



RESOURCE

Climate variability and change: a basin scale indicator approach to understanding the risk to water resources development and management

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Description / Abstract

This study evaluates the effects of climate change on six hydrological indicators across 8,413 basins in World Bank client countries. These indicators—mean annual runoff (MAR), basin yield, annual high flow, annual low flow, groundwater (baseflow), and reference crop water deficit—were chosen based on their relevance to the wide range of water resource development projects planned for the future. To generate a robust, high-resolution understanding of possible risk, this analysis examines relative changes in all variables from the historical baseline (1961 to 1999) to the 2030s and 2050s for the full range of 56 General Circulation Model (GCM) Special Report on Emissions Scenario (SRES) combinations evaluated in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4).

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