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Summary

Many catchments and their river channels are in poor condition and are no longer resilient to extreme weather events. The impacts of climate change have led to an increased frequency and intensity of extreme weather events, such as floods and droughts. These events have severe consequences for the health of catchments, which are vital ecosystems that provide water for human consumption, agriculture, and industry. During intense rain, streams and rivers break their banks, damage homes and public infrastructure, and carry away thousands of tonnes of productive agricultural soils. The eroded soil is transported downstream in muddy rivers, clogging treatment plants, and threatening valuable drinking water supplies. Failure to address this issue will lead to continued and significant increase in the cost of essential services such as water supply, food, and waste disposal as well as post-event recovery investment. To mitigate the negative effects of climate change on catchments, it is essential to enhance their resilience. The research aims to develop modelling tool and methods for a comprehensive framework for enhancing the resilience of catchments to extreme events, the identification of priority areas for intervention, and the implementation of measures that will improve the ability of catchments to adapt to changing climatic conditions.

Research Expertise

- Watershed modelling
- Water quality modelling
- Water management
- Catchment management
- Storm water management