

MAAP #102: Saving the Ecuadorian Chocó



Chocó endemic, Long-wattled Umbrellabird. ©Stephen Davies

The **Ecuadorian Chocó**, located on the other (western) side of the Andes Mountains from its Amazonian neighbor, is renowned for its high levels of **endemic** species (those that live nowhere else on Earth).

It is part of the “Tumbes-Chocó-Magdalena” **Biodiversity Hotspot**, home to numerous endemic plants, mammals, and birds (1,2), such as the Long-wattled Umbrellabird.

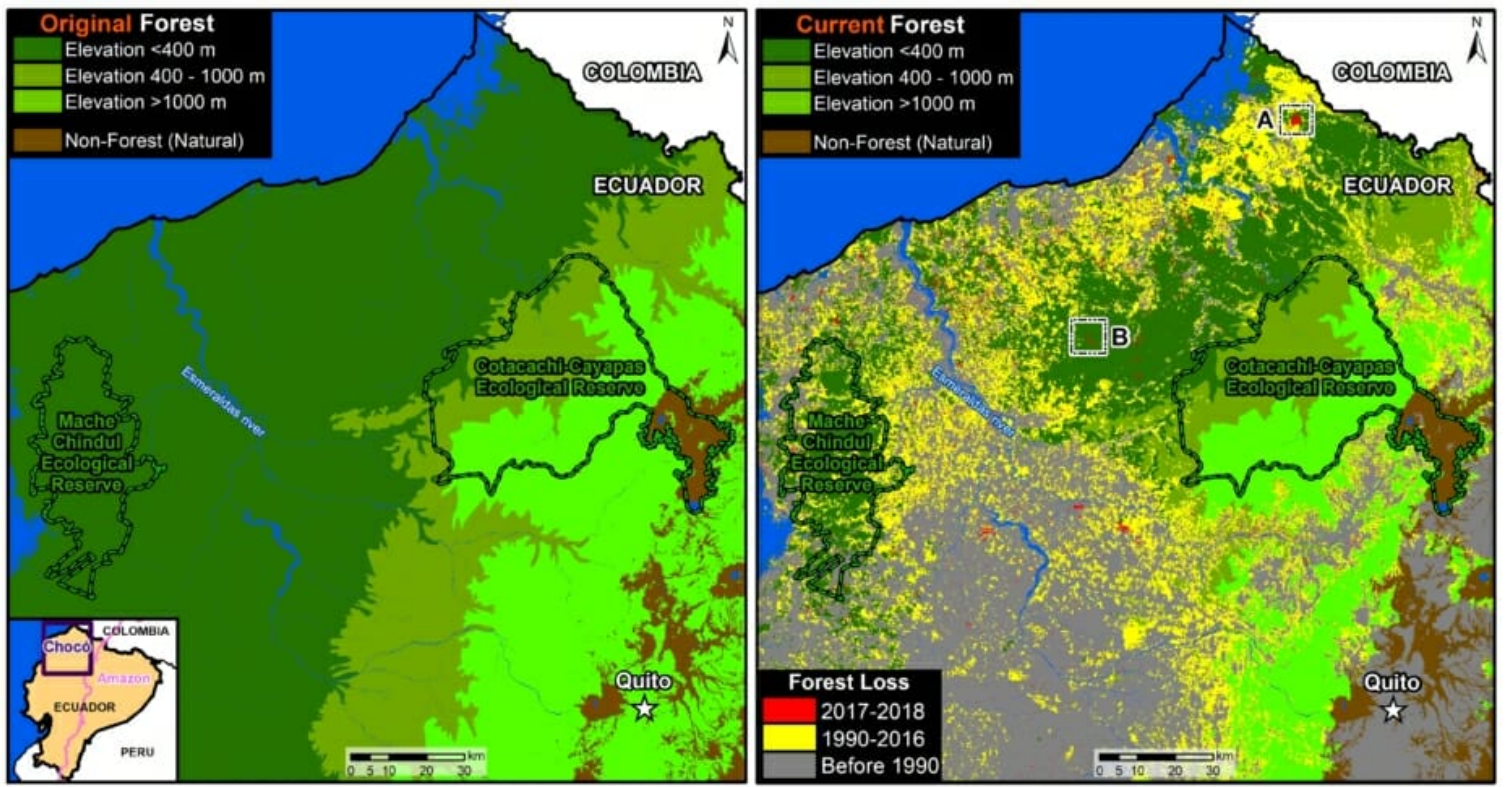
It is also one of the most **threatened** tropical forests in the world (1).

