Water level forecasting and flood warning

Implementing a river model

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Toronto – September 19, 2016

Objectives

Hydraulic model with reliable water level forecasts

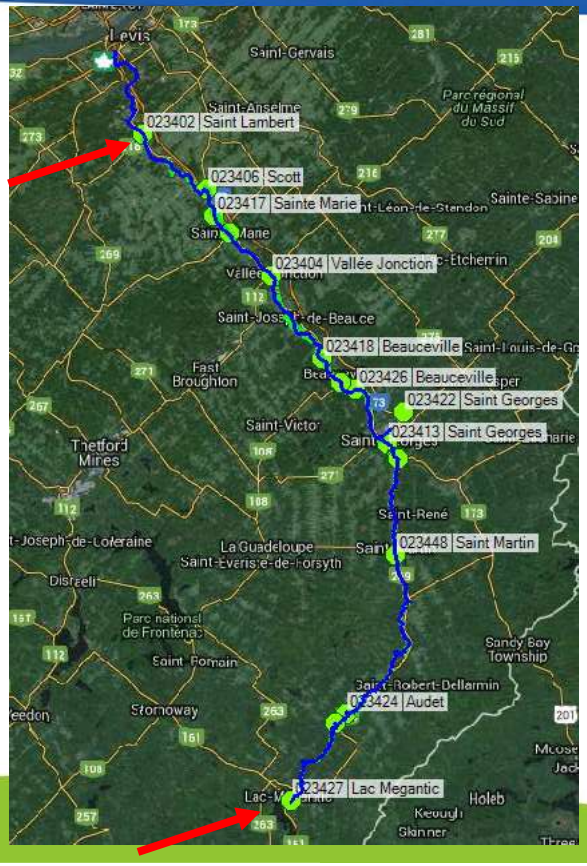
Explore the various sources of uncertainty

Introduce data assimilation techniques

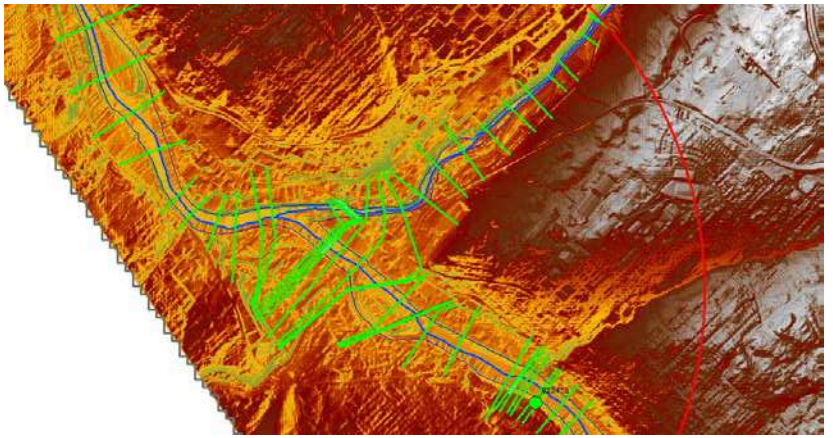
Ensemble forecasting

Case Study: Chaudière River

Chaudière River model



- About 160 Km extending from DS Megantic Lake to ~20 Km US Chaudière Falls



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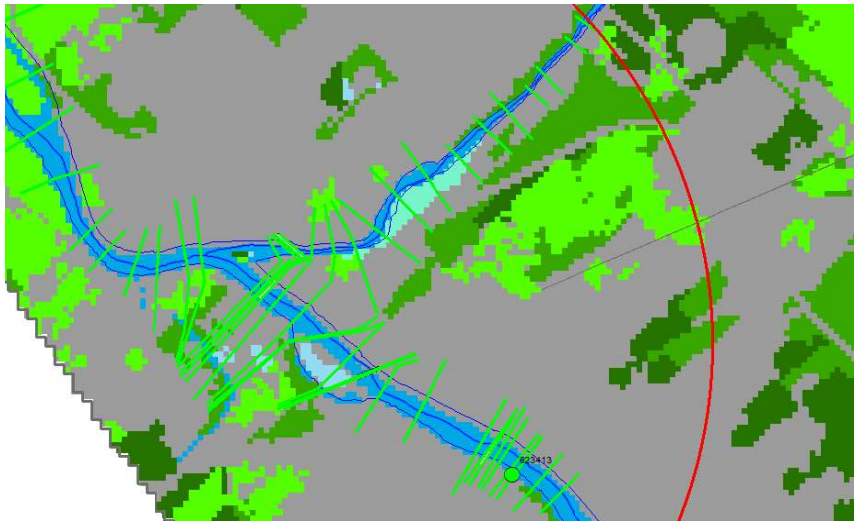
Chaudière River model

