BC Environment
River Forecast Centre

Nechako River Ice Jam Flooding:
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Winter has arrived, with a range of resultant streamflow conditions that occurs across a province as diverse and complex as British Columbia.

A very strong Pacific frontal storm pushed into British Columbia over December 3rd and 4th, bringing very heavy rain to the South Coast. The storm also brought 3-4 days of warm weather to the BC Interior. This followed an extended period of cold weather, and has produced ice jamming on some interior rivers, and flooding. In general, as temperatures are sustained at below freezing for some period of time in the early winter, rivers begin to freeze. Ice crystals form at the surface of the water. The crystals coalesce and freeze into plate ice on many interior rivers. A period of very warm weather, such as occurred last week, affects frozen rivers in a couple of ways. First, the warm weather produces some snowmelt, which can cause the water level on the rivers to rise. Second, the ice in the river warms and become pliable. The ice then fractures and begins to flow with the current of the river. Ice jams can occur at locations along rivers, such as bridge abutments, meander bends, shallow areas, constrictions, etc. Water then builds up behind the ice jams, and can produce local flooding. Ice jam flooding is occurring this week along the Nechako River at Prince George, upstream of the confluence of the Nechako with the Fraser River, where a 5 km long ice jam is producing overbank flow into residential and industrial areas. The ice jamming is dynamic, and can result in significant changes in water level at local sites as the ice jam shifts in location and size along the river. Conditions along the Nechako River are being monitored and evaluated by local Ministry of Environment, City of Prince George and Provincial Emergency Program staff.

Ice jam flooding also occurred this week on the Bulkley River at Smithers, and likely at a number of other rivers throughout the Interior, but where populations are not being affected.