

The Nexus of an Alpine Glacier Watershed, Climate Change and Human Activity: Nooksack River, Washington

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ABSTRACT

Alpine glacier watersheds are changing significantly, this is not happening at a “glacial” pace, and the regional impacts are profound. The rapid decline of alpine glacier area and volume is a consistent trend from mountain range to mountain range, emphasizing that though regional climate and glacier response differ, global changes are driving the response. The trend of glacier loss is expected to increase with continued anthropogenic warming further altering the timing and magnitude of glacier runoff. Mountain glaciers are important as water resources for agriculture, hydropower, aquatic life and municipal water supply, melting fastest in the summer when precipitation is lowest and water demand from society is largest. The specific cascade of impacts downstream varies between glacier fed watersheds. Here we use the Nooksack River, WA to illustrate the changes.

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