Dengue is the fastest-growing mosquito-borne viral infection in the world today. It is present in over 150 countries, and approximately 40 percent of the world’s population now live in countries where dengue is a daily risk.

Overview: The Dengue forecasting MOdel Satellite-based System (D-MOSS) project is developing a dengue fever early warning system. The tool generates several months advance warning of likely dengue outbreaks. One of the key components is a water assessment module that provides the additional benefit of improving water management in transboundary river basins.

Our Vision: To see D-MOSS become a key factor in reducing dengue fever worldwide.
D-MOSS benefits:

> Probabilistic forecasts of dengue outbreaks issued every month, up to seven months in advance.

> Seasonal forecasts of water availability, at a catchment scale.

> Portrayal of forecast number of dengue cases, disease incidence, transmission months, probability of exceeding outbreak thresholds and water availability indicators presented in both English and the local language.

> Supporting information on recommended actions to be taken, provided by the decision makers.

Key technical features

> Incorporation of a variety of Earth observation (EO) data products ranging from historical observations to the latest state-of-the-art missions.

> Hydro-meteorological and societal parameters are analysed in order to infer dengue fever outbreaks.

> A new forecast is issued every month and during outbreaks the forecast can be issued on a weekly basis.

> Web-based portrayal system and numerical model forecasting engine deployed on commercial cloud services which can be accessed via desktop/laptop devices with an internet connection.

> Open-source solutions are employed where possible together with widely known development languages and tools.

> Built in capability to replicate anywhere in the world and for a variety of other diseases.

D-MOSS Vietnam map portrayal showing an example dengue fever forecast based on unverified test data.