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Project Title:
Global disparities in river flow seasonality across major river basins

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"Impacts of climate change on the water-food-energy nexus in the Lancang-Mekong River Basin"

Project Office

News

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Professor Junguo Liu's Research Team Reveals the Spatial-Temporal Evolution and Future Trends of Global River Flow Seasonality

River flow seasonality (RFS) governs global water availability, yet its climate response remains poorly quantified. Using observational data and multi-model projections, this study assessed RFS trends across 20 major river basins.Historically, RFS declined in snow-dominated high-latitude basins but increased in tropical and temperate regionsFuture projections indicate amplified divergence: RFS further weakens in northern high latitudes but intensifies elsewhere (especially under the RCP6.0 scenario). Notably, over 30% of densely populated basins face compounding water stress from co-occurring RFS intensification and population growth. These findings identify critical hotspots, providing actionable insights for global adaptation planning.

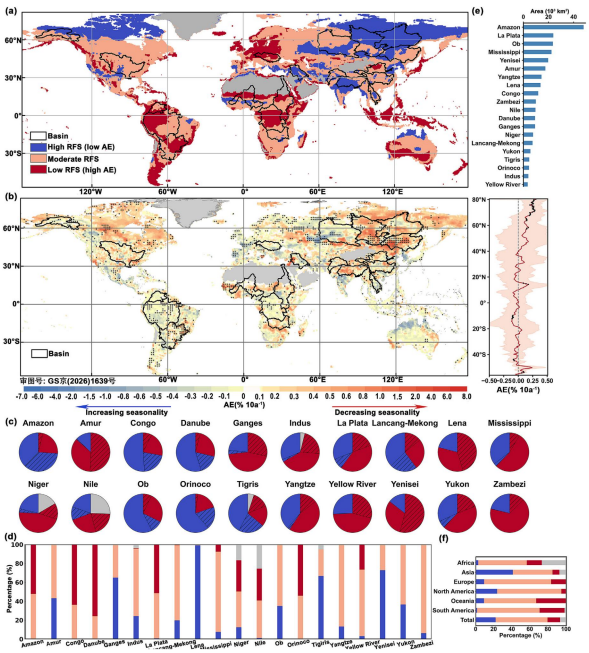


Fig. Global patterns of river flow seasonality (1902-2019).

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