Introducing an interactive Global Water Scarcity Atlas

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Introducing an interactive Global Water Scarcity Atlas

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Abstract: Water scarcity is an important concept within the Food-Energy-Water (FEW) nexus, underpinning security of supply of all three resources, and directly connecting to sustainable development targets related to drinking water (6.1), water use and scarcity (6.4), water resource management (6.5) and ecosystems (6.6). We introduce a new interactive Global Water Scarcity Atlas intended for water analysts and researchers to gain a better understanding of water scarcity as an issue, and explore how water scarcity has developed globally, how it is projected to change in the future and what actions can be taken to cope with scarcity. The design of the website combines an introduction to water scarcity concepts with visualisations of global datasets and interactive scenario analyses using global water models in order to help bridge scales and perspectives within a holistic global view. At a basic level, water scarcity is introduced as concerning four issues: heavy water usage leading to "water stress", difficulty in meeting human needs ("water shortage"), changes to the water cycle due to water use, and sharing of scarce water. Interactive scenario analyses notably allow the user to test the effect globally of climate change, diet change, food loss reductions, and water use efficiency improvements. It is hoped the atlas will continue to be updated to reflect the state of the art, and will help in taking global connections into account in decision making related to the FEW nexus.

Keywords: water scarcity; atlas; integrated modelling; scenario analysis