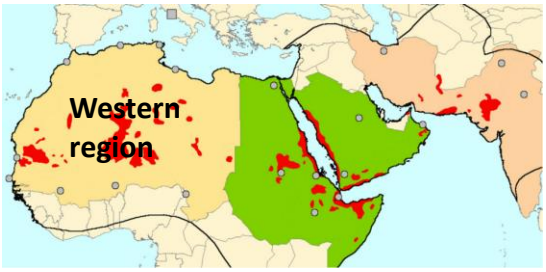
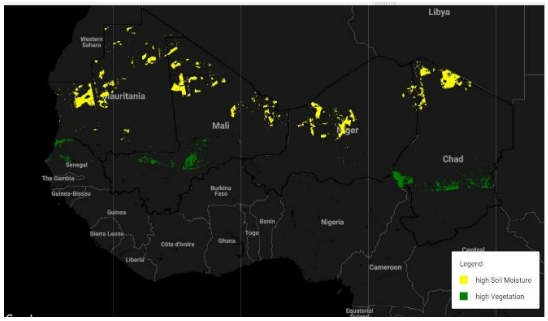
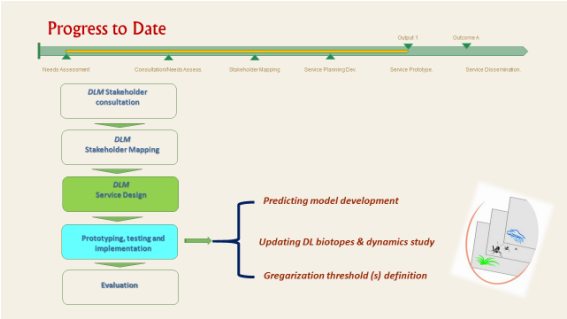
Desert Locust Risk Prediction Tool development – P_Locust



A regional service for timely identification of areas at risk of Desert Locust outbreaks to improve monitoring in CLCPRO member countries in the western region



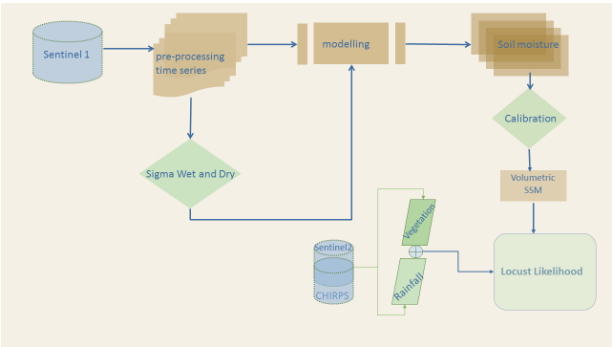
https://chaponda.users.earthengine.app/view/locustrisk



Desert locust infestations are a recurrent problem with a level of current urgency due to the plague that originated in East Africa. Locust breeding and swarming areas are found over a vast zone in the western region of Africa. National control agencies face numerous constraints that inhibit predicting, targeting and controlling outbreaks at the appropriate time.

SERVIR-WA is supporting the FAO Desert Locust Information Service (DLIS) to monitor locusts' biotopes in the area using high resolution imagery of vegetation, rainfall, wind, temperature and soil moisture, to improve monitoring of these pests.

Model diagram & modeling approach



An approach to change detection has been developed using synthetic aperture radar (SAR) imagery to detect changes in soil moisture. The radar signal on a given date is compared to the radar signal acquired in very wet and very dry periods to provide a relative surface soil moisture index.

Once operational, the application will provide survey teams with vital information for a timely identification of areas at risk for Desert locust development and for outbreaks in CLCPRO front line states and member countries. It will therefore help to save time and to improve efficiency in the conduct of field operations as well as in the use of allocated resources. Additionally, this effort demonstrates the high level of collaboration among numerous partners in the region, Europe and the United States to address this important threat to agricultural production and livelihoods. NASA, in particular, has contributed their expertise and access to data in the development of this service.