

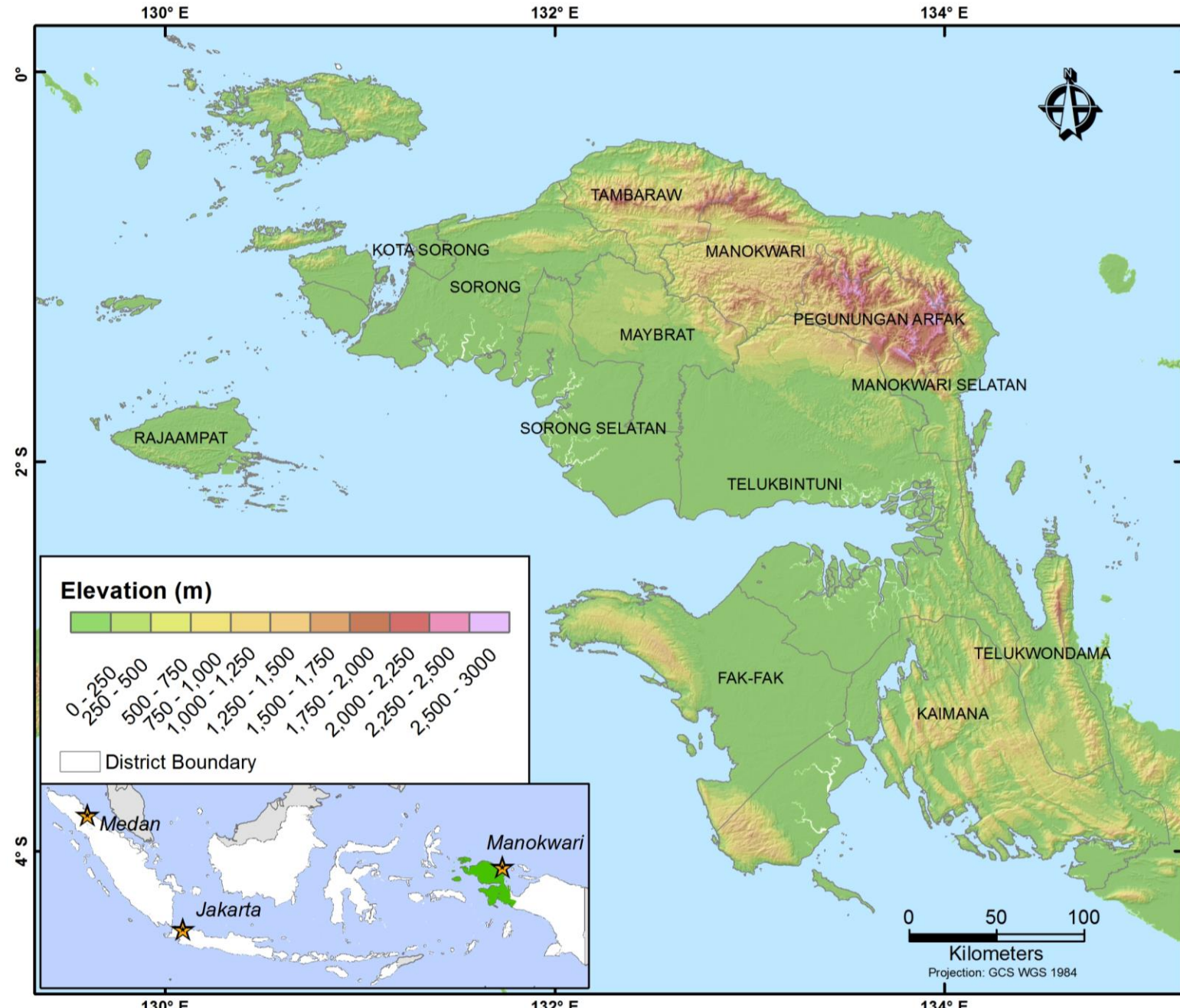
Mapping Ecosystem Extents in West Papua, Indonesia

