GloFAS as fundamental tool Flood Forecasting in the Madeira River Crisis Room

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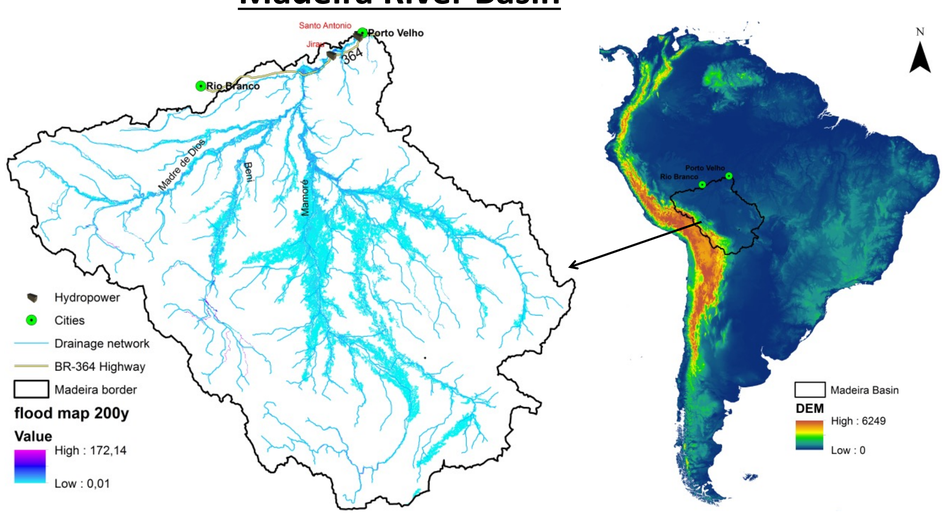
Abstract

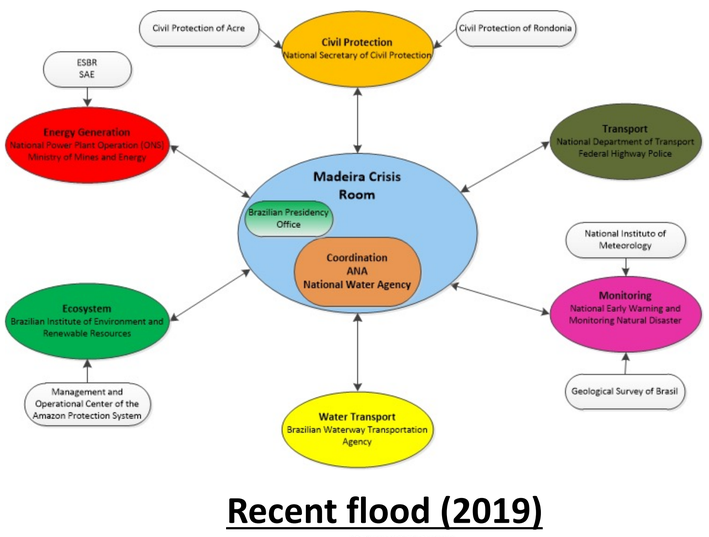
Since the unprecedented flood reported in the Madeira river basin, during the 2014 summer (December-March) where the discharge reach peak at 58,000 m^3s^{-1}, Brazilian government included in its political agenda the need for a risk management system that can assist the stakeholders. From this, the Madeira River Crisis Room was stablished in 2015, under coordination of Brazilian Water Agency (ANA), focused on the management of critical drought and flood events. This room brings together representatives of ANA, Hydrological/meteorological and water resource management agencies, energy and transport sectors, civil protection and early warnings institutions, water users and other regulatory agencies related. Another important point was the development of the contingency plan, which aims to establish the procedures in case of flooding in Madeira River, taking into account the flooding possibilities in urban areas located in Rondônia State and total or partial interruption of traffic by the highway BR364, between Rio Branco/AC and Porto Velho/RO. This work aims to show the importance of a hydrological forecasting system as a tool for decision making in the Madeira Crisis Room and thus avoid loss of human life as well as damage to structures, as well as presenting the efficiency of the forecasts so that the stakeholders can have confidence in the actions that should be taken in face of possible flood event.

