Deltares

Delft-FEWS

Basic Configuration Course

Delft-FEWS Introduction

Learning Objectives

By the end of this module, you will have met the following learning objectives:

1) Recognize the role of forecasting in flood early warning

2) Be able to explain the role of Delft-FEWS in operational forecasting and early warning

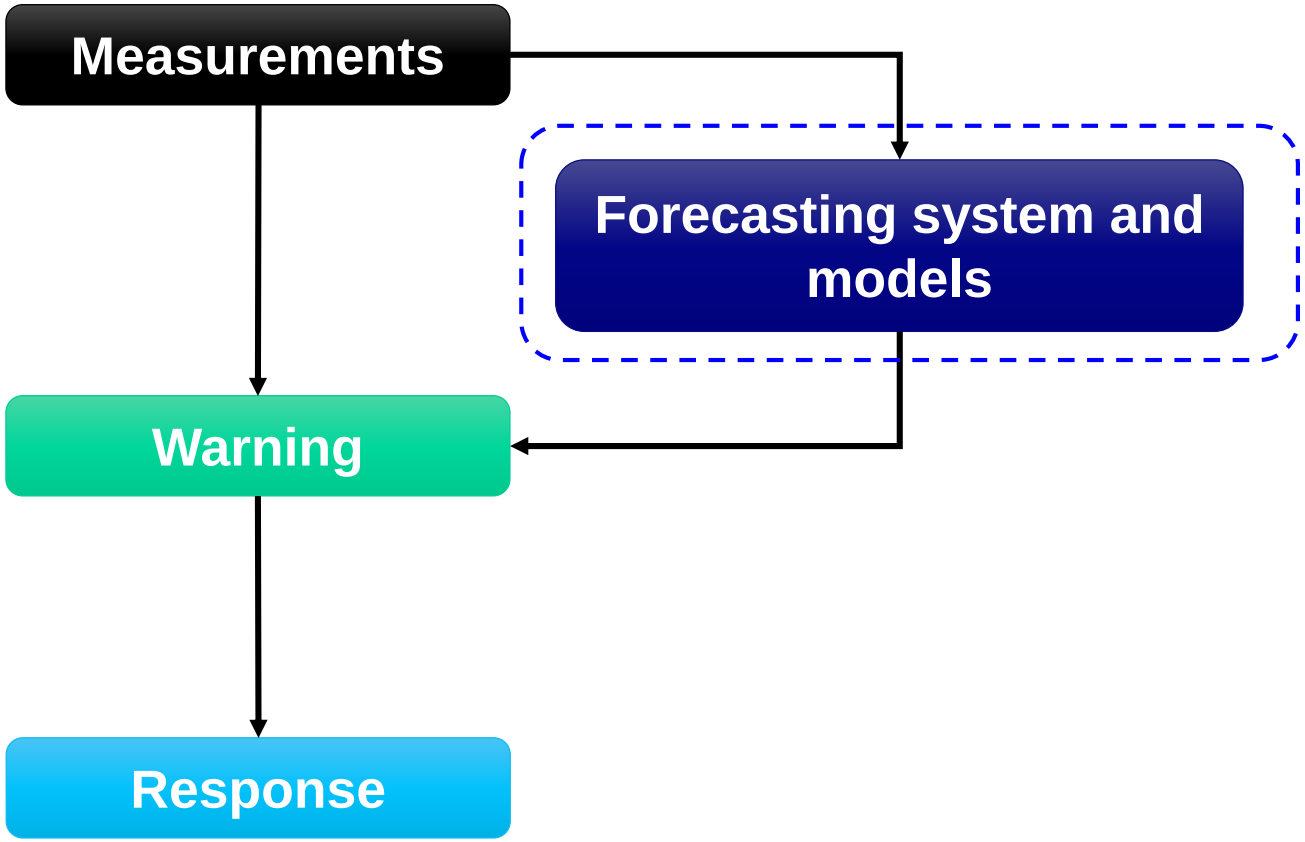
3) Understand how Delft-FEWS relates to models

Deltares

Deltares Introduction

- Independent institute for applied research
- Knowledge Institution, Not for profit, 800 staff
- Specialized in Water Management and Geotechnics
- Open-source Philosophy – Dare to Share

