Water level forecasting and flood warning

Update on project 2-4 orientation

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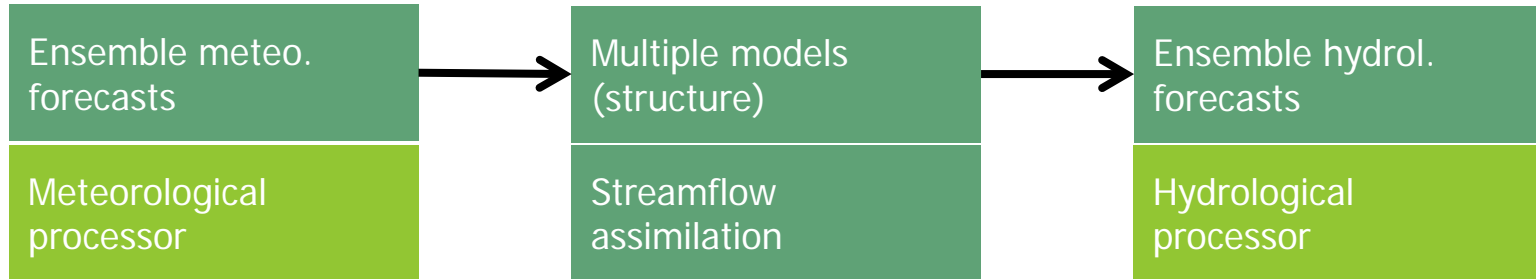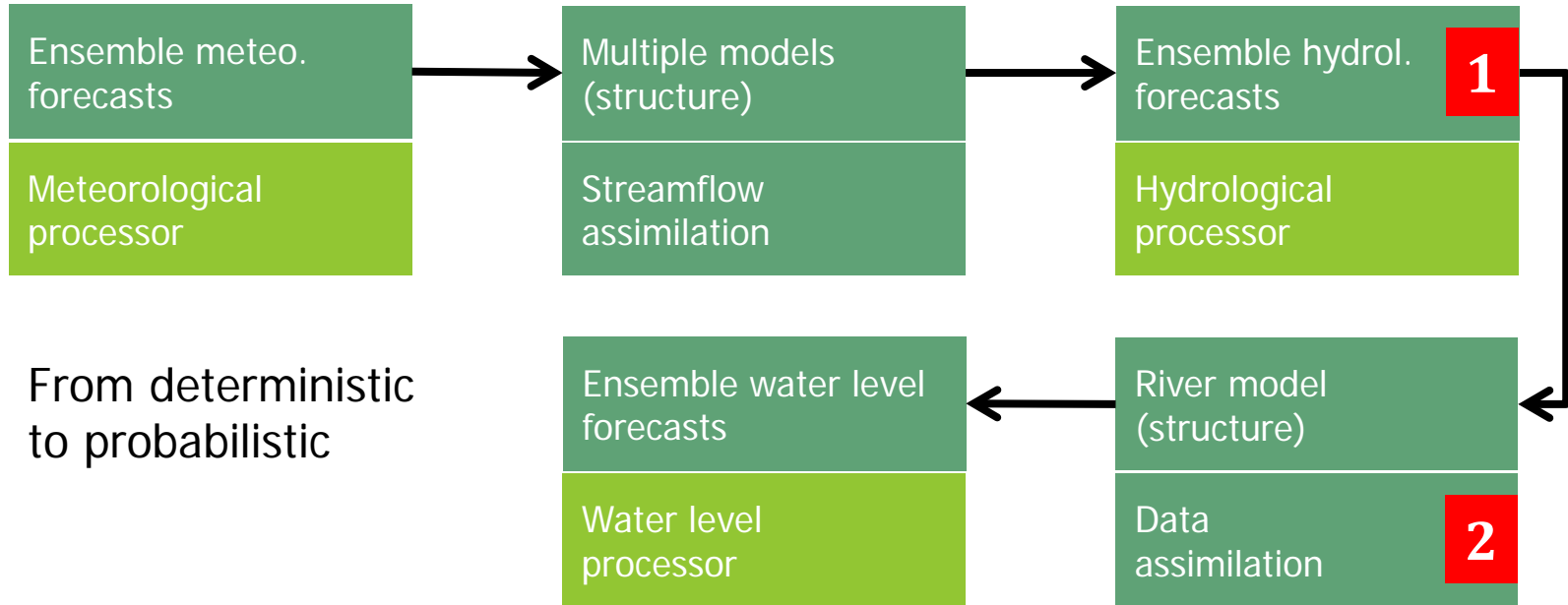
- Objective
  - Explore flood warning based on a hydraulic model with assimilation and hydrological ensemble forecasts, extending the hydrological ensemble prediction system tested in Project 2-2, with an additional vertical component