Madeira River Basin

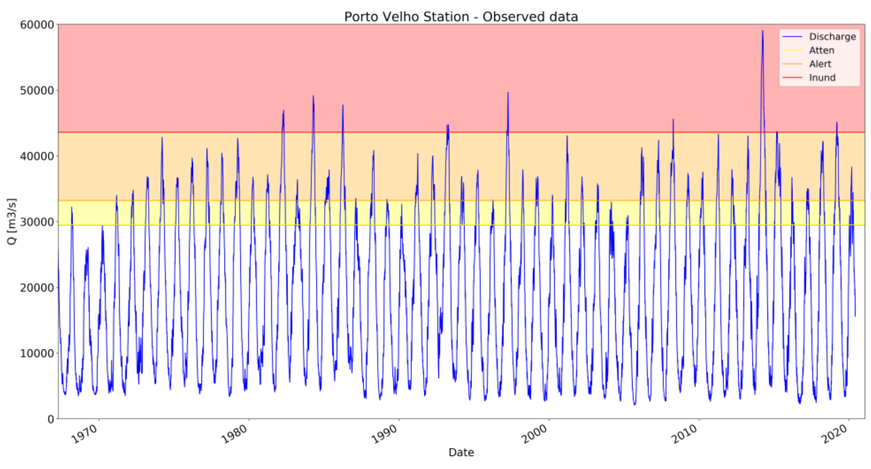


Madeira flood 2014

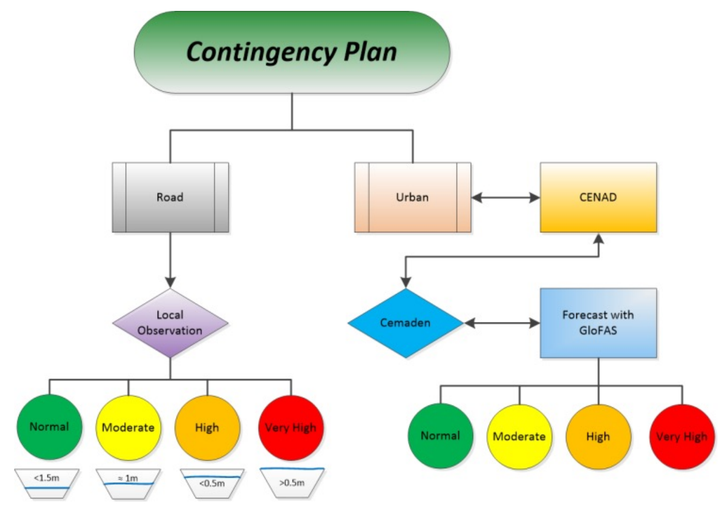
Madeira crisis room



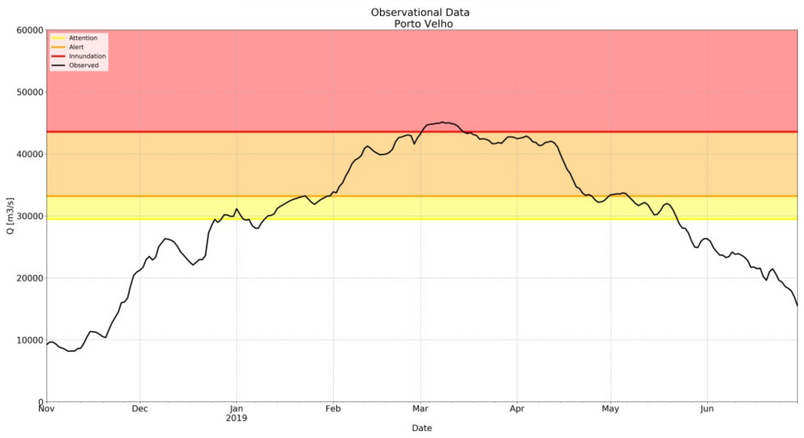
