

Global Warming and Its Expected Impact on Fresh Water Resources in Washington State

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Abstract: Climate change is likely to have profound effects on the pattern of runoff of many streams and rivers of the state of Washington. This will be particularly problematic on streams that originate in the snowfields and glaciers of the Olympic and Cascade Mountains. Those natural reservoirs of water are expected to decline in areal extent and capacity as winter precipitation occurs more as rain and less as snow at marginal elevations. It is expected that the classic spring freshet on these rivers will decline and occur earlier, more runoff will occur in the winter time and less in the spring, summer and fall. This will exacerbate already problematic low summer and fall flows on many rivers and streams when the demand for out of stream uses is at its annual peak. These concerns will also extend to groundwater resources which are recharged in mountainous areas and which are associated with the affected rivers.