- Detailed Land use Data

Agricultural
Urban
Aquatic
Cuts and regenerations
sparse forest
dense forest
Wet area
bare soil and moorland



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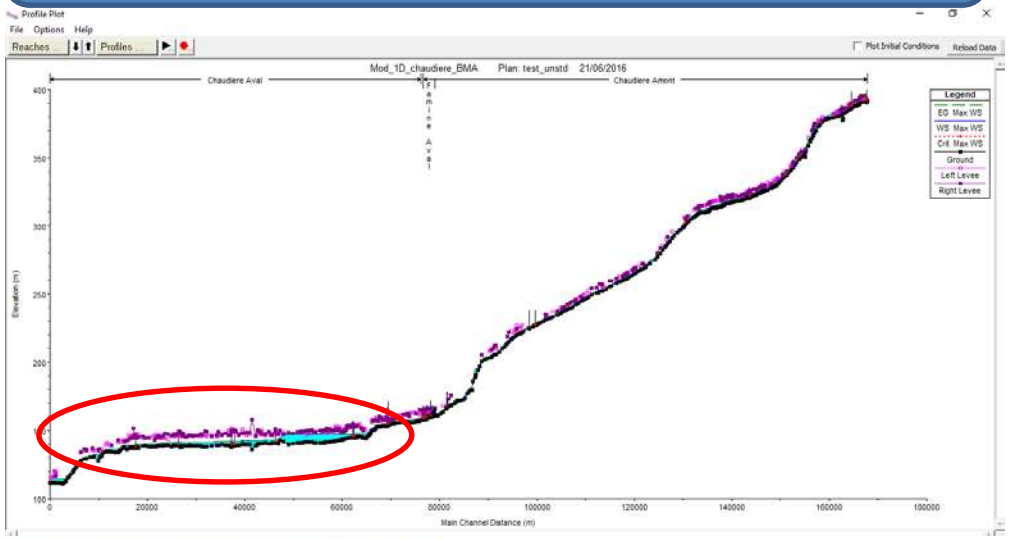
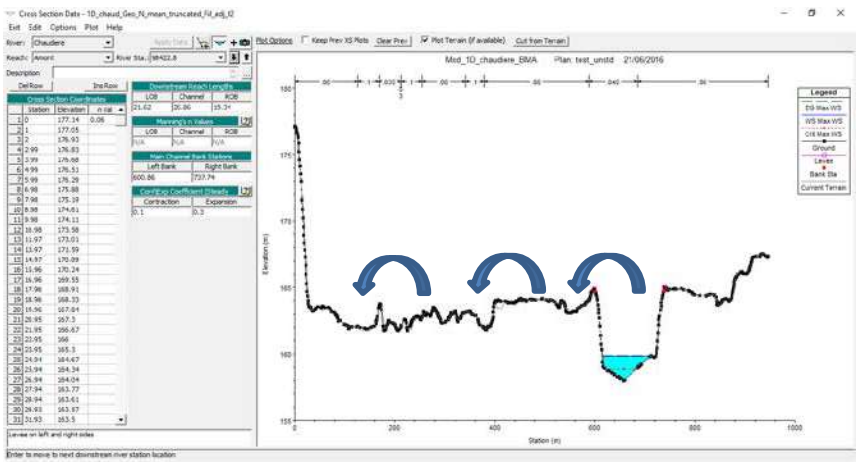
River model Analysis