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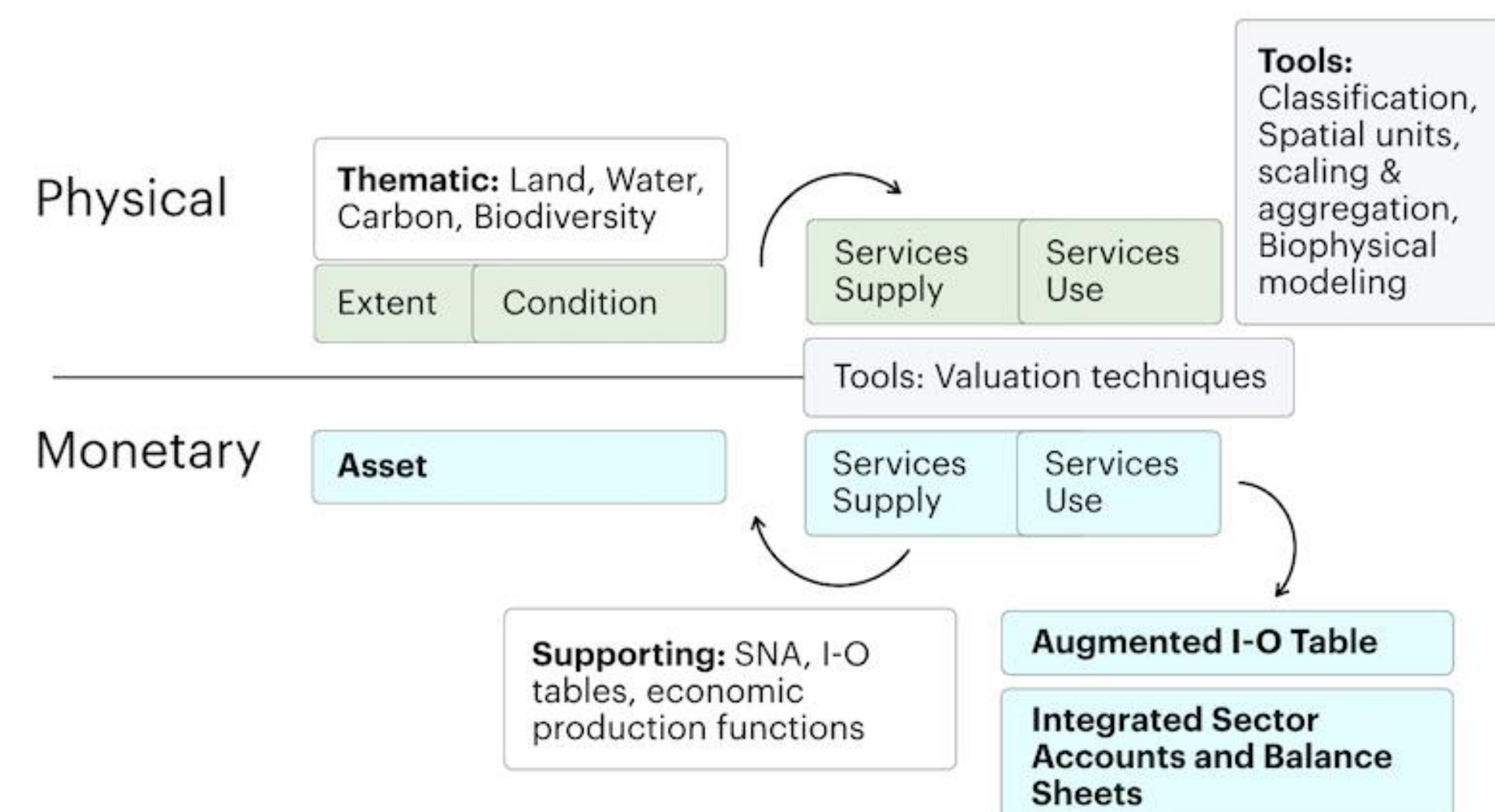
Background

On 19 October 2015, Governor Abraham Ataruri declared West Papua to be Indonesia's first Conservation Province. The declaration is uniquely farsighted in its intent to: 1) establish comprehensive ecosystem-based protections, 2) establish sustainable development practices across all industries, and 3) empower local communities to control and protect vital community resources.

