MAAP #2: Large-scale Forest Clearing for Cacao in Tamshiyacu, Peru

Image of the Week #2 shows the recent and rapid forest clearing for a new cacao project outside of the town of Tamshiyacu in the northern Peruvian Amazon (Department of Loreto). Specifically, we found that over 2,100 hectares (ha) were cleared between May 2013 and August 2014 in an area known as Fundo Tamshiyacu.

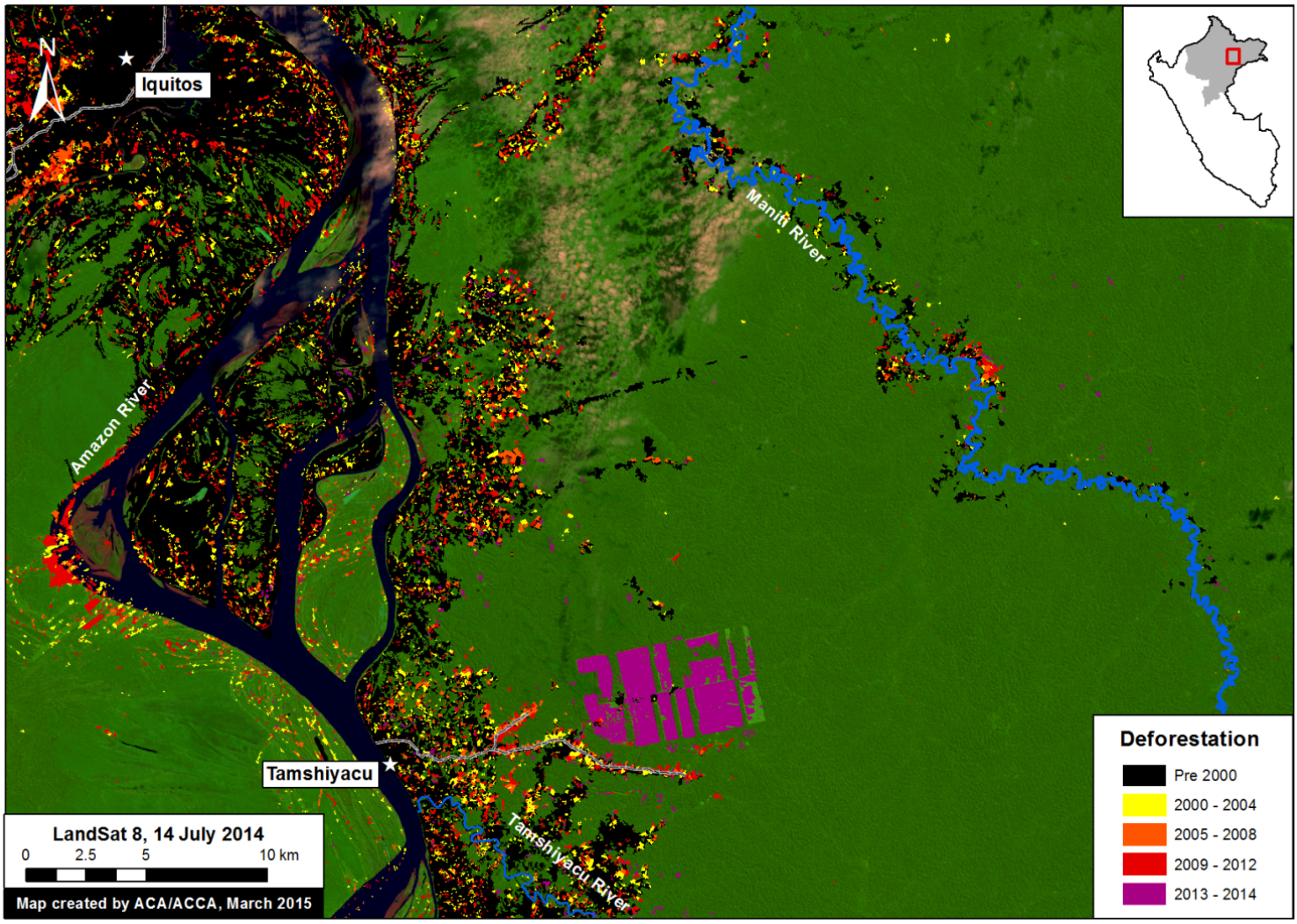


Image of the Week 2a. Rapid clearing for large-scale agriculture in Tamshiyacu (Loreto, Peru). Key data sources: MINAM, Hansen/UMD/Google/USGS/NASA, USGS.

