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[SUISUI](#) (3)



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[2012](#)

[2011](#)

[2010](#)

[2009](#)

[2008](#)

[2007](#)



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[J-STAGE : Search](#)


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Hydrological Research Letters](#)

[J-STAGE : Hydrological  
Research Letters](#)

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## Sensitivity of annual runoff to interannual precipitation variations for forested catchments in Japan

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Sensitivity of annual runoff to interannual precipitation variations for forested catchments in Japan

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This study examined interannual variations in runoff from forested catchments in Japan, corresponding to interannual variations in precipitation. We hypothesized that interannual variations in runoff are comparable to those in precipitation in Japan under the assumption of high annual precipitation (P) relative to annual potential evapotranspiration (Ep). We collated P and annual runoff (Q) data derived from 20 catchments in Japan and 37 catchments in other regions around the world (including Australia and the United States). We calculated a sensitivity index (s), which is defined by the slope of the relationship between P and Q, for each catchment. The majority of the data (70%) for Japan satisfied  $s \geq 0.80$ . No data satisfied  $s < 0.40$ . These results contrast with those for other regions: only 35% of the data satisfied  $s \geq 0.80$  and there were several data satisfying  $s < 0.40$ . We also confirmed that high s values were observed for regions with high P relative to Ep and that P was higher than Ep for all catchments in Japan. Our results indicate that interannual variations in Q are generally comparable to those in P for forested catchments in Japan.

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