Here, we conduct a **deforestation analysis** for the northern Ecuadorian Chocó (see **Base Map** below) to better understand the current conservation scenario. Importantly, we compare the **original** forest extent (left panel) to the **actual** forest cover (right panel).

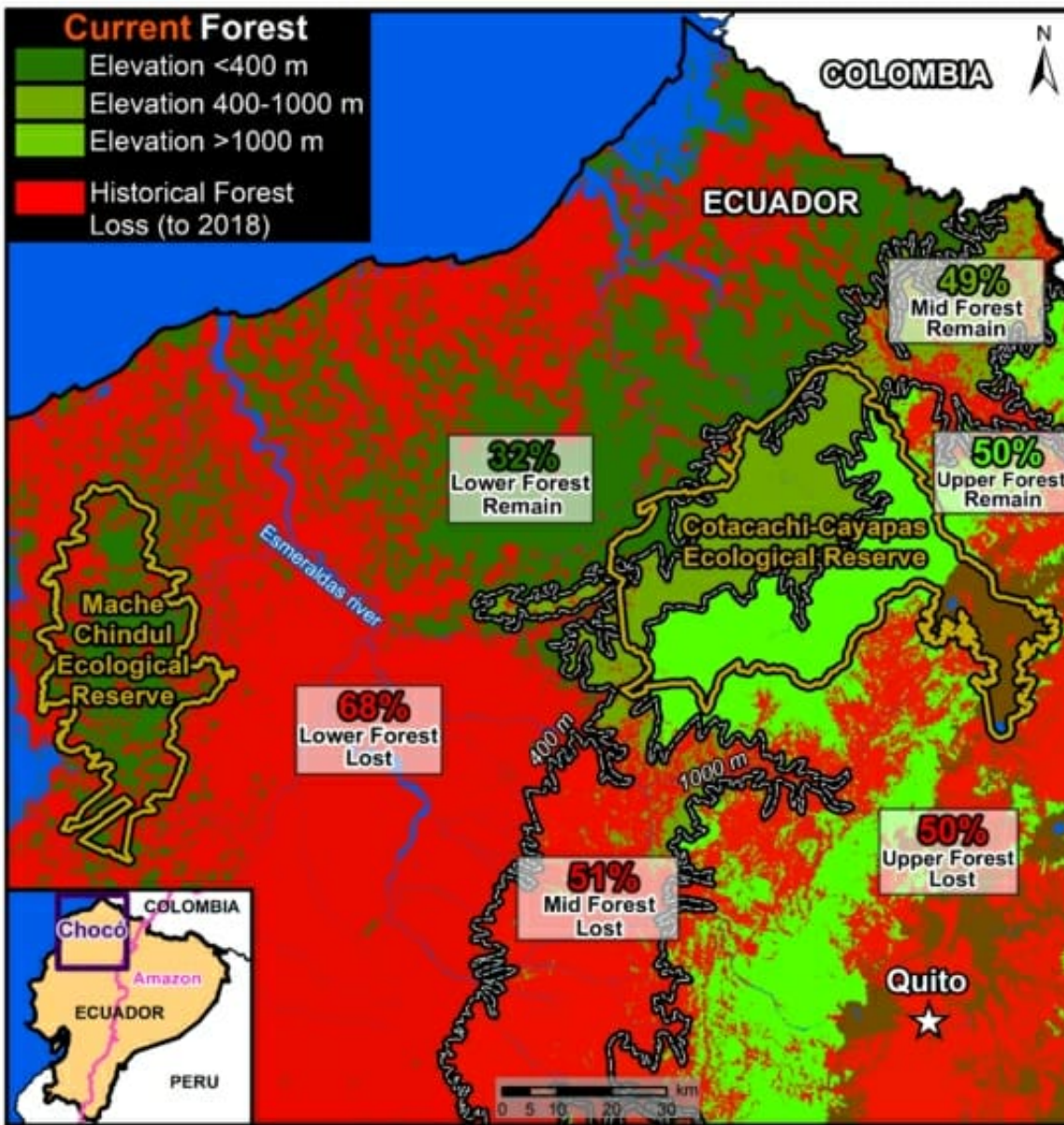
We document the loss of over **60% (1.8 million hectares)** of low, mid, and upper elevation forest (compare the three tones of **green** between panels).

See our other **Key Results** below.

