



Geologist and hydrologist. Currently, Professor at Goethe University Frankfurt (Germany).

Known for her work on modeling global water resources. Her model WaterGAP quantifies human impacts and assesses water stress on the global freshwater system, including climate change, human water use and man-made reservoirs.

Since 2001, she has contributed to reports for the Intergovernmental Panel on Climate Change (IPCC).

**PETRA
DÖLL**

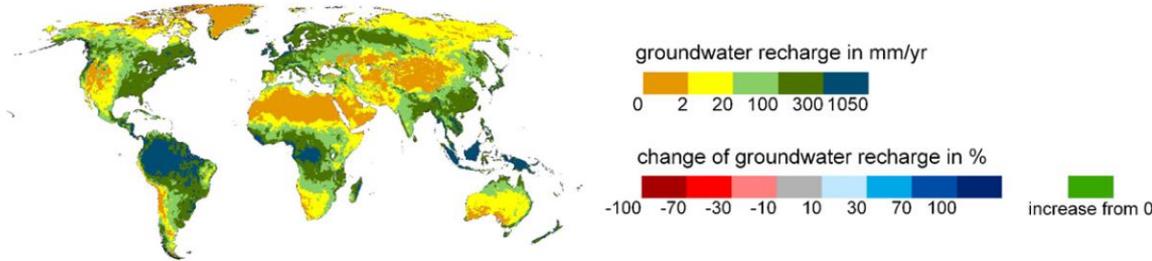
GERMANY

HER STORY

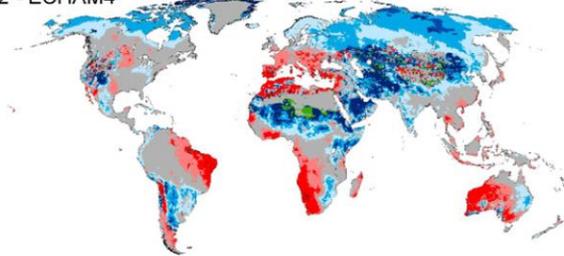
In 2019, Petra was awarded with the Henry Darcy Medal for groundbreaking work in global freshwater system modelling, increasing awareness of threats to freshwater resources, and contributions to participatory water management.

CLIMATE CHANGE & GROUNDWATER RESOURCES

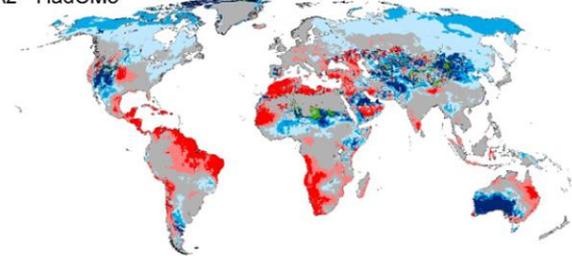
GWR 1961 - 1990



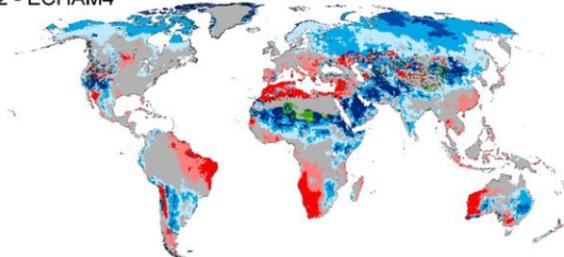
A2 - ECHAM4



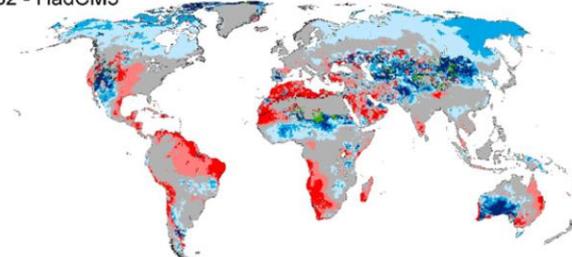
A2 - HadCM3



B2 - ECHAM4



B2 - HadCM3



In the A2 (B2) emissions scenario, **18.4–19.3% of the global population** of 10.7 (9.1) billion **would be affected by groundwater recharge** decreases of at least 10%, and 4.8–5.7% (3.8–3.8%) of the global population would fall within the two highest vulnerability classes.

Impact of climate change on long-term average groundwater recharge (GWR) in the 2050s. Long-term average 1961–1990 groundwater recharge (in mm/yr), and per cent changes between 1961–1990 and 2041–2070, as computed by the WaterGAP Model applying four different climate change scenarios.

RELEVANT CONTRIBUTIONS

Döll, P. (2002). Impact of climate change and variability on irrigation requirements: a global perspective. *Climatic change*, 54, 269-293.

Döll, P. (2009). Vulnerability to the impact of climate change on renewable groundwater resources: a global-scale assessment. *Environmental Research Letters*, 4, 035006

Döll, P., Fiedler, K., Zhang, J. (2009). Global-scale analysis of river flow alterations due to water withdrawals and reservoirs. *Hydrology and Earth System Sciences*, 13, 2413-2432.

Döll, P., Trautmann, T., Gerten, D., Schmied, H. M., Ostberg, S., Saaed, F., Schleussner, C. F. (2018). Risks for the global freshwater system at 1.5 C and 2 C global warming. *Environmental Research Letters*, 13, 044038.

LOOKING
FOR MORE?

You can find more information about her story and research at:

https://www.unifrankfurt.de/45217719/Univ__Prof__Dr__rer__nat__h__abil__Petra_D%C3%B6ll