

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
May 7, 2024
Agenda No: 5.3

To: OBWB Directors
From: Sandra Schira
Date: April 30, 2024
Subject: Water Science Specialist Report

Spring Drought Conditions

The Okanagan spent more than half of 2023 in drought. Despite the recent rain, there is significant concern that the drought will continue into this summer. The provincial snowpack is at the lowest level seen since at least 1970, and we are unlikely to see significant recovery from the 2023 drought. The average snowpack in the Okanagan as of April 22nd was 39% (Table 1) of normal; a value of 50% would mean that the snowpack is at half of what is expected at this time of year compared to historical values (River Forecast Centre, 2024). Brenda Mine was at 0%, making it the earliest on record (starting in 1992) that the site has been snow-free (Figure 1). The data also show there was only minimal snowfall accumulation in April, and most sites have been trending downward as the melt begins. Typically, by April 1, the Okanagan has gotten most of its snow for the winter.

Table 1 April 2024 Okanagan Snow Pillow Data, Expressed as Percent of Long-Term Median (River Forecast Centre, 2024).

Station	01-Apr	08-Apr	15-Apr	22-Apr
Trout Creek West	52%	63%	49%	40%
Mission Creek	84%	80%	78%	79%
Greyback Reservoir	65%	59%	33%	19%
Whiterocks Mountain	57%	54%	50%	44%
Silver Star Mountain	84%	82%	83%	86%
Brenda Mine	56%	41%	13%	0%
Oyama Lake	64%	41%	1%	7%
AVERAGE	66%	60%	44%	39%