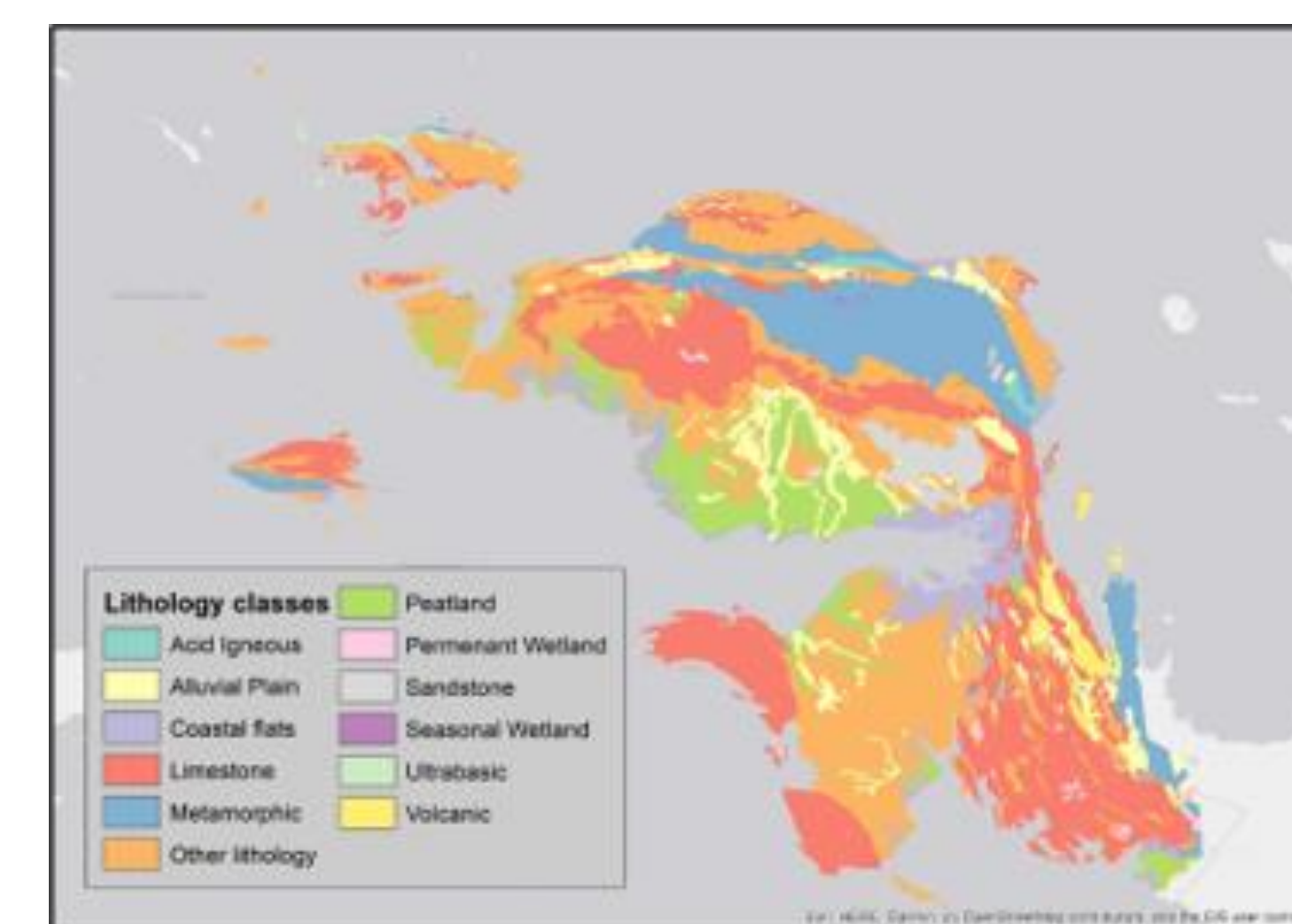
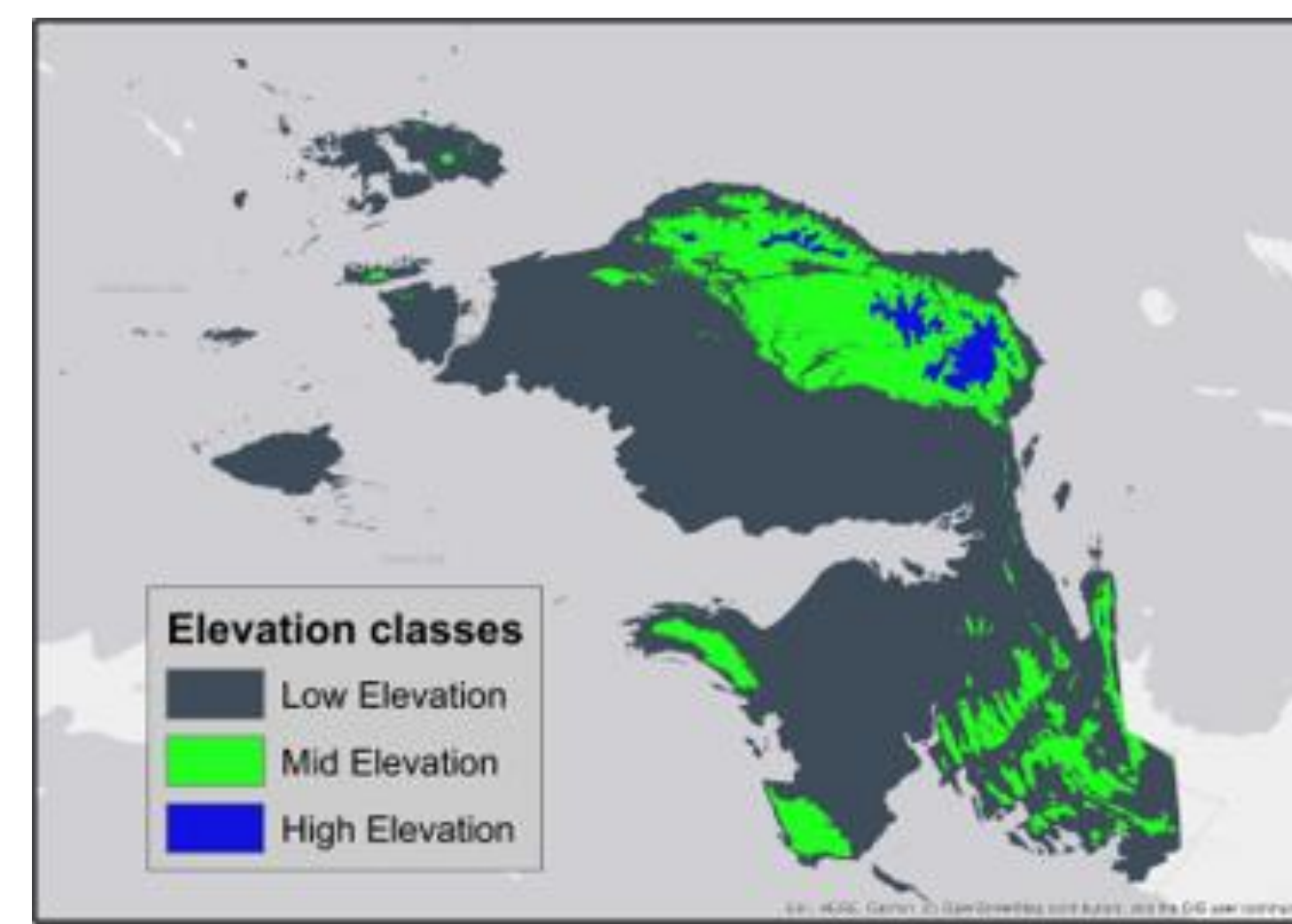
