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*Wildfire and Water Quality: Processes, Impacts and Challenges*  
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## **Wildfire impacts on stream sedimentation: re-visiting the Boulder Creek Burn in Little Granite Creek, Wyoming, USA**

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**Abstract** In this study of a burned watershed in northwestern Wyoming, USA, sedimentation impacts following a moderately-sized fire (Boulder Creek burn, 2000) were evaluated against sediment loads estimated for the period prior to burning. Early observations of suspended sediment yield showed substantially elevated loads (5×) the first year post-fire (2001), followed by less elevated loads in 2002 and 2003, signalling a return to baseline values by 3 years post-fire. However, more recent work (8 years post-fire) has shown elevated suspended sediment yields that are more than double those predicted for the pre-burn range of flows. We tentatively attribute this increase to channel destabilization in the burned area due to the introduction of large wood from burned riparian zones and hillslopes. These results provide insight into the longer-term geomorphic impacts of wildfire that are associated with channel and bank instability in a burned riparian environment due, in part, to large wood dynamics.

**Key words** post-fire sediment yield; channel instability; instream large wood; Little Granite Creek; Wyoming, USA