Base Map



Base Map. Ecuadorian Chocó, original forest extent (left panel) vs. actual forest cover (right panel). Data: MAE, Hansen/UMD/Google/USGS/NASA



Key Results, Ecuadorian Chocó. Data: MAAP, MAE, Hansen/UMD/Google/USGS/NASA

Key Results

Our **key results** include:*

- **61% forest loss** (1.8 million hectares) across all three elevations.
 - **68%** loss (1.2 million ha) of **lowland** rainforest,
 - **50%** loss (611,200 ha) of **mid and upper elevation** forests.
- **20%** of the forest loss (365,000 ha) occurred after **2000**.
 - 4,650 ha lost during most recent **2017-18** period (mostly in lowlands).
- **39%** total forest **remaining** (1.17 million ha) across all three elevations.
 - Just **32%** (569,000 ha) lowland rainforest remaining.
- **99%** of **Cotacachi-Cayapas** Ecological Reserve remaining.
- **61%** of **Mache-Chindul** Ecological Reserve remaining.

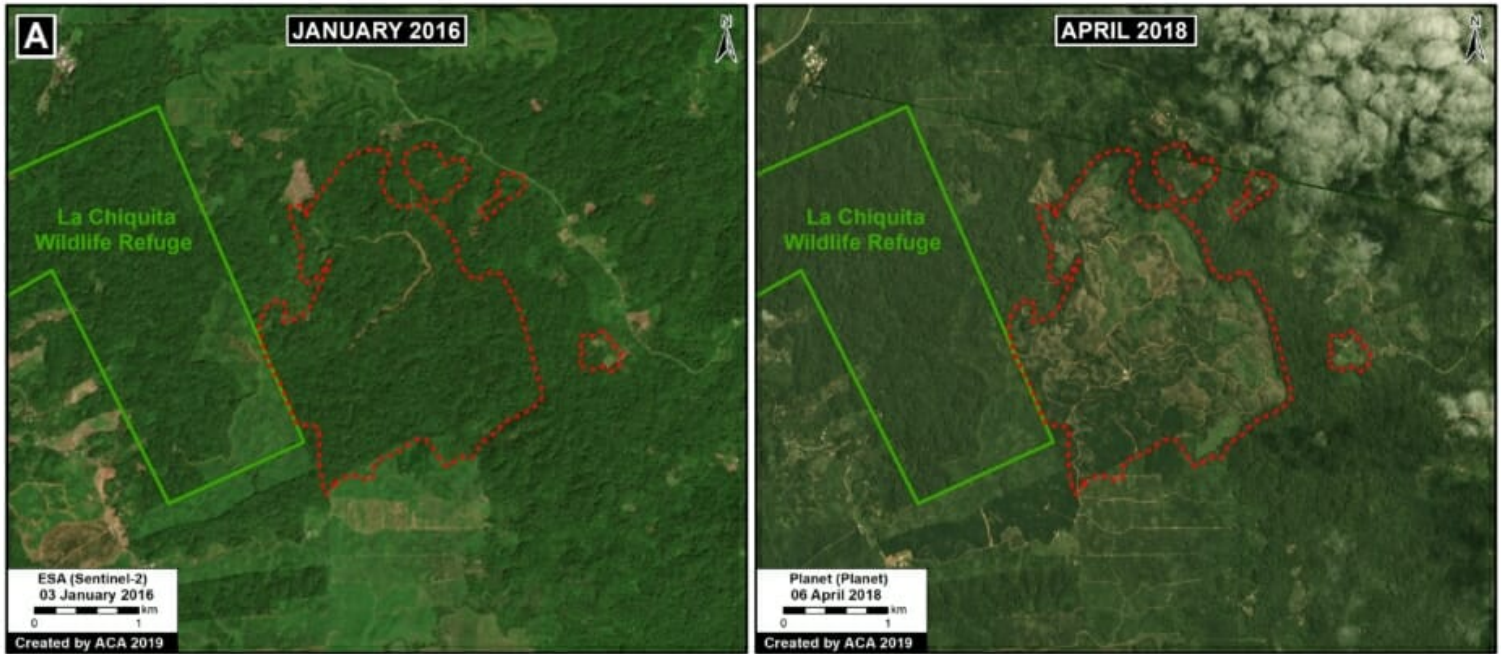
*Forest loss data corresponds to the study area indicated in the Base Map. Data sources: pre-2017 from Ecuadorian Environment Ministry; 2017-18 from University of Maryland (Hansen 2013). Elevation definitions: Lowland forest 1000 m (bright green).