Map Description

Background map is a Landsat 8 image (30 m resolution) from July 14, 2014. Green indicates forest cover. Note there is some cloud cover. Data is from USGS.

Black indicates areas that were cleared as of 2000 according to data from the Peruvian Environment Ministry (MINAM 2009). ***Yellow, orange, and red*** indicate areas that were cleared from 2000 to 2012 (each color covers a four year period) (Hansen MC *et al*. 2013 Science 342: 850–53; Data download).

Purple indicates areas that were cleared in 2013 and 2014 based on our analysis of Landsat imagery using CLASlite forest monitoring software. **Using CLASlite, we found that 2,126 ha were cleared between May 2013 and August 2014 in the cacao project area known as Fundo Tamshiyacu.** That is the equivalent to 2,900 soccer fields.

See this article published on mongabay.com for more information on the company that carried out the forest clearing (United Cacao, through its subsidiary in Peru, Cacao del Peru Norte). See this article, also published on mongabay, for more information on the legality of the forest clearing.

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Landsat Time-series

Image 2b. Results of Landsat time series analysis, December 2012 – August 2014. Key sources: USGS.

Image 2b is a series of Landsat images (30 meter resolution) of the recently cleared area that **illustrates how the forest clearing unfolded**.

In **December 2012**, the area was **predominantly covered by closed-canopy forest**.

In **June 2013**, although the image is cloudy, we detected the **first signs of major forest clearing** (about 150 ha).

In **August 2013**, a cloud-free image clearly revealed that **forest clearing jumped to 1,000 ha**.

Subsequent images in **September and October 2013** revealed that **forest clearing continued to 1,500 ha and 2,000 ha**, respectively.

During the peak clearing between June and September 2013, the clearing rate was approximately 100 ha per week.

The forest clearing halted between November 2013 and June 2014, but in **July 2014** we detected some new clearing. **This additional clearing in 2014 raised the total cleared area to 2,126 ha.**

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Cutting Primary Forest

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Image 2c. Tamshiyacu Landsat time series, 1989 - 2013. See text for definition of primary forest. Key sources: USGS.

Image 2c shows the results of our analysis of another series of Landsat images of the recently cleared area that go further back in time, until 1985. **We conducted this analysis to determine whether the clearing described above came at the expense of primary forest**.

We **defined primary forest** as an area that from the earliest available Landsat (in this case an image from 1985) was characterized by dense closed canopy coverage and having a similar spectral signature (NDVI) as areas in remote areas of the Amazon known to be undisturbed.

Using this methodology, we found that **nearly 98% of the recently cleared area in Tamshiyacu was primary forest** at the start clearing around May 2013.

Much More Forest Clearing to Come?

