CLIMATE CHANGE ADAPTATION PROGRAM

Freshet Flooding Agriculture Impacts - Maps 2016

Funding for this project has been provided by the Governments of Canada and British Columbia through Growing Forward 2, a federal-provincial-territorial initiative. The program is delivered by the Investment Agriculture Foundation of BC.

DELIVERED BY

Investment Agriculture Foundation

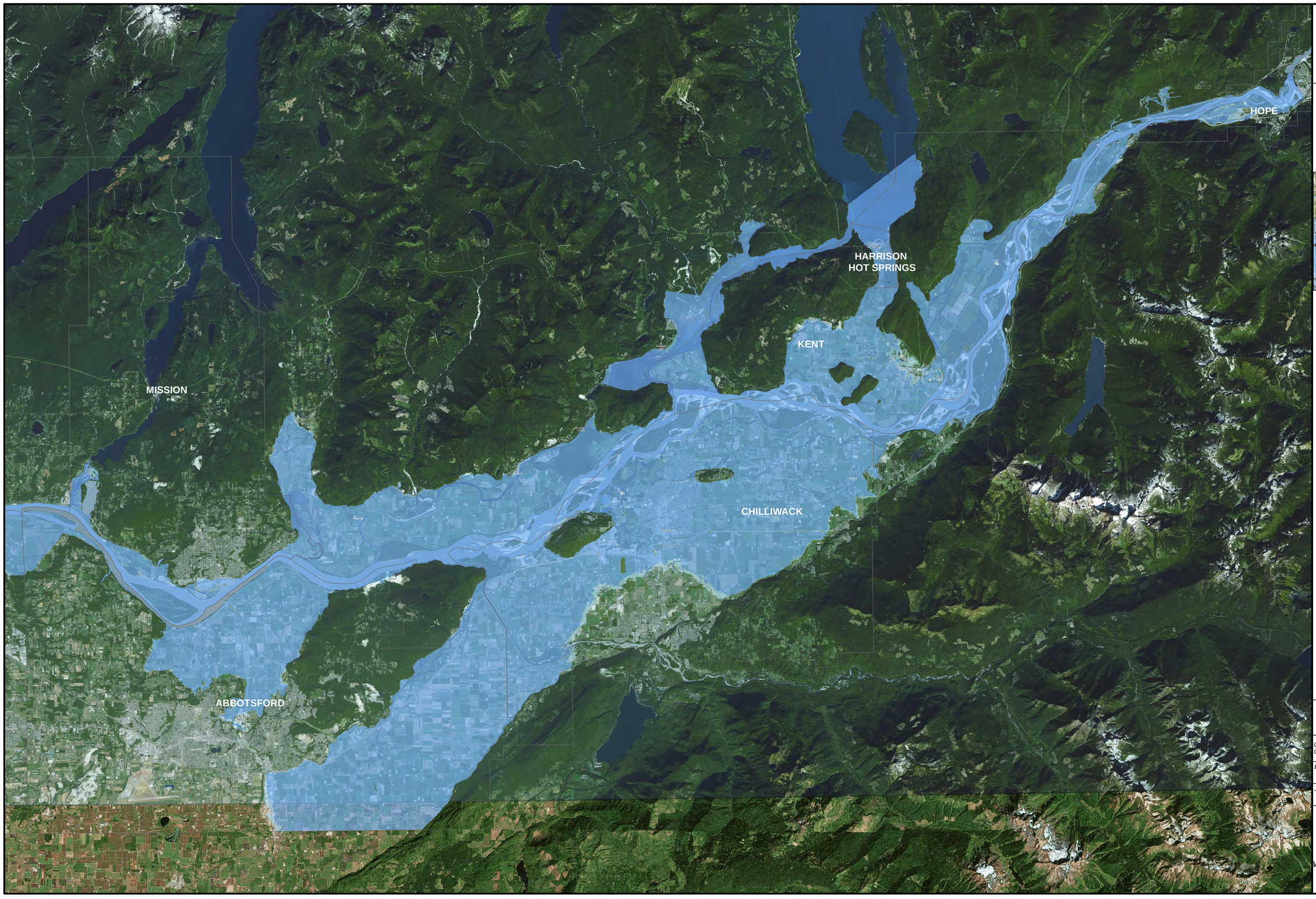
FUNDING PROVIDED BY

Growing Forward 2

British Columbia

Canada

Maps



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Flood Extent, Scenario C

Flood Extent, Scenario D

Flood extents were developed for three riverine flood scenarios. The riverine scenarios, excluding freeboard, are:

- Scenario C – The Fraser River design flood (equivalent to the 1894 flood of record, with an approximate return period of 500 years) and current sea levels.
- Scenario D – The 1 in 500 AEP Fraser River flood, incorporating a moderate climate change flow increase for year 2100 and a 1 m sea level rise.
- Scenario E – The 1 in 100 AEP Fraser River flood, assuming that dikes in 'fair' condition or better hold and those in less than 'fair' condition fail (Refer to NHC, 2015 for dike conditions).