Flow Forecasting and Early Warning

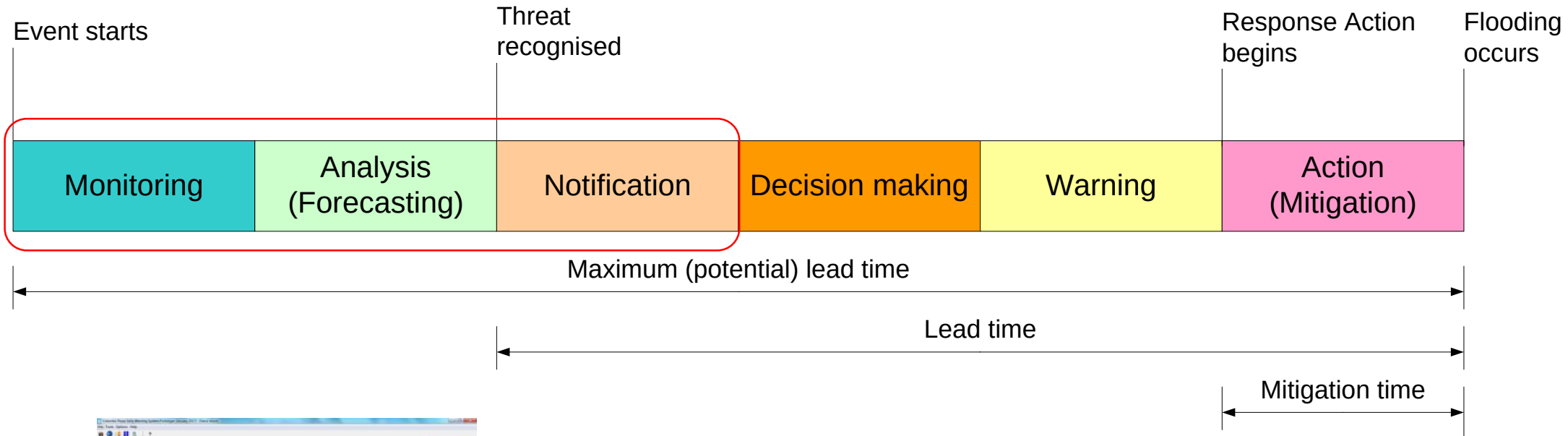


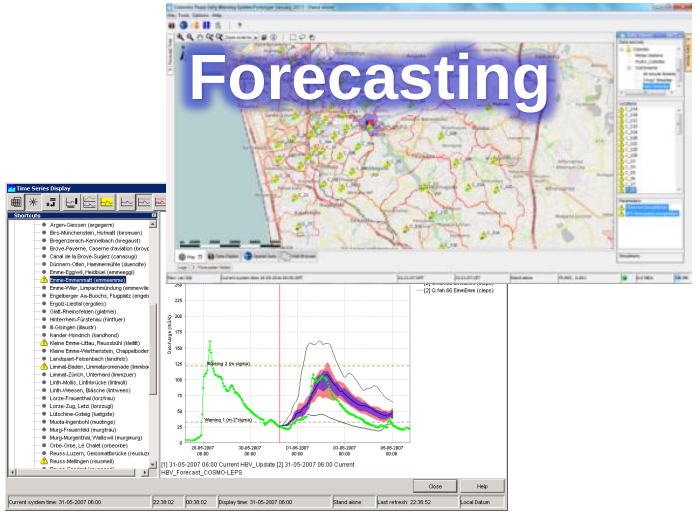
From data to information

Increase lead time

Support decisions

Flood Forecasting, Warning & Response





Deltares

Forecasting Process is Increasingly Data Intensive

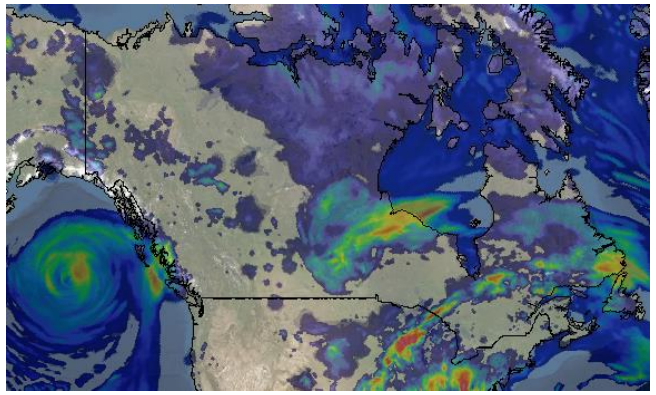
- It is essential to have reliable, real time data as well as forecasts