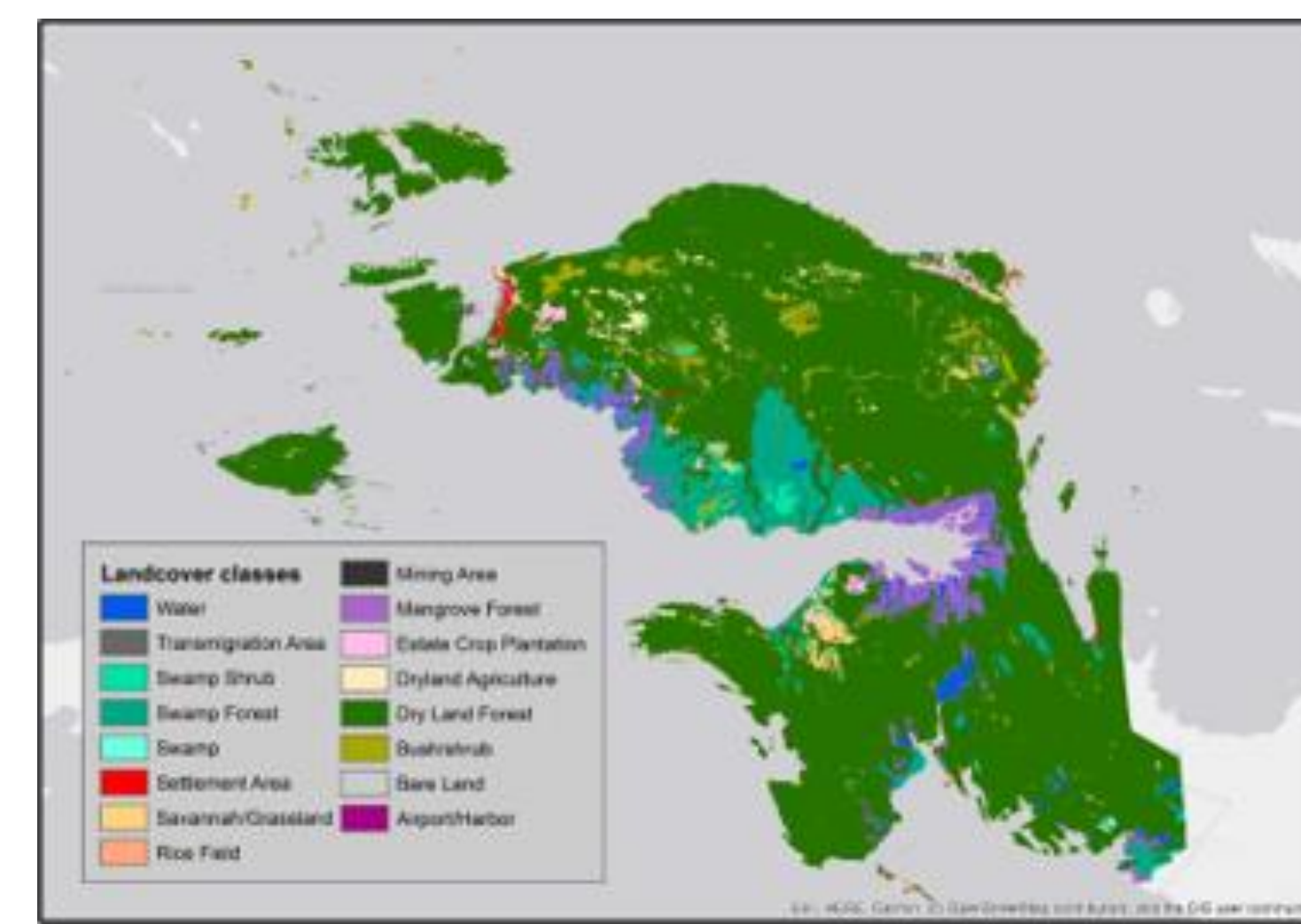


