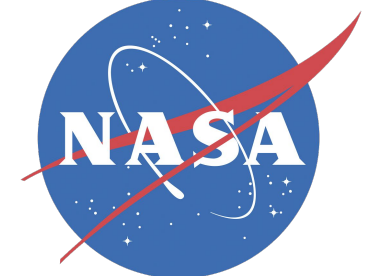




Geo AI innovations in RLCMS for MRV and Digital commodity traceability

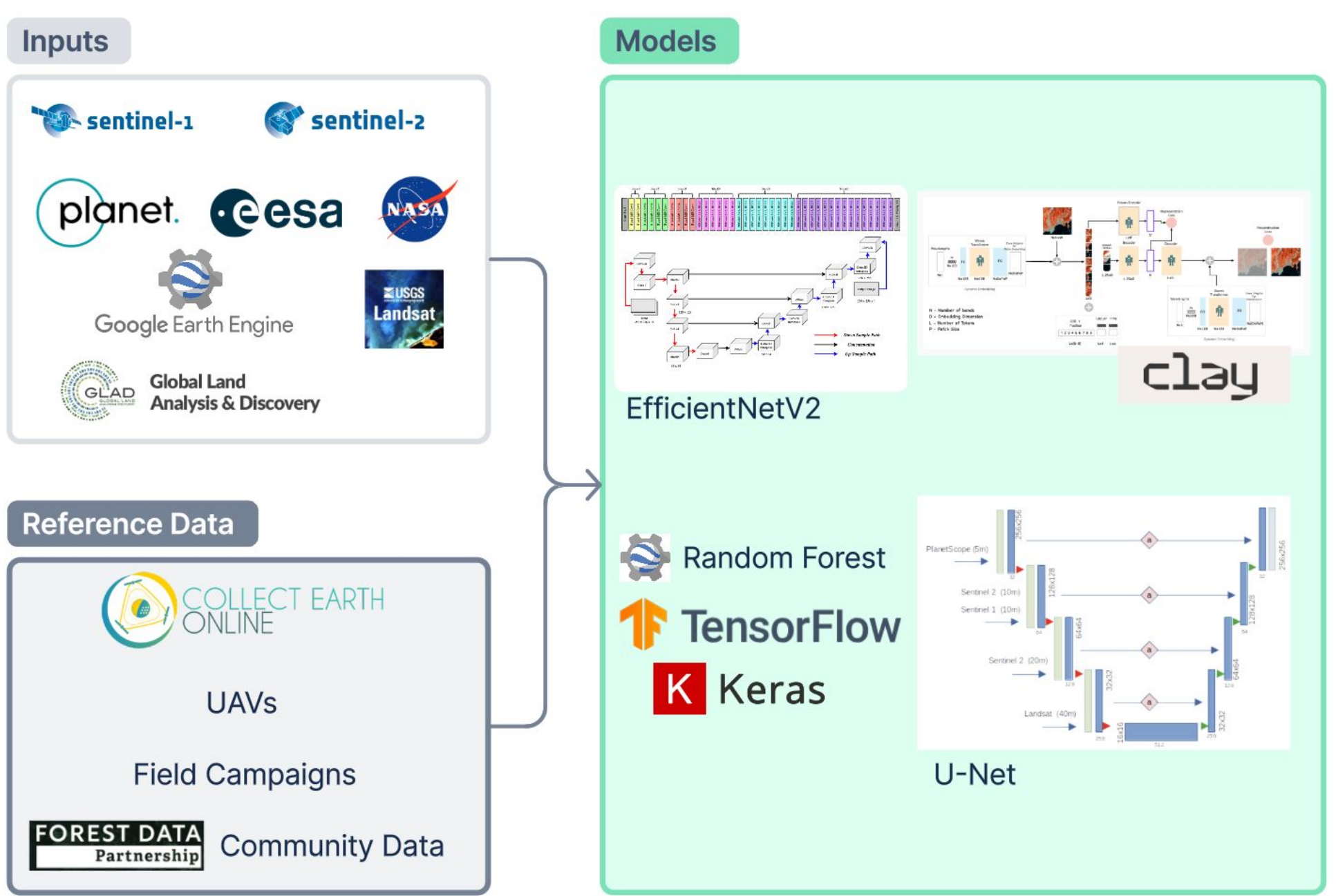


SERVIR SEA is harnessing Geo AI and machine learning to enhance the Regional Land Cover Monitoring System (RLCMS) in Southeast Asia. By employing deep learning techniques for mapping deforestation alerts, crop types, and engaging with REDD+ partners in Cambodia, the service is significantly improving Measurable, Reportable and Verifiable (MRV) capabilities in REDD+ projects. This innovation enables more accurate crop type mapping in Cambodia, a key element in advancing digital traceability. This data is instrumental in forest protection and promoting sustainable agricultural practice.

Partners & Collaborators

- USAID Morodok Baitang Cambodia
- Oregon State University
- UNDP Cambodia
- SilvaCarbon
- General Department of Agriculture (MAFF Cambodia)
- Forest Data Partnership
- Food and Agriculture Organization

Conceptual Framework

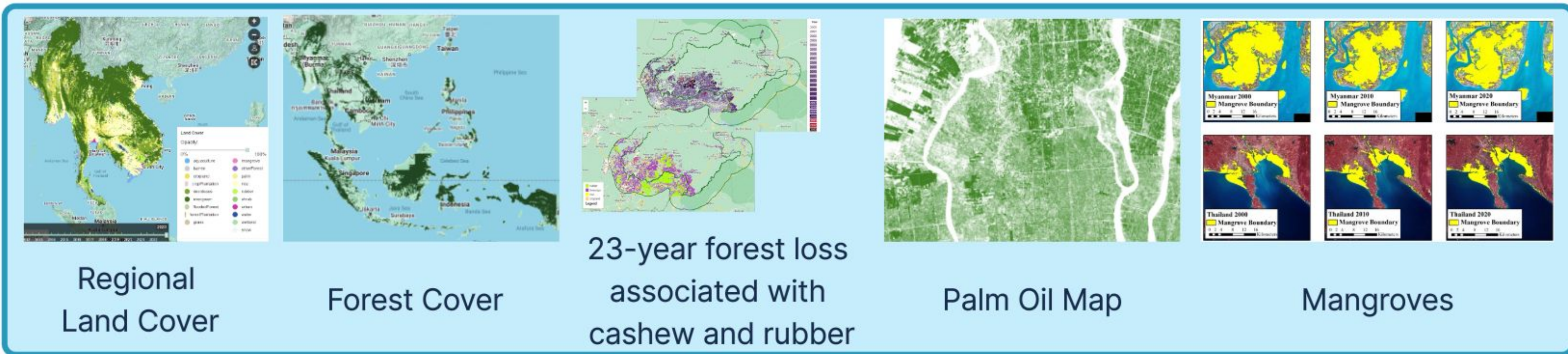


This conceptual diagram shows the various datasets and algorithm that are used to support production of several land cover data products.



SERVIR SEA, Oregon State University (OSU), and USAID Morodok Baitang conducted a collaborative field trip to the REDD+ project site in Keo Seima Wildlife Sanctuary, Cambodia. The objective of the trip was to validate deforestation occurrences and assess the extent of cashew farming within the protected area.

Products



RLCMS products applied the deep machine learning for regional and site level applications in SouthEast Asia

Outcomes & Impacts:

- **Ministry of Environment (Cambodia)** utilizes the forest monitoring data for National forest monitoring System.
- **Cashew farm database** is developed for USAID Morodok Baitang for Cashew and Conservation activities in Keo Seima Protected Area.
- **Open Development Cambodia** disseminates forest data for open public, enhance data governance in the country
- **WCS, CI** used the forest monitoring data support REDD+ activities
- **5 Protected areas** (around 1.5million ha of forest) in Cambodia has applied technology and conserved with a climate change mitigation benefit .
- **USAID Indicators:** 13-1, 13-2, 13-8 (GHG emission reduction)

Next Steps:

1. Update the annual land cover of Mekong region to cover 2024
2. Improve the expanded SEA forest maps
3. Produce mangrove maps for SEA
4. Produce updated palm oil maps
5. Enhance capacity of stakeholders to use land cover products and tools for planning, forest landscape restoration, and contribute to global commodity traceability

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