FloodNet
N S E R C

H-EPS

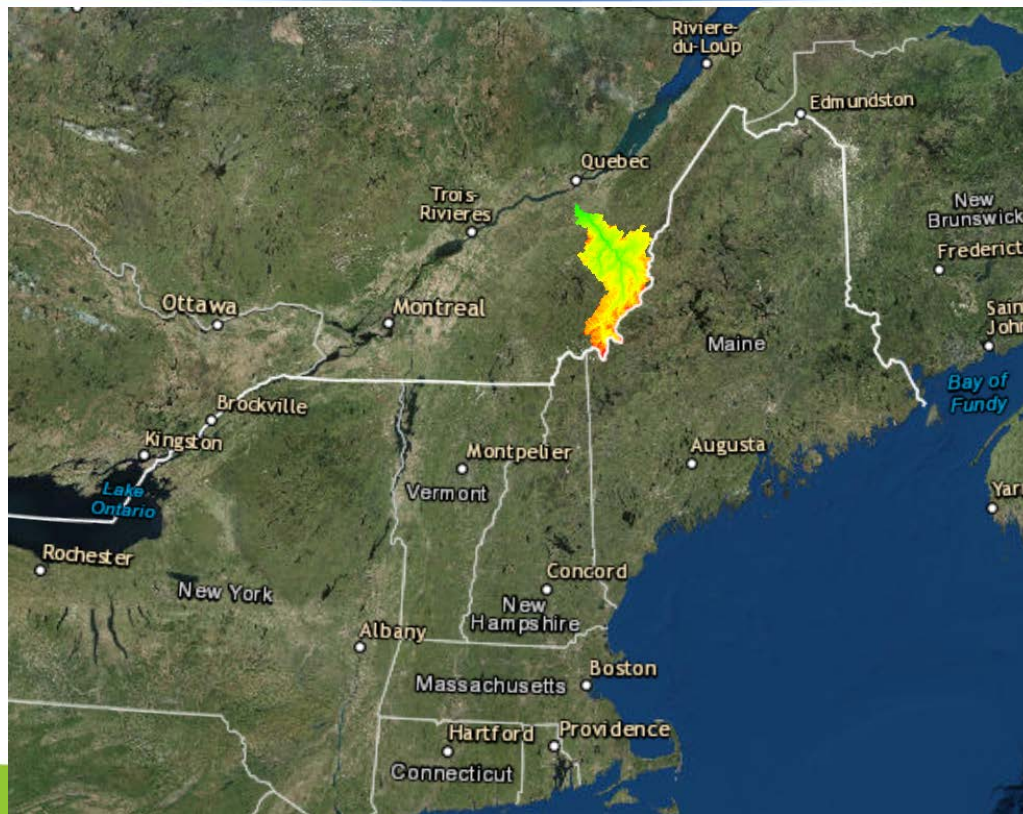| Ensemble meteo. forecasts	→	Multiple models (structure)	→	Ensemble hydrol. forecasts
Meteorological processor		Streamflow assimilation		Hydrological processor

Hourly time-step

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N S E R C

WL-EPS

Chaudière River

Area: 5822 km^2
Qmean: 115 m^{3}s^{-1}
Qmax > 2000 m^{3}s^{-1}
Snow: 300 mm y^{-1}
P: 1100 mm

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HQPs

Ensemble meteo. forecasts	→	Multiple models (structure)	→	Ensemble hydrol. forecasts
Meteorological processor		Streamflow assimilation		Hydrological processor

PDF, Antoine Thiboult

PhD, Amine Bessar

Ensemble water level forecasts	←	River model (structure)
Water level processor		Data assimilation

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