists on different projects has expanded my knowledge. I learned a lot by participating in each project, and I would say every person I worked with ended up giving me some piece of good advice.

What do you enjoy most about working in groundwater?

It is great to be able to go to the field and collect data and then come back and make the puzzle fit together to make the whole picture. It is challenging but rewarding.

What do you think are the most pressing challenges related to groundwater and water supply today?

There was a recent (2026) UN University paper, highlighting the problem of water bankruptcy. It basically says that we entered a new era where some river basins and aquifers are losing the ability to return to their historical "normal". Understanding that we are living in this new stage might be the most challenging condition we face now.

What remote and field projects have you worked on whilst at GWR?

I have been to Bangladesh twice and twice to Yemen with GWR.
The first project in Bangladesh was an emergency project related to the Rohingya refugee situation in Cox's Bazar. GWR was requested to support a few organisations working in the Kutupalong-Balukhali megacamp, and I got involved with borehole siting, drilling supervision, pump testing and starting a monitoring network.
The second time I was in Bangladesh, I worked on the host community in Cox's Bazar. We were involved in the drilling of pilot bore holes to collect data and better understand the aquifer characteristics there.
My work in Yemen has been to assess the groundwater situation in the West Coast (Tihama Plain) . The first time, we carried out a pilot irrigation survey and installed a monitoring network in Al Mokha and Mawza districts, and the second time, we carried out another irrigation survey. This time more robust which allowed us to better understand groundwater quality spatially, irrigation practices and main crops grown. This is important to ultimately refine the water balance in the region.
I have also worked on other projects remotely in Northern Syria and in Ma'r'ib, Yemen.



If you weren't a hydrogeologist, what alternate career would you have chosen?

I am not sure, but it would still be in geosciences. Maybe geography? I like the way a geographer can fit pieces of different areas together, understand not only the technical parts but the human side too, making sense of the connection between those two.

What has been the most rewarding project you have worked on with GWR?

All of them have been very rewarding but the work in refugee camps was really impactful.

GWR INVOLVEMENT AND ADVICE



What do you hope to contribute to the GWR community in the future?

I would like students to collaborate with GWR projects so that they can see, that what they are learning, is being impactful somewhere. I would like to work on more joint projects between GWR and my university (UFSM), and hopefully in joint projects between GWR, UFSM and other agencies and universities.

Do you have any memorable stories or experiences from your work with GWR that you would like to share?

When I was working on the pumping test in camps in Bangladesh, we had to pump for 3 days. As part of this test, water had to be discharged away from where we were pumping, so it would not infiltrate back.
On the first day, people looked at what we were doing with interest and curiosity but then went home.
On the second day, some children started playing in the water, and then women started washing clothes and men started taking showers in the pond created by the discharge. It was incredible to see how the presence of water had created a small ecosystem around us. It was powerful to see how important ground water is and how essential and necessary it is for people.

What advice would you give to someone aspiring to get involved with GWR?

Get involved in as many projects as you can, and learn with other colleagues along the way. Start with remote projects so that you are ready to go to the field.

How has being a member of the GWR community benefited you professionally and personally?

My entire career is embedded in all that I have learnt here.