Higher inundations risk DS the famine river confluence



Local Complex flow



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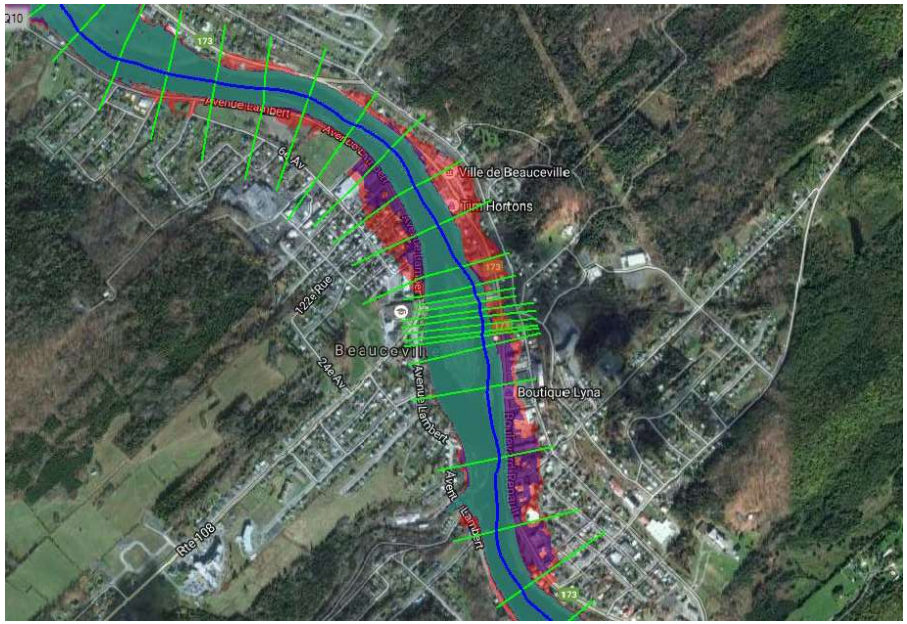
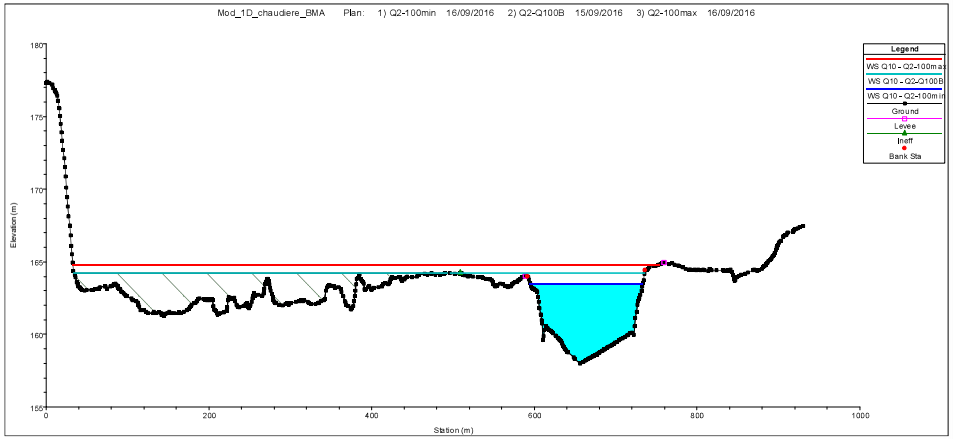
Preliminary results