Meteorological station

Satellite imaging

River gauging station

Numerical Weather Predictions



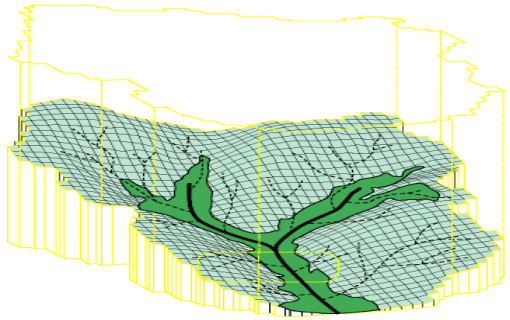
Deltares

Process of Forecasting

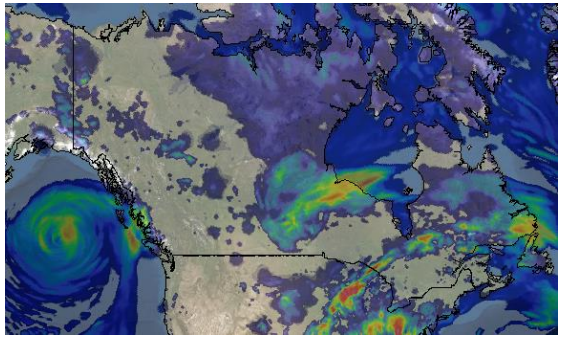
Forecast levels / flows by combining data and models well in advance