Conservation International supports the West Papua provincial government's efforts to pilot ecosystem accounting as a tool to help develop effective responses for their green growth and sustainable development goals.

What is Ecosystem Accounting?

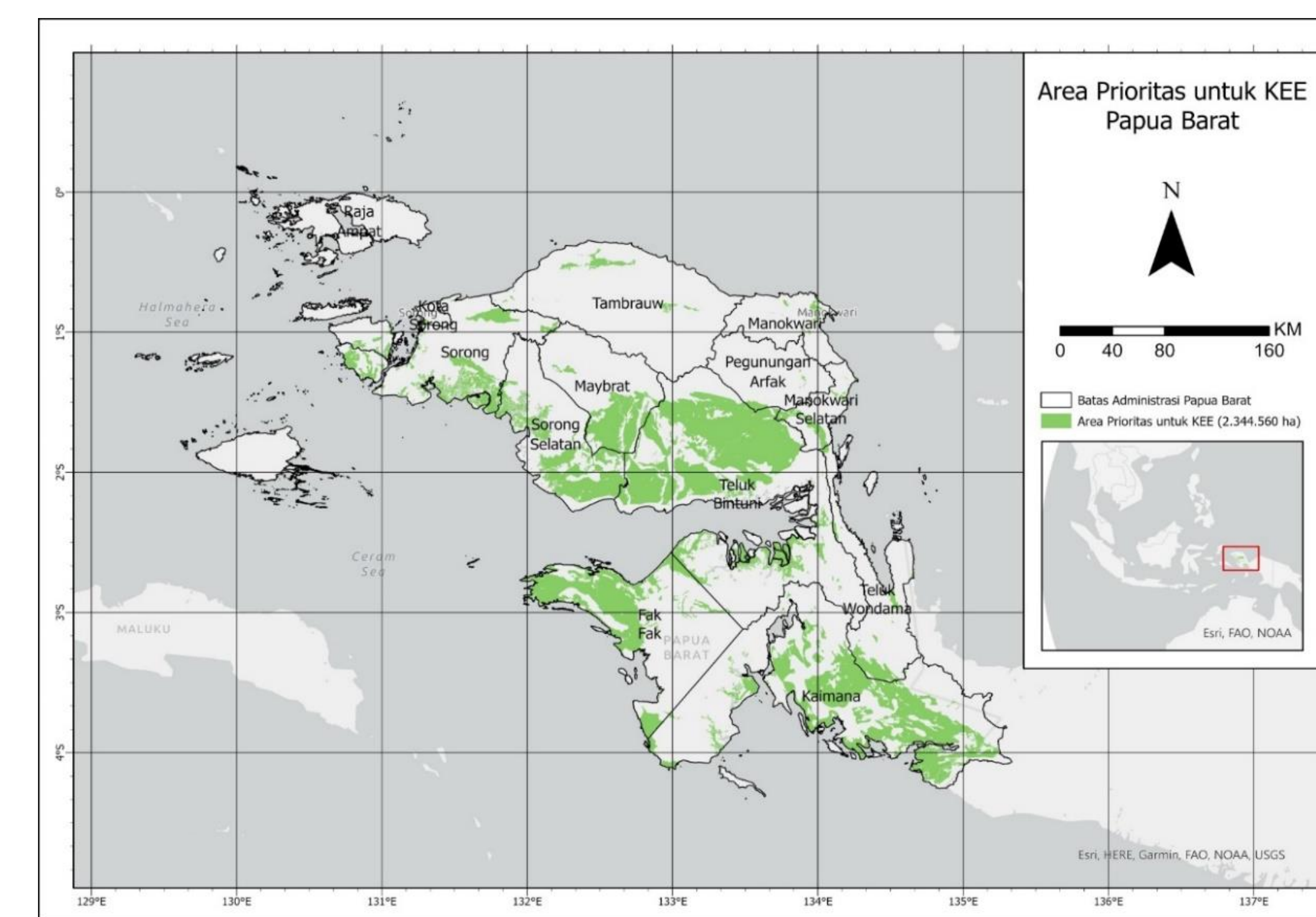


Methods and Results

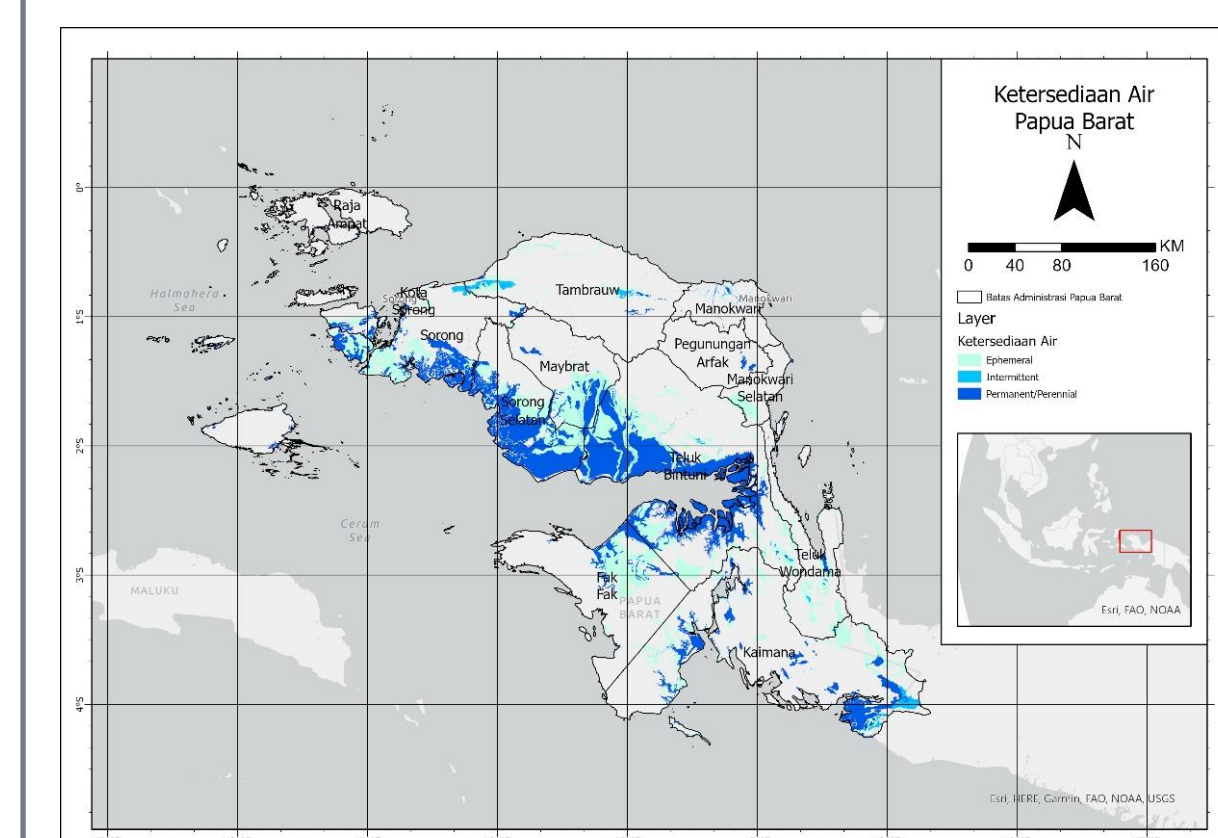


Ecosystem Assets Map (117 Physical Classes)

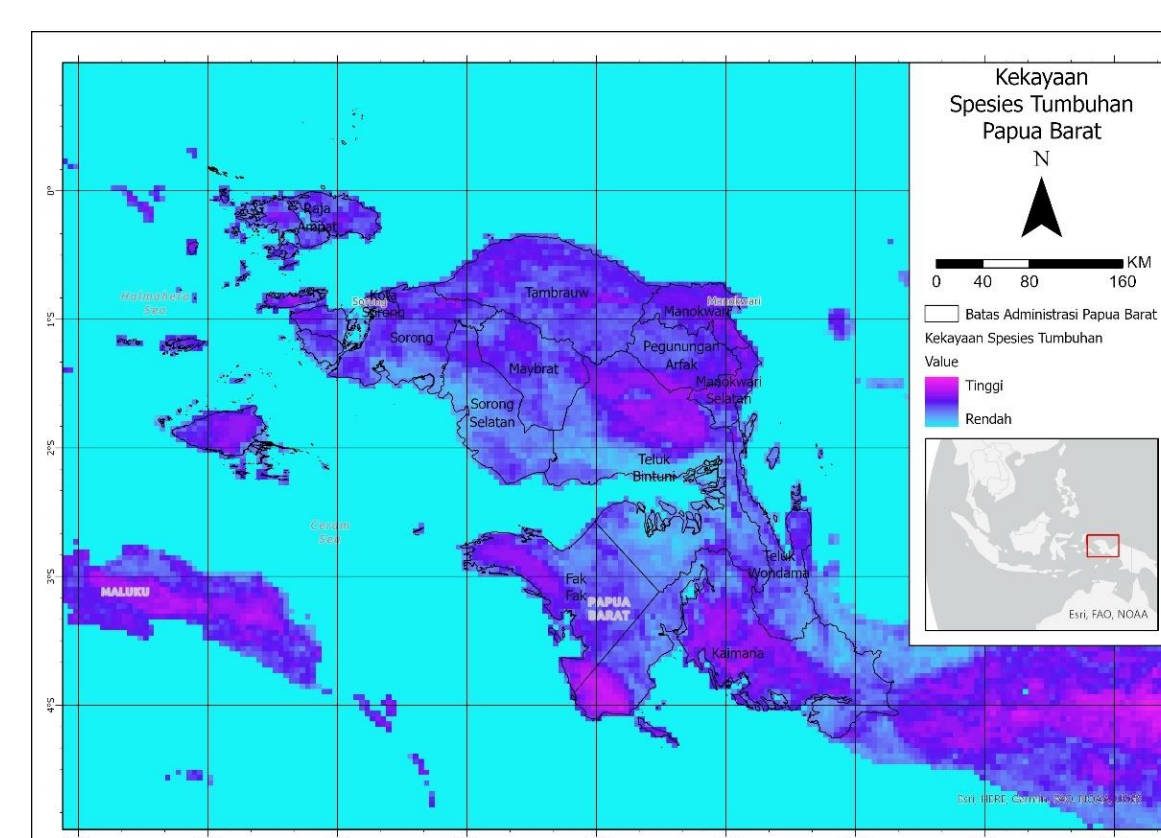
Ecosystem asset extents were defined and mapped by combining official Indonesia government datasets on land cover classes, elevation, and lithology. Resulting map (left) included 117 physical ecosystem classes. Individual ecosystem assets were then prioritized for consideration of KEE using criteria defined by the ministry of environment and forestry. Criteria considered in the prioritization included 1) water availability; 2) existing protected status; 3) biodiversity (distribution); 4) biodiversity (symbol). Final priority map below with assets recommended for KEE shown in green.