Porto Velho floods history



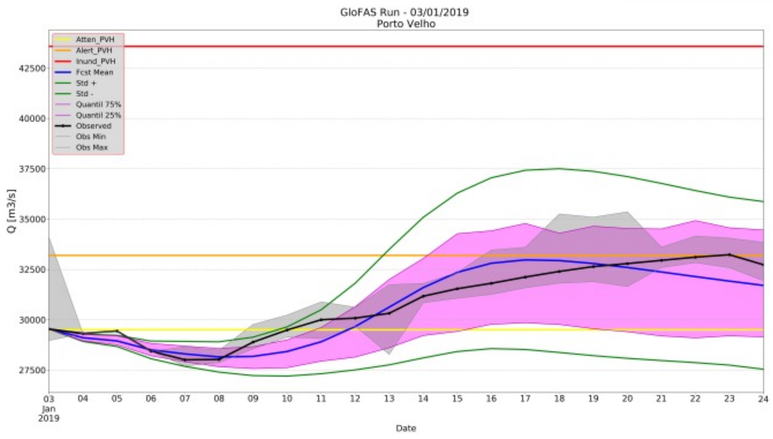
Contingency Plan

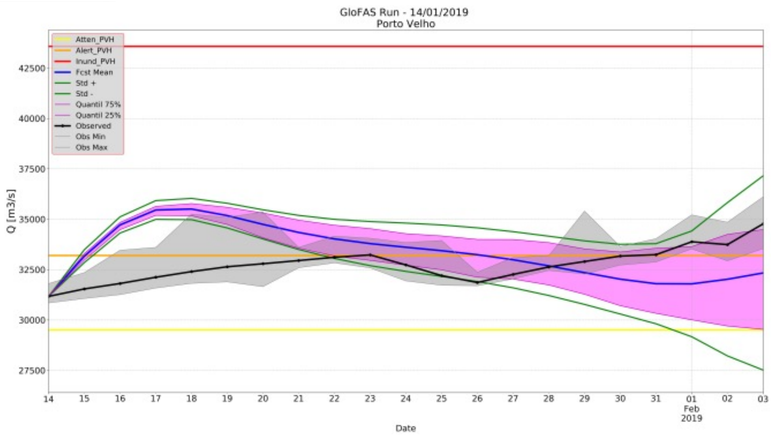


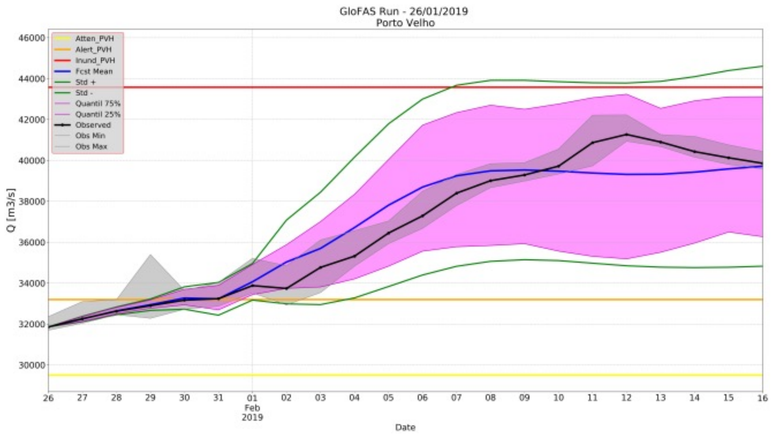
Recent flood (2019)

