



# VELTWATER DISTIL-LERY

## KEEP CALM, AND RISE ABOVE IT

Volume 2 / Issue 4

Friday 26 November 2021



Topic #1 – A Balancing Act



Topic #2: Pick Your Poison



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# #1: A BALANCING ACT

## Does balance come naturally or is it something to practice?

*Ever wish you had more hands (and not just those of your significant other) to get everything done?*

This was quite an exciting year for us at Veltwater. Not only was this writer's first ever peer reviewed article published (co-written by Sonia Veltman), but we also welcomed a new member to our little Veltwater family and his name is Franco van Rooyen, born in July 2021.



He is partly the reason why our quarterly Distil-ery is a bit late and the other part is due to mommy adjusting to this new way of life and trying to find a balance 😊.



👉 *\*not quite in high heels anymore, but close...*

This reminded me of the term equilibrium, which according to Merriam-Webster is defined as follows:

“A state in which opposing forces or actions are balanced so that one is not stronger or greater than the other.”

The law of water balance states that the inflows to any water system or area is equal to its outflows plus change in storage during a time interval.

Integrated water balance simulation models allow for analysing alternative strategies and the testing of new engineering changes within a particular system to optimise operations, which informs management and policy design, even before money is spent.

**Wait, what? Do go on...**

These are mathematical models which integrate surface- and groundwater water flow logic with the variances in production, maintenance and seasonal variabilities in precipitation and evaporation events. The model visually shows the water levels and flow rates between components and provides a better understanding of the total water system.

**Handy, isn't it? We know some cool people at Water Hunters that makes this look easy.**

This tool is widely used in the mining industry but imagine how much money can be saved when projects can be planned and executed in this manner. Luckily, we live in a world where advances are made on a daily base, we just need to keep up.



**Join in the conversation:**

- Do you think dynamic simulation models can be incorporated into other water sectors?

## #2: PICK YOUR POISON

### Say what now?

*Much like the matrix, would you pick the blue or the red pill – to live in either blissful ignorance or to embrace uncomfortable truths?*

Recently, with each news cycle comes a new polarising ideology. Science becomes fiction, politics becomes the science and technology rules them all. Enter, Lord of the Rings.

In South Africa we are so used to the idea of drought, although never easy, but definitely not a new concept.

A polarising opposite so to speak is the Netherlands.

#### ***Did you know?***

The 'Netherlands' means 'lowlands' and is a very flat country that is located slightly above or at sea level, while about one quarter of the country is below sea level.



The landscape of the Netherlands is dominated by flat and reclaimed land. Flooding was a big problem in the history of the Netherlands, so man-made hills, dikes, and windmills were constructed to pump water out.



Ask any Dutchie and they will tell you that the weather can be summed up in one word, “rainy,” that is because the Netherlands experience rainfall throughout the year.

Rijkswaterstaat (the executive branch of the Ministry of Infrastructure and Water Management) and the district water boards are charged with water management, and each have their respective duties. The water managers are responsible for the prevention of flooding and ensuring sufficient volumes for use and to keep the water quality up to par. The private and public sectors work together to accomplish these goals.



#### ***Join in the conversation:***

- Would you rather live in a water scarce country or a country with an abundance of water?
- Do you think it would be a good idea for public and private sectors to work together in SA?

# #3: BRAGGING RIGHTS

## With whom are we bragging??

*None other than our very own Sonia Veltman, the mastermind behind Veltwater.*

This year, the 17<sup>th</sup> Biennial Groundwater Conference and Exhibition was hosted as a hybrid conference (online/in-person). The conference theme was Groundwater: Resilience and Visibility.



The theme inspired many interesting and innovative talks which stemmed from real world experiences and from various research outcomes.

To quote Majola, van Wyk and Vermaak, “Groundwater related policy and governance decisions should be informed by scientific research outcomes. This will promote the development of sound strategies from a groundwater perspective; and thus, resulting in groundwater visibility.”

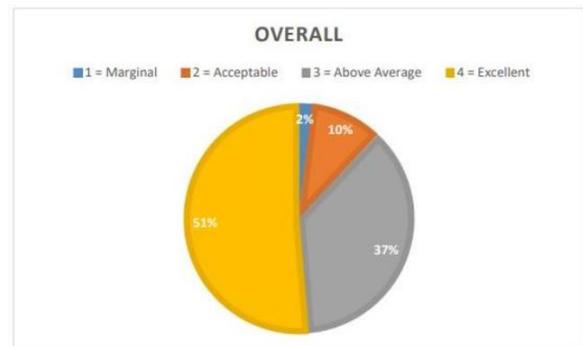
Veltwater participated this year by contributing to the presentation line-up. Our topics for the conference was:

Half Full or Half Empty? Groundwater surface water interactions – An ever-increasing focus for water resource management presented by Sonia Veltman.

And

Practical solutions for academic based applications in understanding the importance of correct aquifer test data interpretations presented by Jorette van Rooyen.

Interestingly, the online platform provided a unique opportunity to collect feedback in the form of live surveys. The surveys popped up at the end of each speaker’s session to rate the quality of the presentations. As a result, the consensus was as follows:



To top it all off, Sonia was voted the best oral presenter. A very well-deserved recognition by showing that numerical modelling does not have to be big, bold, and expensive to effectively quantify flow. **Give that woman a Bells 🍩**