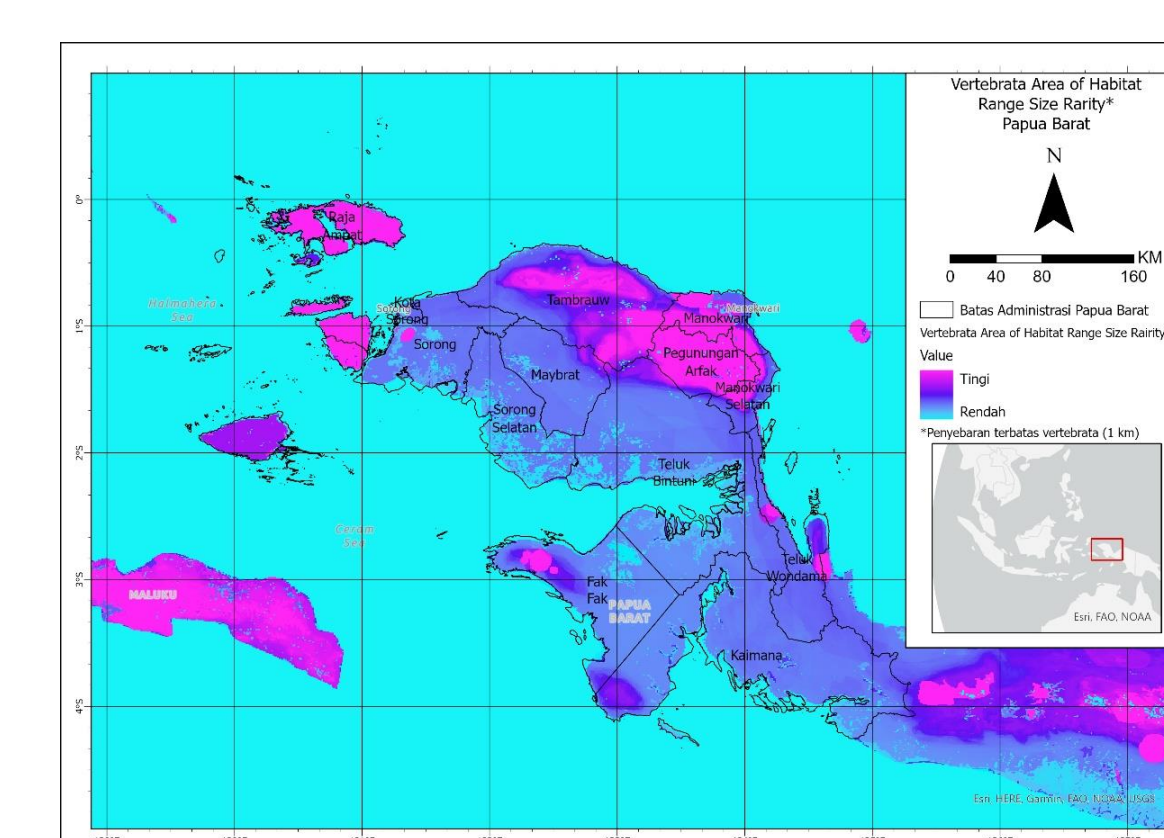
Priority Assets for KEE Consideration



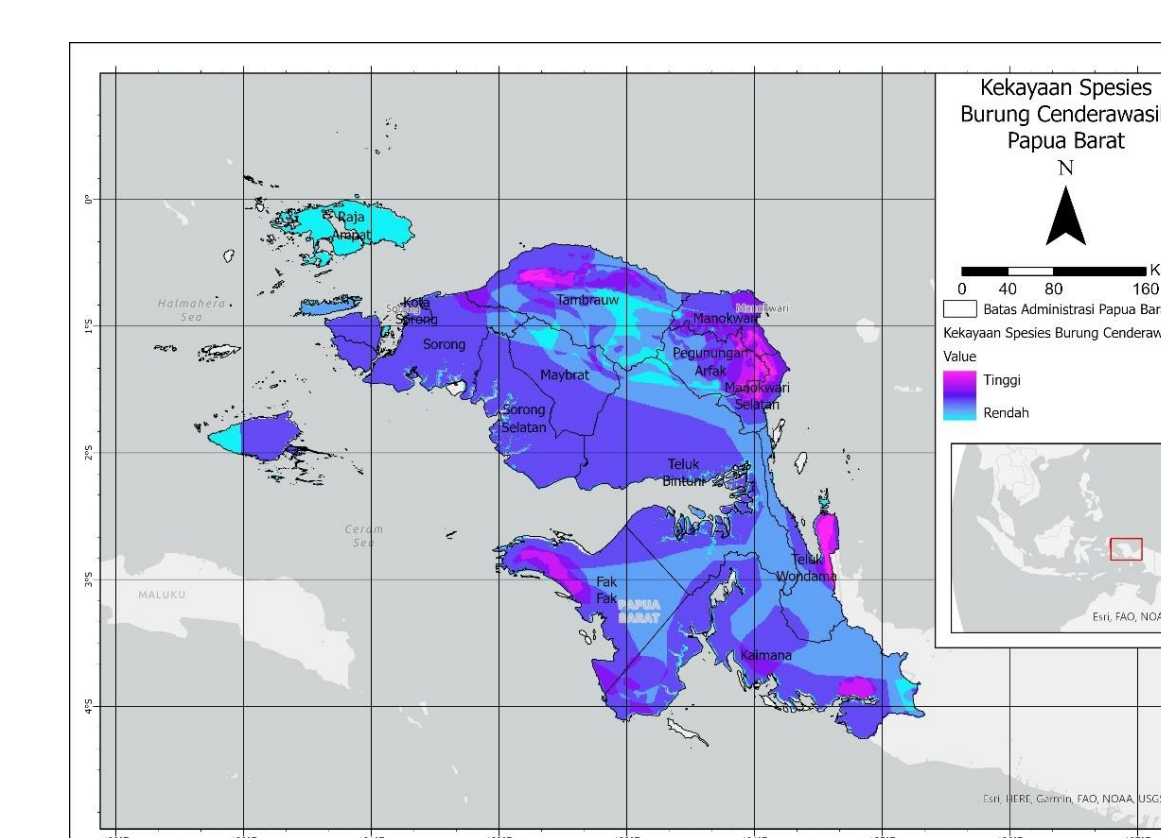
Water availability per ecosystem asset (RePPPOT 2008) [Water Availability]



