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## Mapping ground water resources threat to global change in South Africa

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Climate change impacts on water resources, both availability and quality is a major issue of concern for South Africa, which is one of the most water stressed countries in the world. This has been exacerbated by the less understood impacts of global and climate change on the water cycle and the projections of changes in rainfall from a global to a local level. This uncertainty hinders the ability of water managers to effectively integrate the impact of changes into the planning processes which support decisions that are often made at the local or regional level. While the management of the country's water resources is shared by various institutions, the main responsibilities for the distribution of and access to this precious resource is tasked to local government, which among other challenges face a lack of information to make informed decisions about the management and conservation of water resources in their jurisdiction. Despite the water challenges faced, the country is also facing multiple socio-economic stressors including population and industrial growth and alien invasion all of which put pressure on and contribute to the pollution of both ground and surface water. The South Africa Risk and Vulnerability Atlas is a tool that has been designed to address this lack of information as well as bridge the gap between science and policy. This presentation discusses the use of the South Africa Risk and Vulnerability Atlas as a tool that has been designed to bridge the gap between science and policy, by providing information on climate change for use by local government for decision and planning purposes. The Atlas not only provides information on water and climate change but delves into other themes that affect the sustainable development of the country. This presentation elucidates the importance of the South Africa Risk and Vulnerability Atlas as a tool for decision makers as well as access to information of the wider impacts of climate and global change to the various themes relevant to South Africa. Using Geographic Information Systems, the talk illustrates how the Atlas's spatial portal data may be used to map ground water availability and threats. In conclusion, the presentation looks at the response strategies that local government could adopt to protect ground water resources.

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