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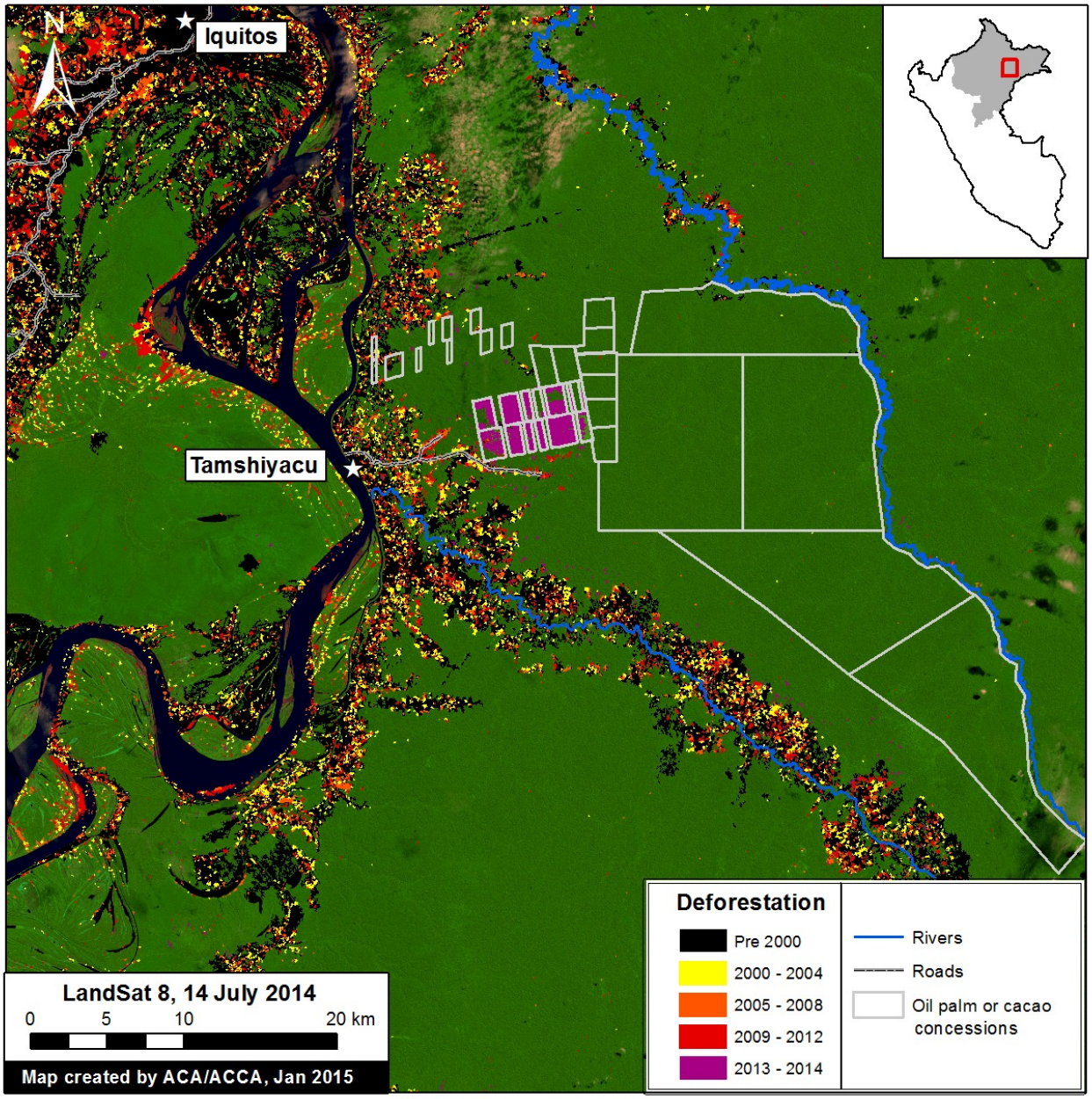


Image 2d. Rapid clearing for large-scale agriculture in Tamshiyacu (Loreto, Peru). Key sources: MINAM, Hansen/UMD/Google/USGS/NASA, GOREL, USGS.

Image 2d includes spatial information on proposed cacao and oil palm projects in the Tamshiyacu area (indicated by ***grey lines).*** This data was obtained from the Regional Government of Loreto (GOREL). **The total area for proposed cacao and oil palm projects around Tamshiyacu is greater than 50,000 ha**.

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Image 2e. Landsat time series (1989 – 2012) for Pacific Plantation. See text for definition of primary forest. Key sources: USGS, GOREL.

We conducted a Landsat time-series analysis for the proposed oil palm projects noted above. We refer to these proposed projects as Pacific Plantation because this is how they are labelled in the information obtained from GOREL. As seen in Image 2e, **our analysis indicates that 99.3% of the Pacific Plantation project area, or 44,685 ha, is primary forest.**

Citation

Finer M, Novoa S (2015) Large-scale Forest Clearing for Cacao and Oil Palm in Tamshiyacu, Peru. MAAP: Image #2. Link: https://www.maaproject.org/2015/03/image-3-rapid-clearing-for-large-scale-agriculture-in-tamshiyacu-_/

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