



CLIMATE CHANGE ADAPTATION PROGRAM

South Okanagan Regional Snapshot

Supplement to the Farm Flood Readiness Toolkit

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Supplement to the Farm Flood Readiness Toolkit

This snapshot provides an overview of flood risk and resources specific to **South Okanagan** producers. Visit the [Climate & Agriculture Initiative BC](#) website to download the complete ***Farm Flood Readiness Toolkit***.

Agricultural operations in South Okanagan are exposed to varying levels of flood risk, largely depending on their location.

Factors that will influence the flood hazard at a farm include:

- Its proximity to water bodies. The Okanagan Lake and Okanagan River present significant flood risks, as does the Similkameen River. Smaller creeks or streams can flood surrounding areas under certain conditions (e.g. Park Rill, Horn Creek and Kerns Creek).
- Its proximity to dikes. Properties located near dikes have a relatively high flood hazard. Although dikes are protective infrastructure, all dikes have the potential to fail or overtop.
- If its location is prone to flooding from upland areas, overland flow and stormwater ponding (this depends on its soil, land cover, surrounding topography, etc.).
- The depth of its underlying groundwater table if prone to rising water tables and groundwater flooding.

This region has a historic and recent history of flooding. Fall and winter of 2021 saw numerous [flood warnings and evacuations](#) across the South Okanagan due to high river flows and, later in the season, ice jams.

Only a few years prior, in 2018, local states of emergency were declared in parts of North Okanagan and South Okanagan due to flooding and landslides. In 2017, flooding of South Okanagan Lake affected Penticton, Naramata, Summerland and Oliver.

Looking further back, an historic flood occurred in 1948, closing a mill and damaging homes. And in 1951, the snowpack in the region's mountains was 140 percent of normal: the ensuing floods north of Oliver led to the government blowing out the highway to relieve pressure from spring runoff.

Climate Change Projections and Region Flood Hazard

The timing and distribution of precipitation in the Okanagan is expected to shift as the climate changes. A higher proportion of winter precipitation is projected to fall as rain rather than snow. Additionally, rain will be concentrated in more frequent and intense precipitation events, resulting in challenges with managing run-off both onto and off of the agricultural land base.

Warmer winter temperatures will also cause more rapid snowmelt and earlier peak stream flows, creating excessive run-off which can result in erosion and, in extreme cases, debris flows, washouts and landslides. Anticipated hydrological changes also increase the risk for run-off related localized flooding. Also, rain on snow events, which compound flood effects, are becoming more commonplace.



Princeton and Tulameen, BC, 2021
Photo by Government of British Columbia

Flood maps

Reviewing flood maps can be helpful for better understanding risk — particularly in a changing climate. Both simple interactive and detailed flood maps are available; these can be used to assess how a flood event might affect your property and the surrounding area.

The Okanagan Basin Water Board has produced a series of [flood maps](#) for Okanagan Lake and River as well as several Okanagan creeks.

The Regional District of Okanagan-Similkameen completed a Similkameen flood mapping project including the Keremeos, Princeton and Tulameen areas.

For more information about floodplains in the South Okanagan, please see the Province of BC [floodplain maps](#) (available from the Region 3 - Southern Interior dropdown).

Flood Monitoring

Real-time river monitoring data for major rivers in the region is available through the provincial [River Forecast Centre](#). The centre also provides generalized forecasts to [warn of localized flooding](#) based on weather patterns and forecasts.

[Environment Canada Public Weather Alerts](#) issues watches and warnings for severe weather events, including extended heavy rain events.

Flow and water-level forecasts are used to determine when to issue flood advisories, evacuation alerts and evacuation orders. (See [Fact Sheet 5: Flood Evacuation Alerts and Evacuation Orders](#) in the [Farm Flood Readiness Toolkit](#).)

Communication During an Emergency

In the event of an emergency, a local government may activate an Emergency Operations Centre (EOC). An EOC is the communications and coordination hub for all emergency-related planning activities within a local government's jurisdiction.

For information or advice during periods of flood threat or flood emergency, contact your local government's general inquiries phone number or contacts they've identified on their website and social media feeds.

For key contacts and resources pertaining to agricultural flood preparedness in South Okanagan, see the table on the following page.

In the event of an emergency where health, safety or property is in jeopardy and immediate action is required, call 911.

Key flood resources and contacts for South Okanagan

| Organization | Contacts | Online Resources |
|---|---|--|
| Regional District of Okanagan-Similkameen | Emergency Operations Centre (EOC) information line: 250-490-4225 | Sign up for emergency alerts Evacuation dashboard RDOS Emergency Operations Centre website |
| BC Ministry of Agriculture, Food and Fisheries | AgriService BC: 1-888-221-7141 | Flood resources for agriculture Livestock relocation |
| Okanagan Basin Water Board | | Okanagan Flood Portal Flood maps |
| Government of BC | | Flood warnings and advisories |
| City of Penticton | To report flooding: 250-490-2400 After hours: 250-490-2324 | Subscribe for email notifications and emergency alerts Penticton Flood Preparedness & Response web page |
| District of Summerland | General inquiries and requests for assistance: 250-494-6451 | Summerland Emergency Response web page Facebook for event status updates |
| Town of Osoyoos | | Osoyoos Flood Preparedness web page |
| Town of Oliver | | Oliver Flooding web page Emergency alerts system |

*This regional snapshot is a supplement to the [Farm Flood Readiness Toolkit](#). It is current as of January 2022.
For funding acknowledgements and disclaimers, please download the toolkit from the CAI website at www.ClimateAgricultureBC.ca.*

