

# Atmospheric rivers are the new new thing in water

The world of water through the eyes of GWI publisher [Christopher Gasson](#).



I have been in Geneva this week for the OECD Roundtable on Financing Water. It was a good place to preview what is likely to be talked about at next month's UN Water Conference. For me, the newest new thing actually had nothing to do with water finance, but it is likely to shape the international water dialogue for some years to come. It was the measurement and mapping of atmospheric water flows by Johan Rockström of the Potsdam Institute for Climate Impact Research.

Historically, transboundary water disputes have been restricted to blue water flows: i.e. water flowing in rivers. Rockström and his team at the Potsdam Institute have mapped green water flows – that is to say water in the atmosphere, soil, and transpired through plants. Like blue water flows, these flows equally have upstream and downstream nations. Brazil, for example, is an upstream nation in the green water cycle. Its rainforest is largely fed by atmospheric water evaporated over the oceans, but the same rainforest creates a vast green water basin which provides the rainfall for all those countries downwind of it. Cut down the rainforest, and all of those countries will find themselves much drier places.

Rockström provided a list of the net green water importers and exporters in his presentation, which is sure to become a new source of geopolitical anxieties.

It means that we now live in a world where neighbouring countries (and even not-so-near neighbours) not only need to keep an eye on who is building dams upstream – they also need to watch out for any changes in land use which might affect the green water flows into their territory.

The discovery of the patterns of atmospheric green water flows changes the dialogue in a number of different ways. First, it brings the water discussion a whole lot closer to the climate discussion. Atmospheric green water flows are the very stuff of climate change: they are what define its impacts. Second, it changes the way we perceive water as a global common good. Hitherto, freshwater flows have been a strictly local concern, with little relevance beyond the catchment. Atmospheric green water flows connect the world's freshwater resources globally for the first time. Third, it brings new voices into the water discussion: specifically so-called indigenous peoples – the traditional stewards of many of the most important atmospheric green water basins. We will see a lot more of them at water conferences.

**Source:** [Water Intelligence Magazine \(February 2023\)](#)



I am writing this for GWI readers simply so that you can appear well informed. I'm aware it won't make you rich, or, as one of the delegates remarked: it is difficult to operationalise the information. It is a distraction from water's most important challenge, which is attracting investment into infrastructure. I have to say I didn't hear much new on this subject at the OECD event. There was a lot more excitement around other themes such as the next steps for corporate water reporting and the possibilities of nature-based solutions. Corporate water reporting might sound a slightly stale issue in 2023, but as Cate Lamb of CDP Water tells it, we could be on the verge of something really big. CDP has launched a water reporting survey for financial institutions and got a good response from the sector. The question is whether we can set a goal for environmental, social and governance investors to pursue in water to match the net zero goal they require of their investments in relation to carbon. It could change the world.

Nature-based solutions (i.e. green infrastructure such as wetlands) are gaining traction because they represent the link between climate change and biodiversity for many NGOs which are involved in both. The NGOs are trying to get development finance institutions involved in financing these things without understanding that a bioswale isn't great at debt service. The reality is that the main market for nature-based solutions will be in the US and Europe, where they are rapidly taking market share from grey infrastructure in flood control. Capturing the value of the carbon credits relating to nature-based solutions could be a game-changer. There is a beautiful symmetry in using a climate change mitigation measure to finance climate change adaptation; however this is more likely to happen in places with a regulated carbon market (e.g. Europe) than in those places (largely the developing world) where the carbon market is voluntary.

Probably the most interesting thing that will come out of the UN Water Conference from an infrastructure finance perspective will be the report from the Global Commission on the Economics of Water. This is co-chaired by the director-general of the World Trade Organisation – Ngozi Okonjo-Iweala – who seems a brilliant choice for the job. She delivered a presentation in Geneva giving some insight into her thinking on the issue. The report comes 20 years after Michel Camdessus's landmark report on Financing Water. It will be fascinating to see what has changed since then.

interest in net zero commitments fell away dramatically. This reflects the fact that the UK government put money into supporting the Race to Zero before the Glasgow meeting, but the Egyptian government preferred to move the focus to climate change adaptation. Most of the talk at COP27 while I was there last week was about "loss and damage", i.e., the idea that the developed world should pay compensation towards developing countries which have been adversely affected by climate change. I can see why the Egyptians did it, nevertheless it is a dismal development. The loss and damage discussion is worthy, but it is absolutely not a substitute for the overall climate imperative, which is to reduce greenhouse gas emissions.

My hope is that COP28 in Dubai will see the global focus return to climate change mitigation rather than adaptation. In the meantime, we are ramping up our efforts to promote the Net Zero cause within the sector – watch out for developments in the New Year. I don't want to

**Source:** [Water Intelligence Magazine \(February 2023\)](#)



be six years wrong on this as I was with the desal forecast. If I am that badly out on the timing, it will cost our readers a lot more than a few oversized production facilities and overpriced acquisitions.

**Source:** Water Intelligence Magazine (February 2023)

