

## AUFEIS FORMATION AND PREVENTION

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**Abstract:** Aufeis is a seasonal accumulation of ice which is superimposed on the frozen surface of a stream or landscape. Aufeis accumulation is common in areas of continuous or discontinuous permafrost, but also occurs in more temperate settings where a source of winter flow of water coincides with prolonged freezing conditions. Aufeis accumulation constitutes a major management problem for roadways, culverts and structures which have been located in areas susceptible to ice accumulation, or whose construction impedes water movement in the soil mantle or in surficial channels. Accumulation of aufeis can affect hydrologic regimen of river basins, and can have localized consequences for water quality, fluvial geomorphology, and ecological systems. Approaches to aufeis control include passive and active engineering measures; probably the most important measure is to emphasize adequate site investigation and pre-construction terrain analysis to understand potential for aufeis problems, and to avoid wherever possible sites of potential aufeis accumulation.

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