High Resolution Zooms

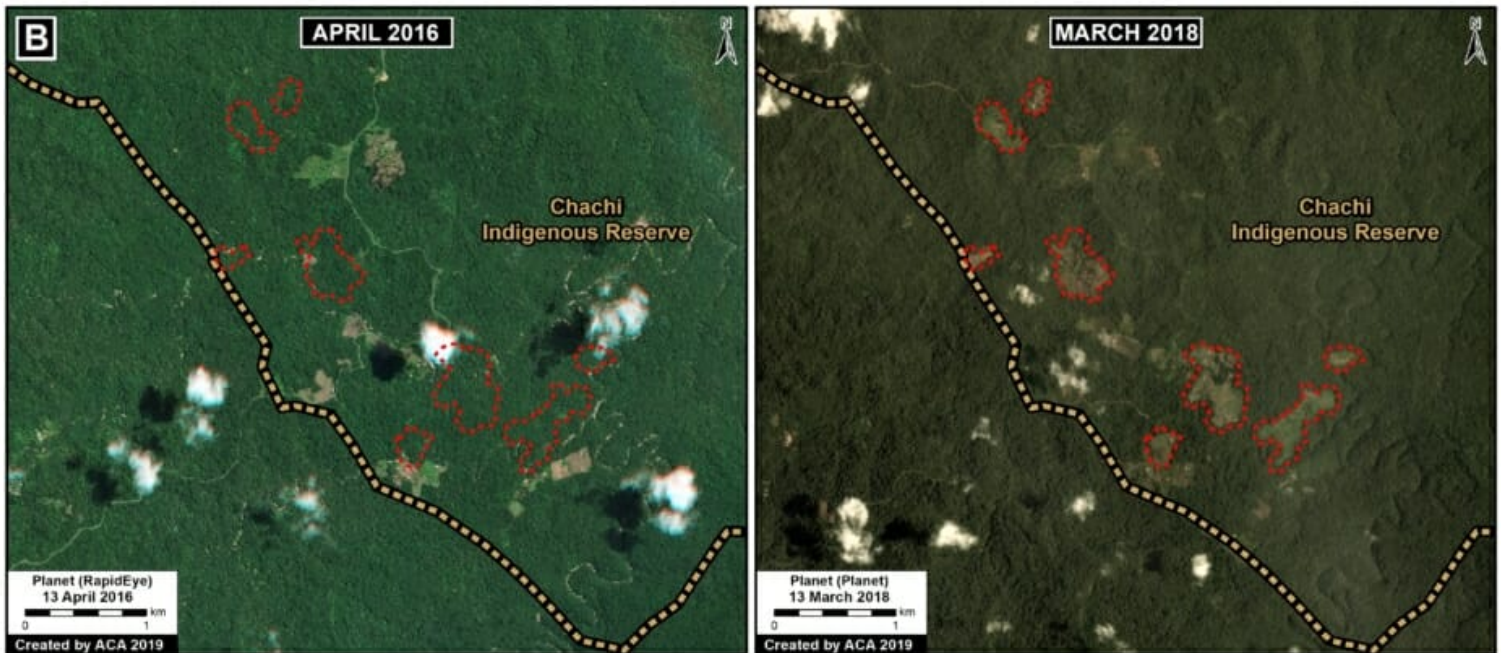
In the Base Map, we indicate two areas (insets A and B) where we zoom in with high-resolution satellite imagery to see what recent deforestation looks like in the region.

Zoom A shows the deforestation of 380 hectares directly to the north of an oil palm plantation, possibly for an expansion.