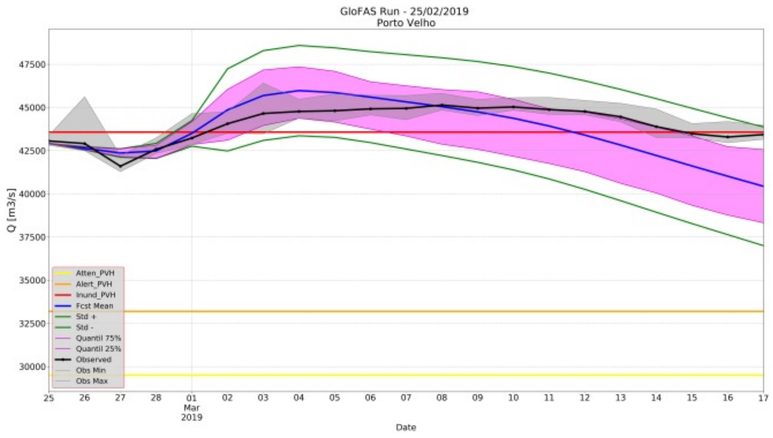


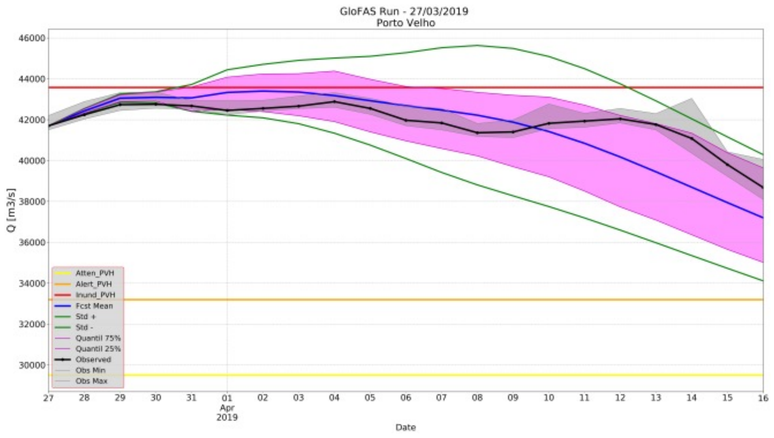
GloFAS forecasting



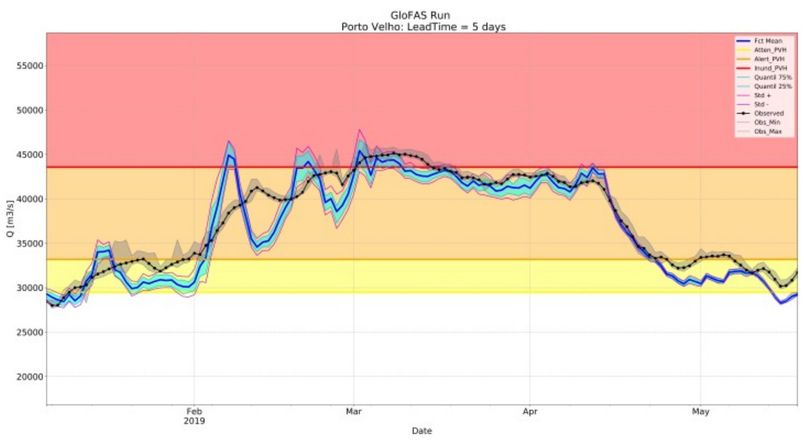


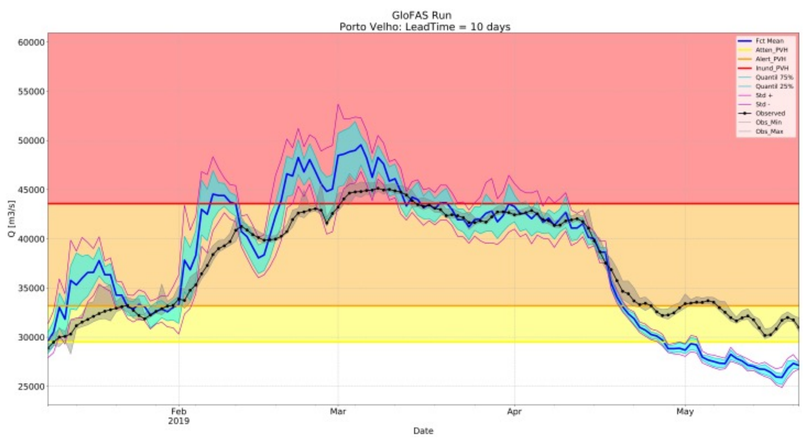


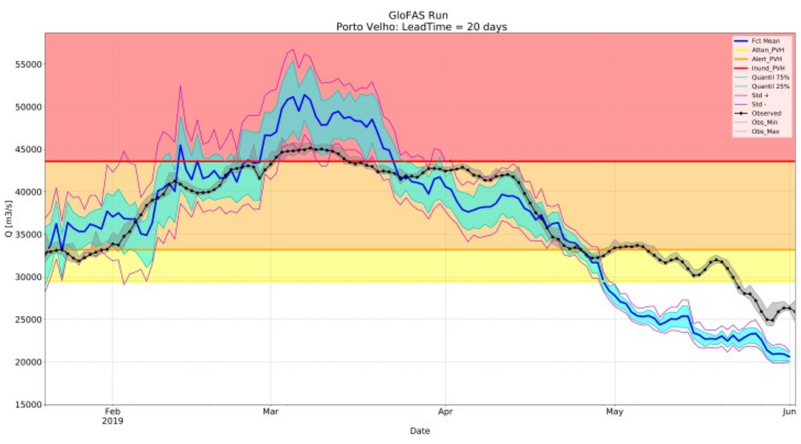




Lead time performance







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Acknowledgement