

BC Environment

River Forecast Centre

High Streamflow Advisory: 11Dec2006 10:00PM

East Vancouver Island

- Cowichan River
- Chemaimus River
- Nanaimo River
- Englishman River

A warm front with a warm and wet subtropical moisture feed passed over the south coast this morning and this afternoon, producing heavy rainfall and snowmelt. Rivers along the east side of Vancouver Island have risen substantially since this morning, and are continuing to rise as of 8PM this evening. They are currently well below their peaks from the Nov 7 and Nov 15 events, but they have potential to reach those peaks later this week as successive frontal waves produce additional heavy rainfall across the south coast.

The warm front that passed through today produced 85 mm of rainfall at the Jump Creek snow pillow (located west of Nanaimo) from midnight to 8PM. Rain was continuing at about 4 mm/hr as of 8PM, and Environment Canada has just issued a "Rainfall Warning" for East Vancouver Island, calling for another 10-20 mm overnight. The temperature at the snow pillow rose above freezing this afternoon as the warm front passed over, and has just fallen below freezing again in the past couple of hours.

Two additional frontal waves are expected to pass through before Friday, each producing heavy rainfall over about a 12-hour period. Each warm front will see the freezing elevation rise to above 1600 m. The next system is expected for late Tuesday afternoon to Wednesday morning, followed by another frontal band from Thursday night to Friday morning. Each may produce 50 mm of rain at valley bottom locations, with higher amounts at higher elevations. And each appears likely to produce high wind speeds. During the period of elevated freezing levels, this high wind speeds drives turbulent heat exchange at the snow pack surface, producing significant snow melt and increased water contribution to rivers.

Because of the very well developed snow packs throughout the south coast, the rain and snowmelt this week is unlikely to produce significant high flows in large, high elevation rivers (such as the Chilliwack River, or the Greater Vancouver north shore rivers). However, rivers with substantial low and mid elevation catchment areas may experience sufficient snowmelt and rainfall to produce high flows of concern. These include a number of rivers along the east side of Vancouver Island, including the Cowichan River, Chemainus River, Nanaimo River and Englishman River. These rivers have all risen substantially today, and will experience subsequent peaks late Wednesday and Friday. Depending upon the amount of rainfall received, and the duration of snowmelt, these rivers may produce flood level peaks, similar to those they achieved during the November 7 storm.

The River Forecast Centre will provide an update on Tuesday.

A **High Streamflow Advisory** means that river levels are rising or expected to rise rapidly, but that no major flooding is expected. Minor flooding in low-lying areas is possible.

A **Flood Watch** means that river levels are rising and will approach or may exceed bankfull. Flooding of areas adjacent to affected rivers may occur.

A **Flood Warning** means that river levels have exceeded bankfull or will exceed bankfull imminently, and that flooding of areas adjacent to the rivers affected will result.