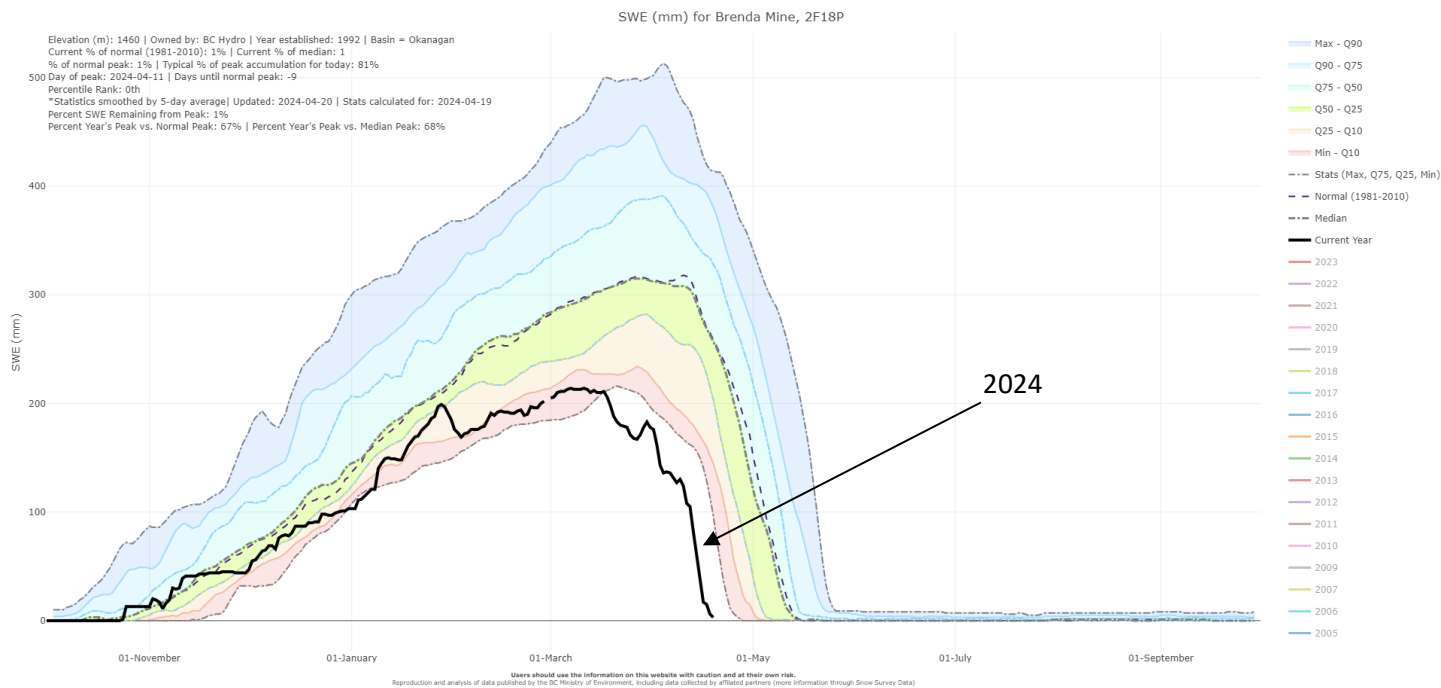


Figure 1 Brenda Mines Snow Pillow as of April 22, 2024 (River Forecast Centre).

Not only are snow levels currently low, at no point over the winter was the average snow pillow for the Okanagan at or above normal (River Forecast Centre, 2024). The snow pillow measurement for Mission Creek, the largest tributary to Okanagan Lake, was around 80% to 60% of normal through the winter (Figure 2). The snow levels are not just low, but the melt is occurring several weeks earlier than normal. This plays an important role in the timing of water availability for both humans and ecosystems.

Another important source of water for the Okanagan is rainfall in the early summer. If significant rain comes during that period, drought conditions may be avoided for summer 2024. In recent years, however, the Okanagan has had less rain than normal, both annually and in the summers. This means that the Okanagan is already quite dry and current, long-range forecasts do not predict a cool, wet summer. It will take a long and significant period of rainfall to avoid the continuation of the 2023 drought into summer 2024.

Conditions in the Okanagan are, and will continue to be, variable in different areas of the region. Ms. Jackson is working on the launch of the board’s annual Make Water Work outdoor residential conservation campaign which will encourage residents to check with their local water provider for up-to-date water restrictions.