Hydrological and meteorological observations

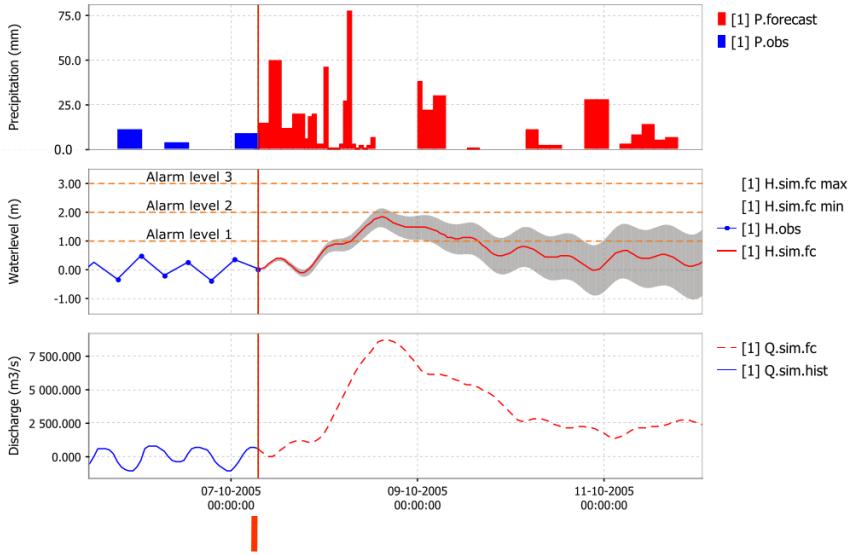
Models



Meteorological forecasts

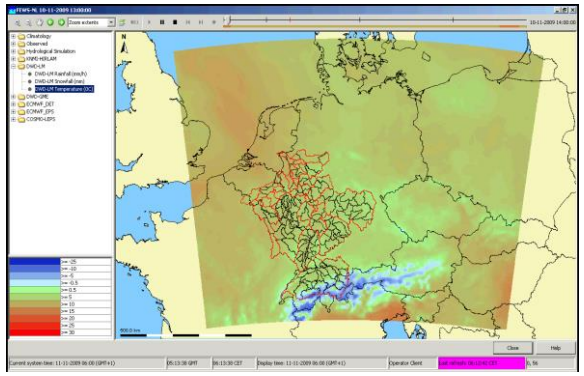


Past | *Future*

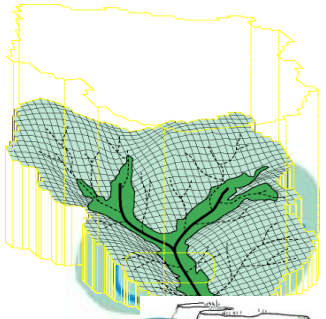


Deltares

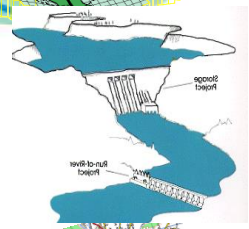
Role of Models in Forecasting Process



Numerical Weather
Prediction models

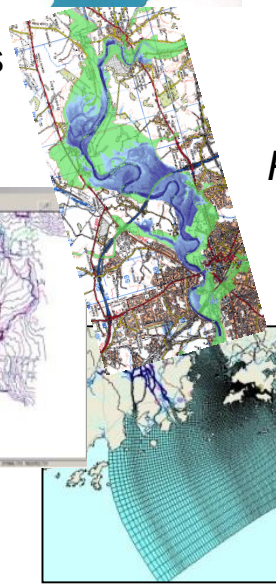


Rainfall-runoff modeling
& snow modeling



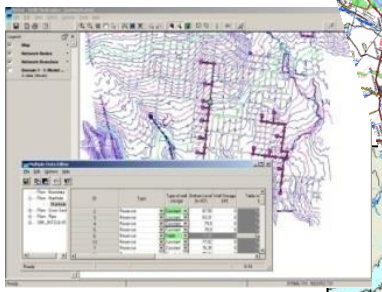
Reservoir Models

Routing models
Hydrodynamic models



Flood inundation models

Urban drainage models

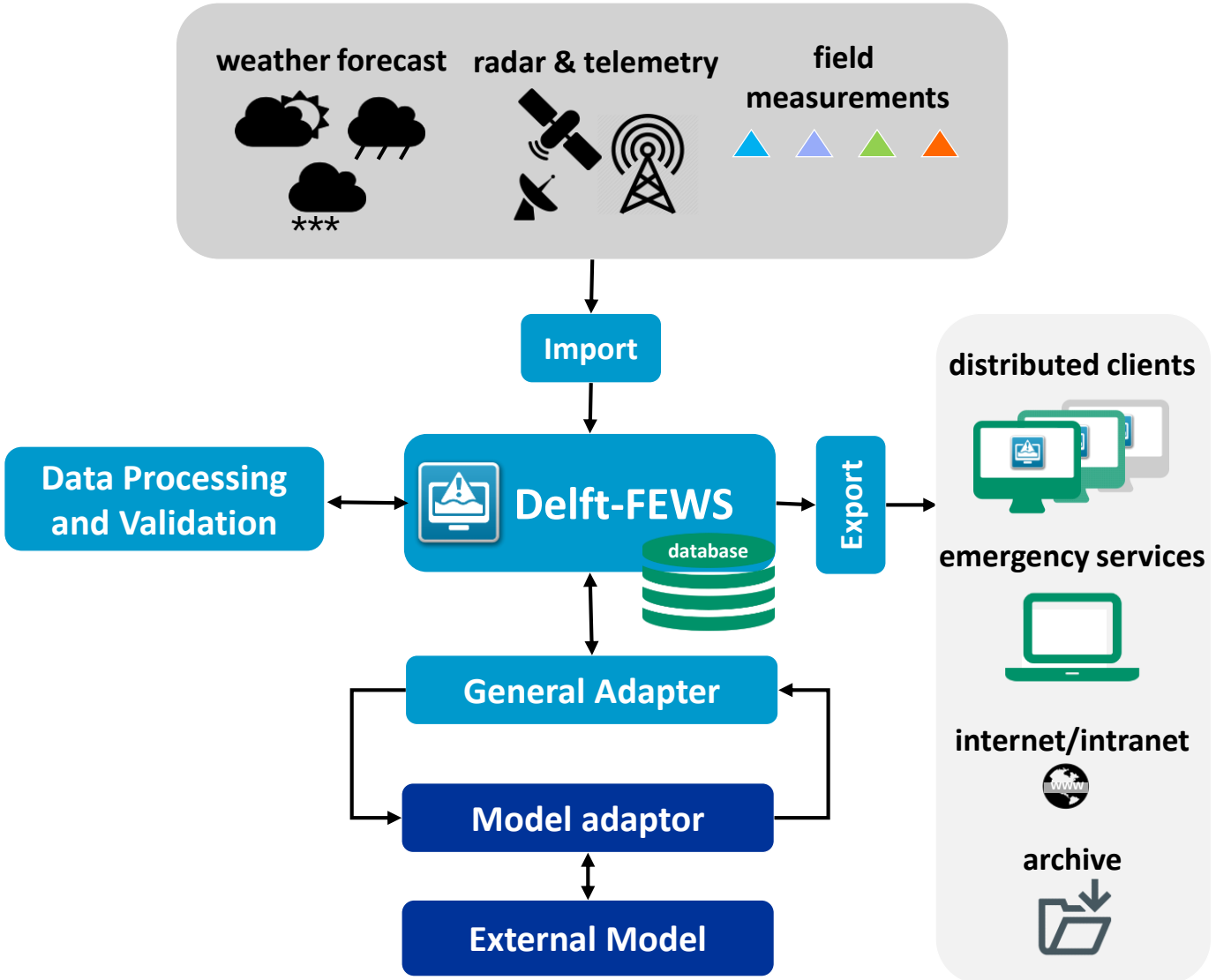


Coastal shelf models
(2D Hydrodynamic)

Why a Flood Forecasting System

- Time and reliability are critical!