Q10 floodmaps vs Manning values



WL vs Manning values



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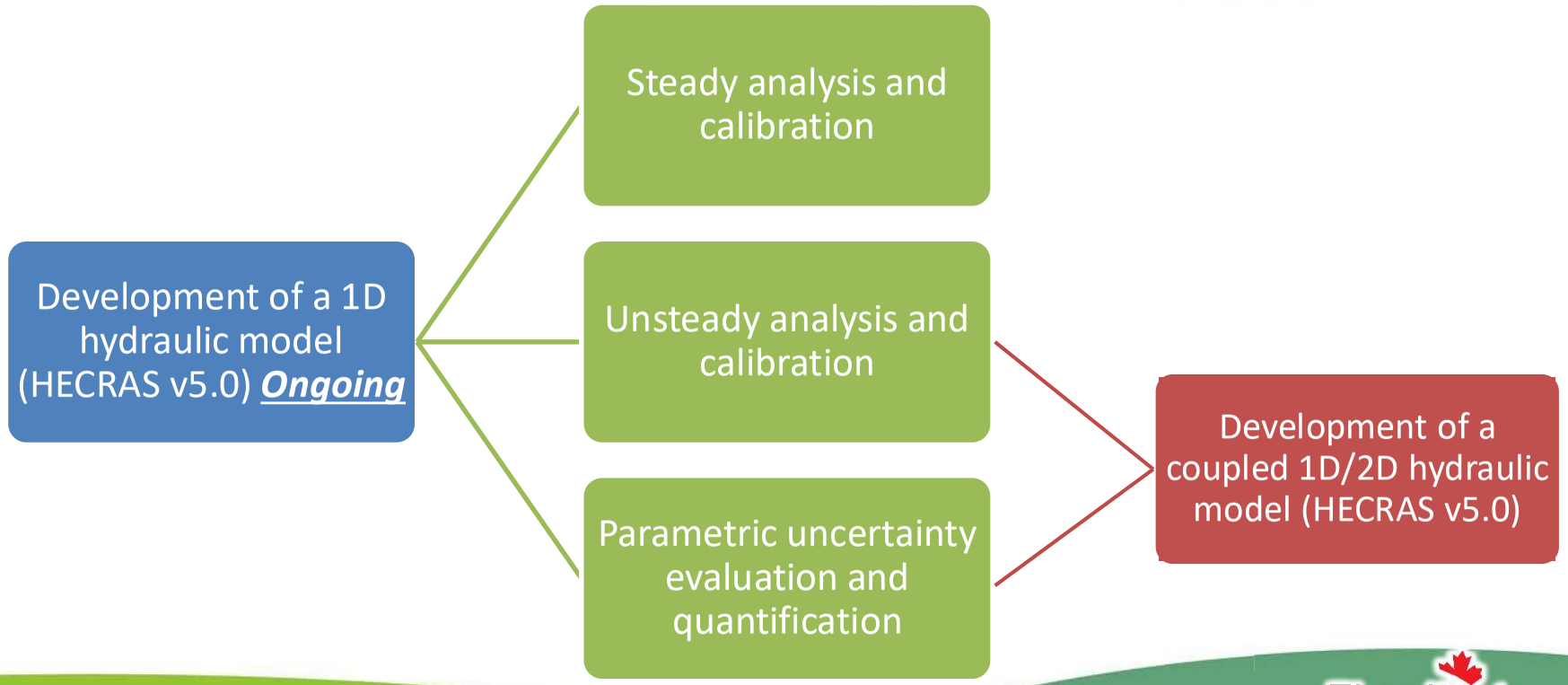
Next steps 1/2



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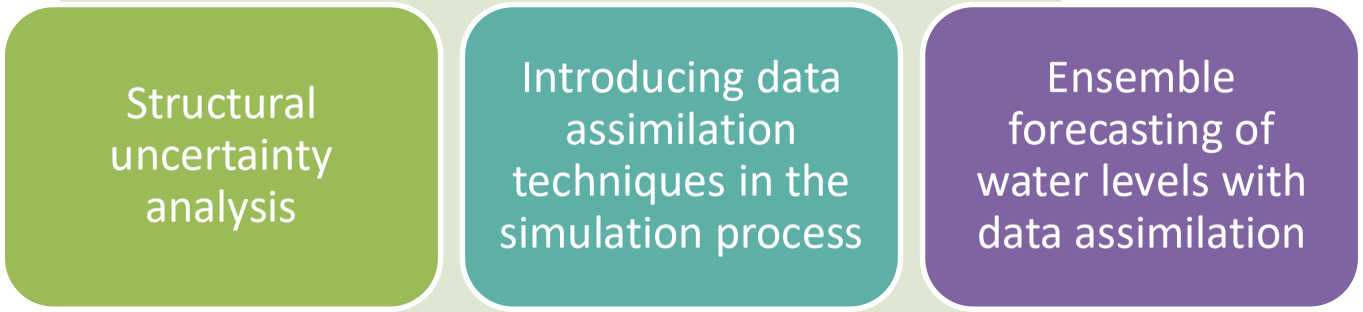
Next steps 2/2



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