Note: AEP refers to the Annual Exceedance Probability. A 1 in 500 AEP, or 500-year flood, has a 0.2% chance of occurring in a given year. A 1 in 100 AEP, or 100-year flood, has a 1% chance of occurring in a given year.

This map delineates the riverine flood extents associated with Scenario C and D or E.

Topographic data obtained from a variety of sources was used to create a Digital Elevation Model (DEM) for the study area. The DEM horizontal resolution from Mission-Abbotsford to Hope was ten metres. The maps depict flood levels based on ground conditions represented in this DEM.

The flood levels are based on a generalized water surface.

The accuracy of the floodplain boundary is limited by the resolution of the DEM and the flood level assumptions adopted for this study. The maps are for an assessment of flood risks to the agricultural sector in FVRD described by NHC (2016). They do NOT represent floodplain mapping and should not be used as such.

Data Sources:

1. Municipal boundaries obtained from Data BC.
2. Index basemap from National Geographic and ESRI.

References:

NHC (2016). Freshet Flooding and Fraser Valley Agriculture (Draft Final Report). Report prepared for the Fraser Valley Regional District.

Disclaimer:

SCALE - 1:100,000

0 1 2 3 4 5 6 KM

N

Coordinate System: NAD 1983 UTM ZONE 10N
Units: METRES

Engineer	GIS	Reviewer
CXM	MSN	MM

Job Number	Date
3001164	18-MAR-2016

FVRD FRESHET FLOODING

FLOOD SCENARIOS C & D
1 in 500 AEP FLOOD
with and without climate change

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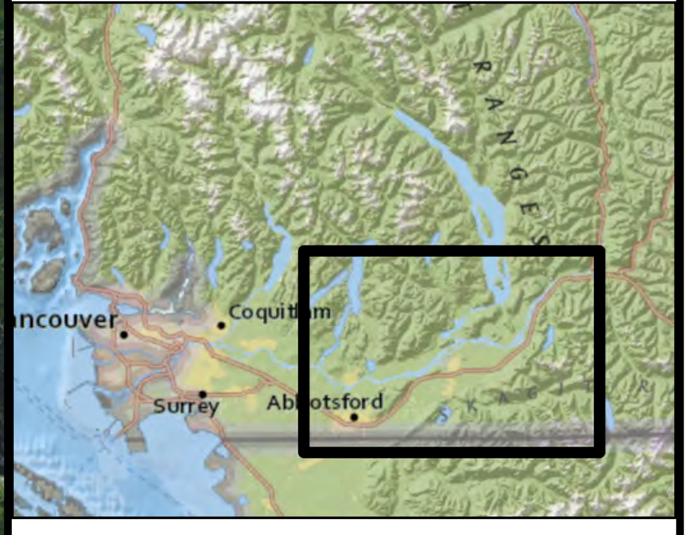

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FVRD FRESHET FLOODING

FLOOD SCENARIO E
1 in 100 AEP FLOOD
with select dikes holding

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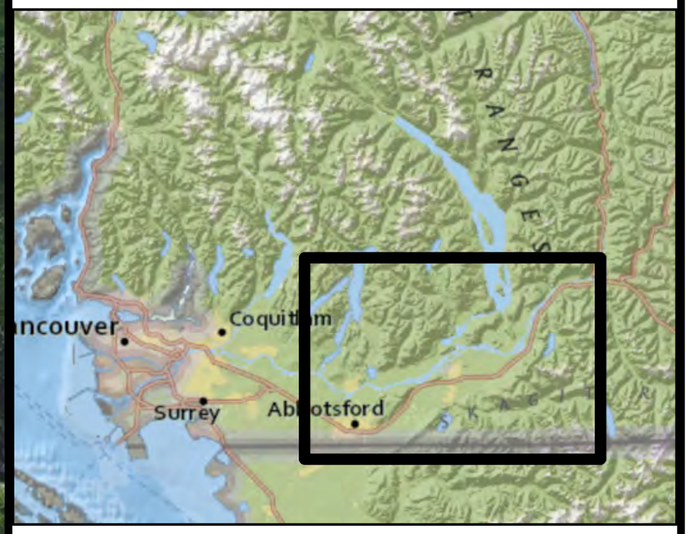

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FVRD FRESHET FLOODING

FLOOD SCENARIO E
1 in 100 AEP FLOOD
with Matsqui Dike breaching