Modeled plant diversity (range-size weighted rarity) [Biodiversity Distribution]



Terrestrial vertebrate diversity (range-size weighted rarity) [Biodiversity Distribution]

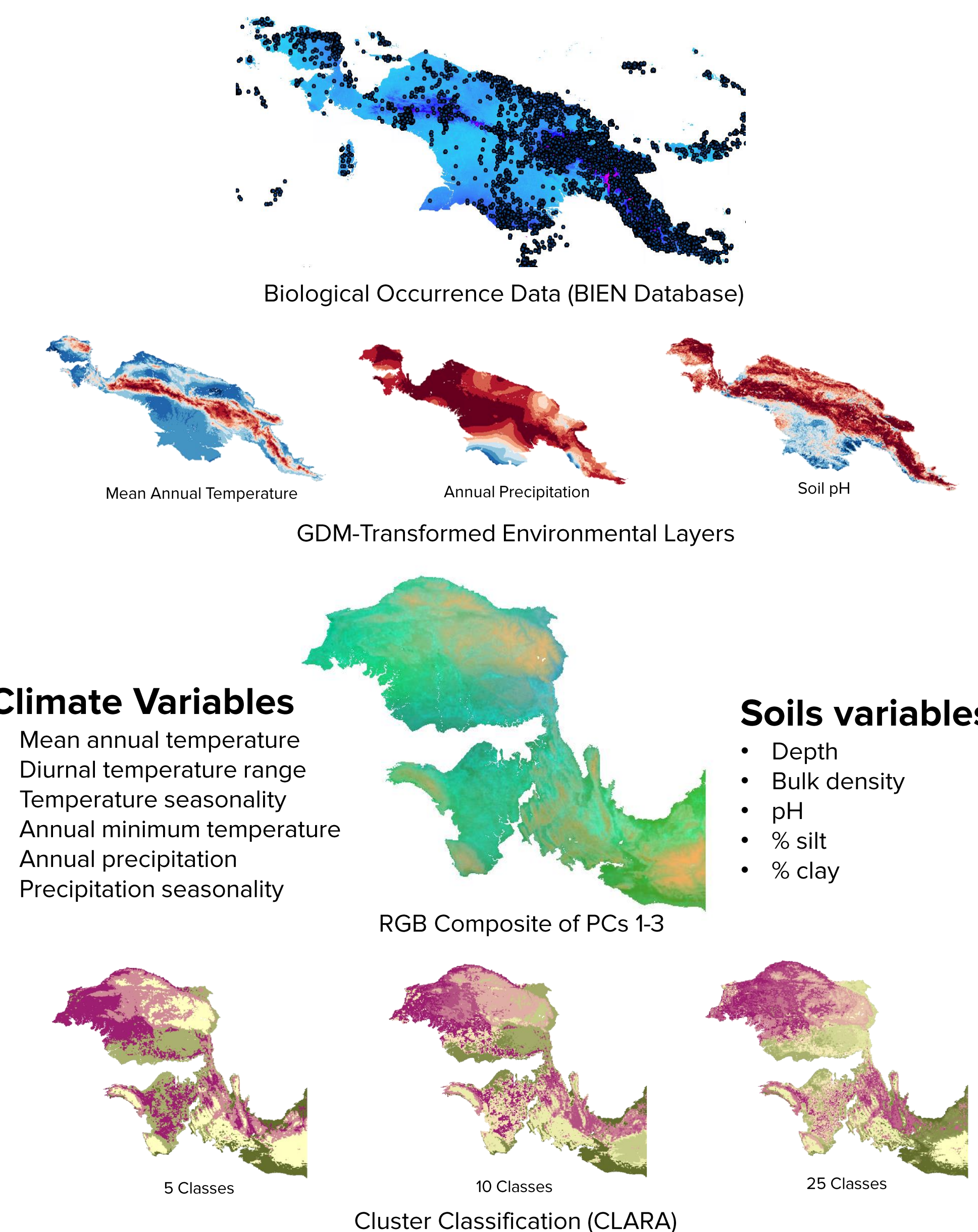


Birds of Paradise (species richness) [Biodiversity Symbol]

Key Outcomes

- Ecosystem extent and account tables developed for 2019 and 2020.
- The 2020 ecosystem extent map was used to support prioritization and stakeholder aspirations to protect 70% of the West Papua province
- Prioritized ecosystem assets map identified 7 million ha of priority areas in line with ministry of environment and forestry regulations and guidelines for key ecosystem areas (KEE).
- Begun the process of developing preliminary biodiversity accounts that combine information from the ecosystem extents and species occurrence data.

Species Turnover-Based Classification



Climate Variables

- Mean annual temperature
- Diurnal temperature range
- Temperature seasonality
- Annual minimum temperature
- Annual precipitation
- Precipitation seasonality

Soils variables

- Depth
- Bulk density
- pH
- % silt
- % clay

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