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Global surface water quality hotspots under climate change and anthropogenic developments

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In recent decades, freshwater usage for various sectors (e.g. agriculture, industry, energy and domestic) has more than doubled. A growing global population will place further demands on water supplies, whereas the availability and quality of water resources will be affected by climate change and human impacts. These developments will increase imbalances between fresh water demand and supply in terms of both water quantity and water quality. Here we discuss a methodology to identify regions of the world where surface water quality is expected to deteriorate under climate change and anthropogenic developments. Our approach integrates global hydrological-water quality modelling, climate and socio-economic scenarios and relations of water quality with physical and socio-economic drivers.