- Organize the forecasting process
- Ability to efficiently run and interact with models
- Provide clear overview and status
- Provides the forecaster a framework and an interface to data and models

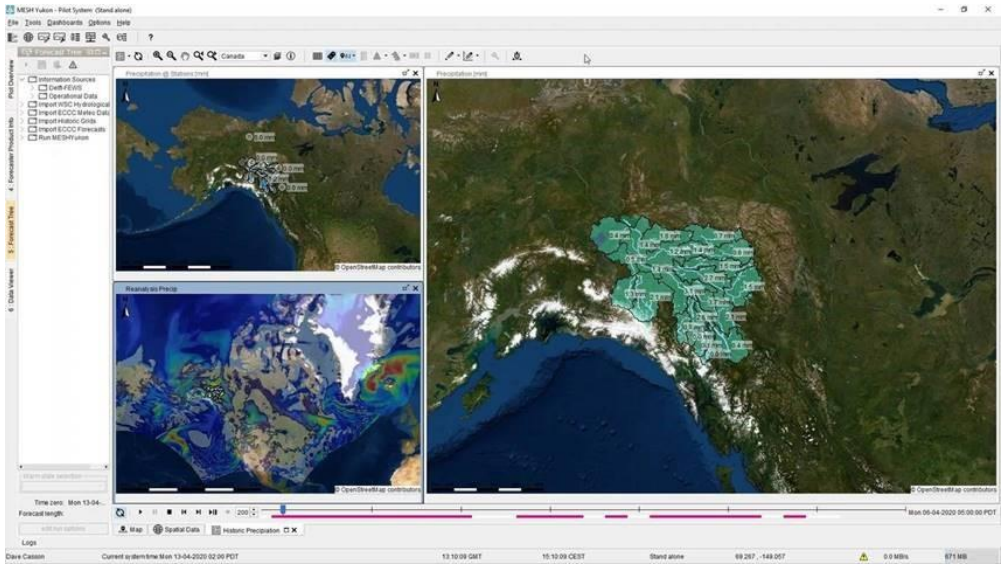
Bringing the forecast process together



Delft-Flood Early Warning System (FEWS)

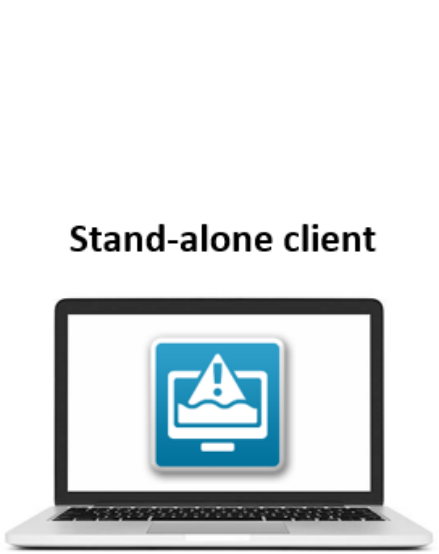
- Open data management and modelling system
- Designed for hydrological forecasting, model independent
- Customised to the specific requirements of an individual organization, and configured by users
- Builds on existing investment
- Operating system independent, very scalable
- Software free of charge, with central role for user community