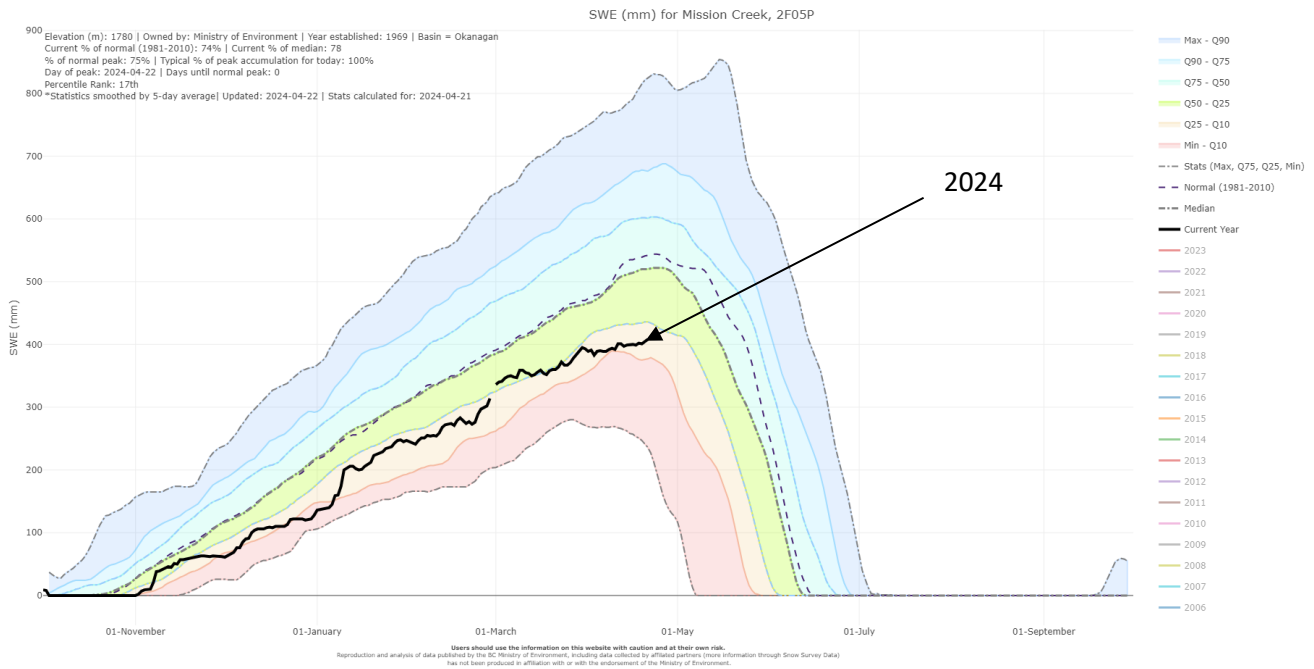


Figure 2 Mission Creek Snow Pillow as of April 22, 2024 (River Forecast Centre).

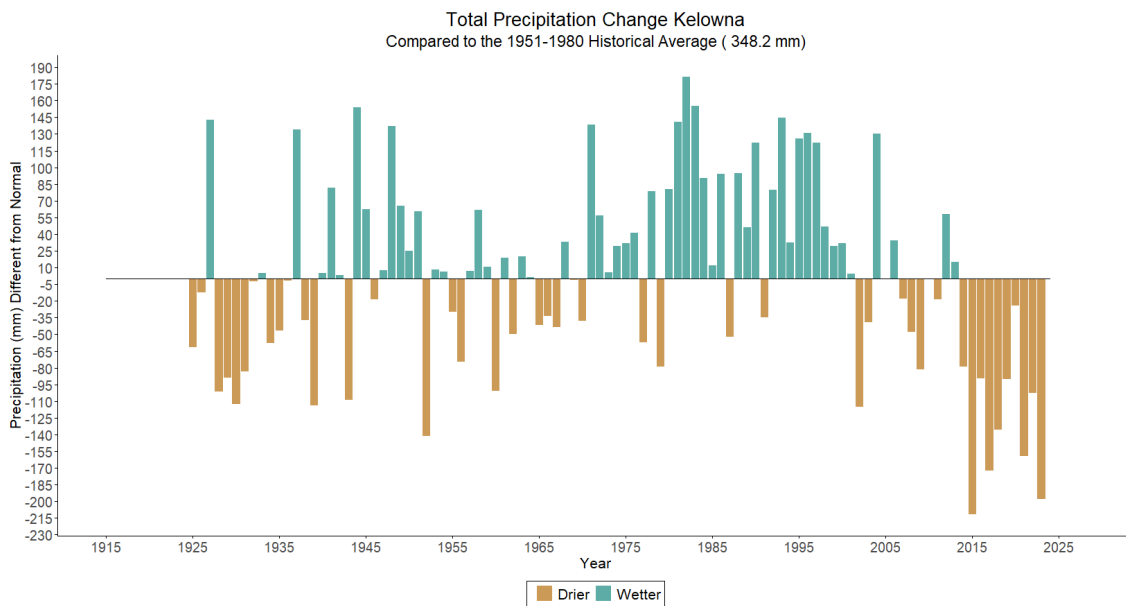


Figure 3 Historical Precipitation Anomaly (mm) Kelowna. Years are Compared to the 1951-1980 Average; green Years are Wetter, and Brown are Drier. Data is from Environment and Climate Change Canada.

Reference

River Forecast Centre. (2024). *Snow Conditions and Water Supply Bulletin*. Government of B.C. <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/drought-flooding-dikes-dams/river-forecast-centre/snow-survey-water-supply-bulletin>. Accessed: 23.04.2024.