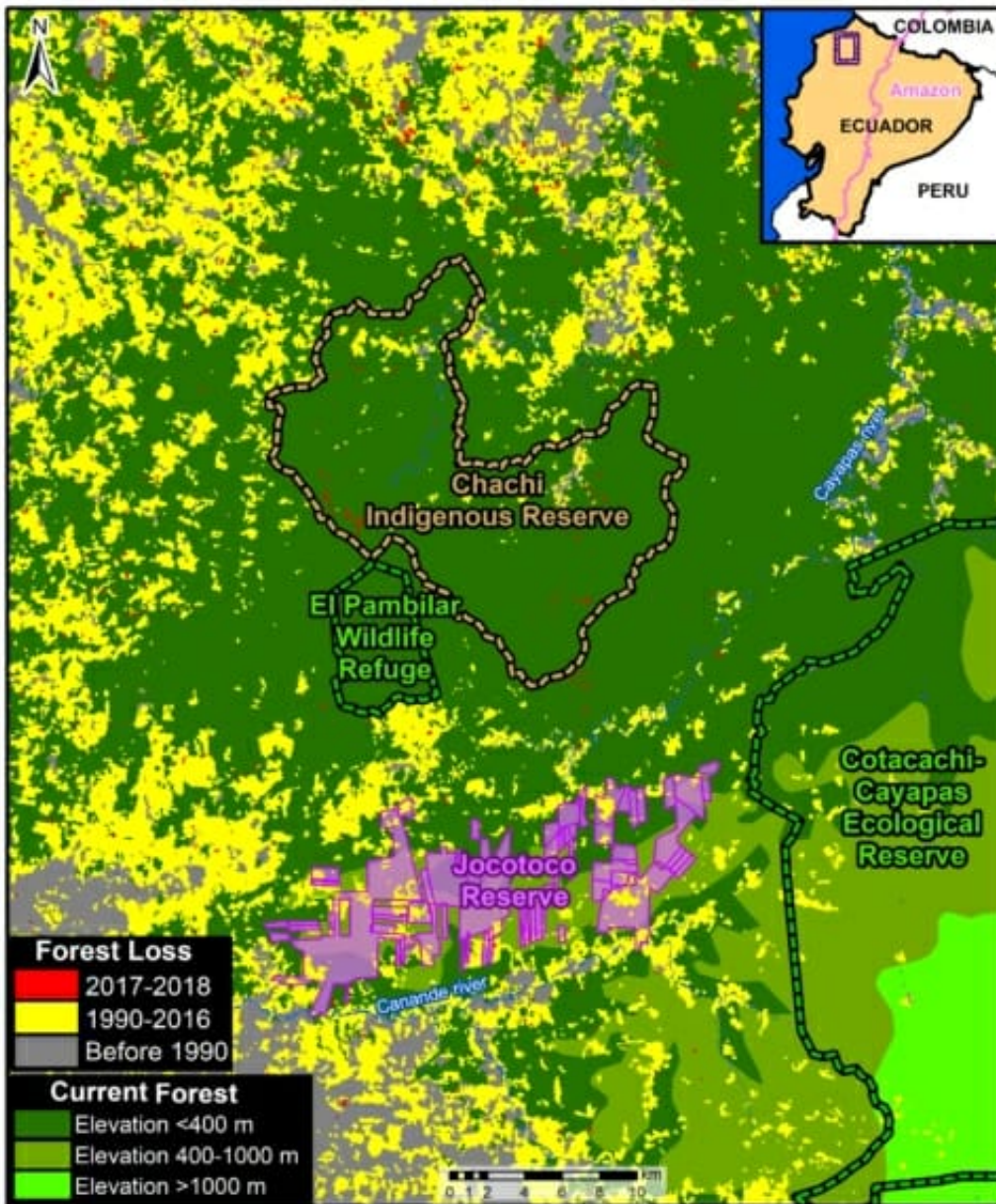
Zoom B shows the deforestation of 50 hectares with the Chachi Indigenous Reserve.



Zoom A. Data: Planet, ESA, MAAP.



Zoom B. Data: Planet, MAAP.



Chocó Conservation Opportunity. Data: Jocotoco Foundation, MAE, Hansen/UMD/Google/USGS/NASA.

Conservation Opportunity

Efforts are underway to protect a critical stretch of low to mid elevation Chocó forest to the west of Cotacachi-Cayapas Ecological Reserve.

It involves the unique opportunity to acquire over 22,000 hectares of forest that would help safeguard connectivity between public and private conservation and indigenous areas. Connecting these areas provides the only opportunity to protect the entire altitudinal gradient from 100-4900 m on the western slope of the tropical Andes. It will also establish an effective buffer zone for governmental reserves and reduce the socio-economic vulnerability of local communities.

To **support this effort**, please contact the Jocotoco Foundation (Martin.Schaefer@jocotoco.org) or the International Conservation Fund of Canada (carlos@ICFCanada.org).

References

- 1) Critical Ecosystem Partnership Fund (2005) Ecosystem Profile: Tumbes-Chocó-Magdalena.
Link: <https://www.cepf.net/our-work/biodiversity-hotspots/tumbes-choco-magdalena>

2) Mittermeier RA et al (2011) Global Biodiversity Conservation: The Critical Role of Hotspots. Biodiversity Hotspots, 3-22.

Acknowledgements

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Citation

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