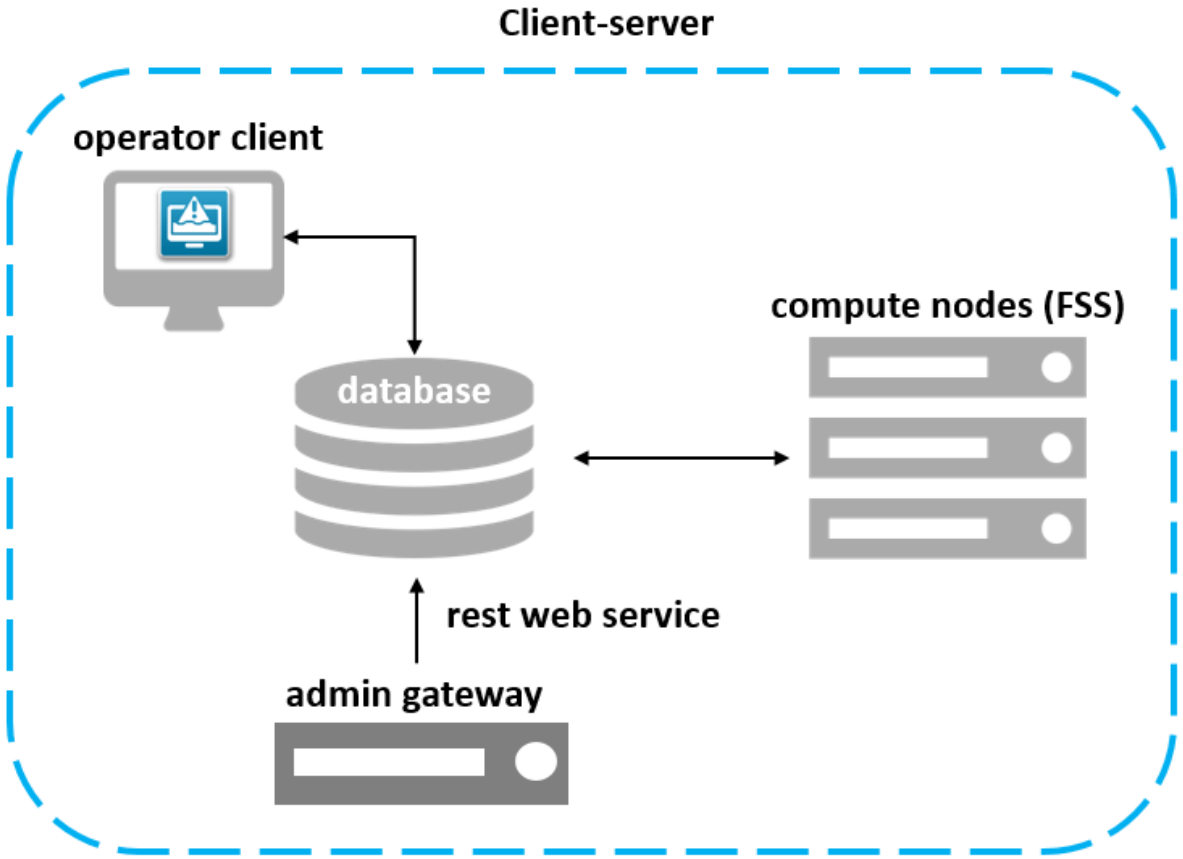
Delft-FEWS



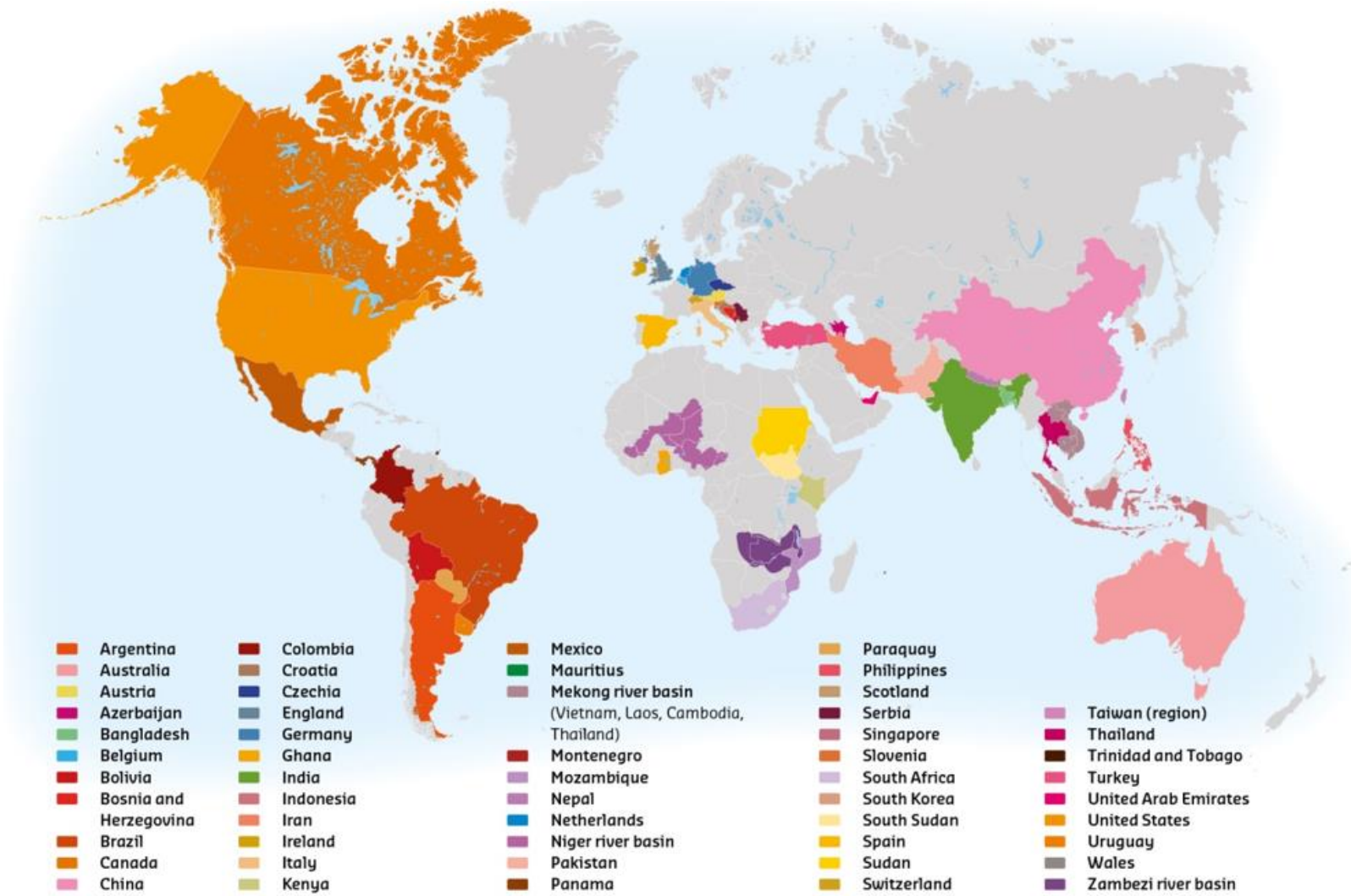
Deltares

Delft-FEWS, application flavors





Delft-FEWS around the World



Deltares

Module Summary

- We generally forecast to increase the amount of time available for response and decision making.
- The forecasting process is data intensive, requiring near real time observations and numerical weather predictions (meterological forecasts).
- Delft-FEWS is used to organize the forecasting process, and provide an open-interface to integrate models. It is not a model itself.
- Delft-FEWS can be configured to the needs of individual organization, but flexibility adds some complexity in configuration.

Next Steps

- The next step is to see the Delft-FEWS User Interface in action. Opening and navigating the Delft-FEWS interface will be the focus of the next module.
- Following this, we'll focus on how to configure basic elements of the system.
- Delft-FEWS configuration is a journey to learn, and we are only at the very start!

Additional Resources

- Google “Delft-FEWS WIKI”
- Google “Delft-FEWS Configuration Guide”
- Google “Delft-FEWS Forum”
- Email fews-pm@Deltares.nl