MAAP #99: Detecting Illegal Logging in the Peruvian Amazon

April 13, 2019

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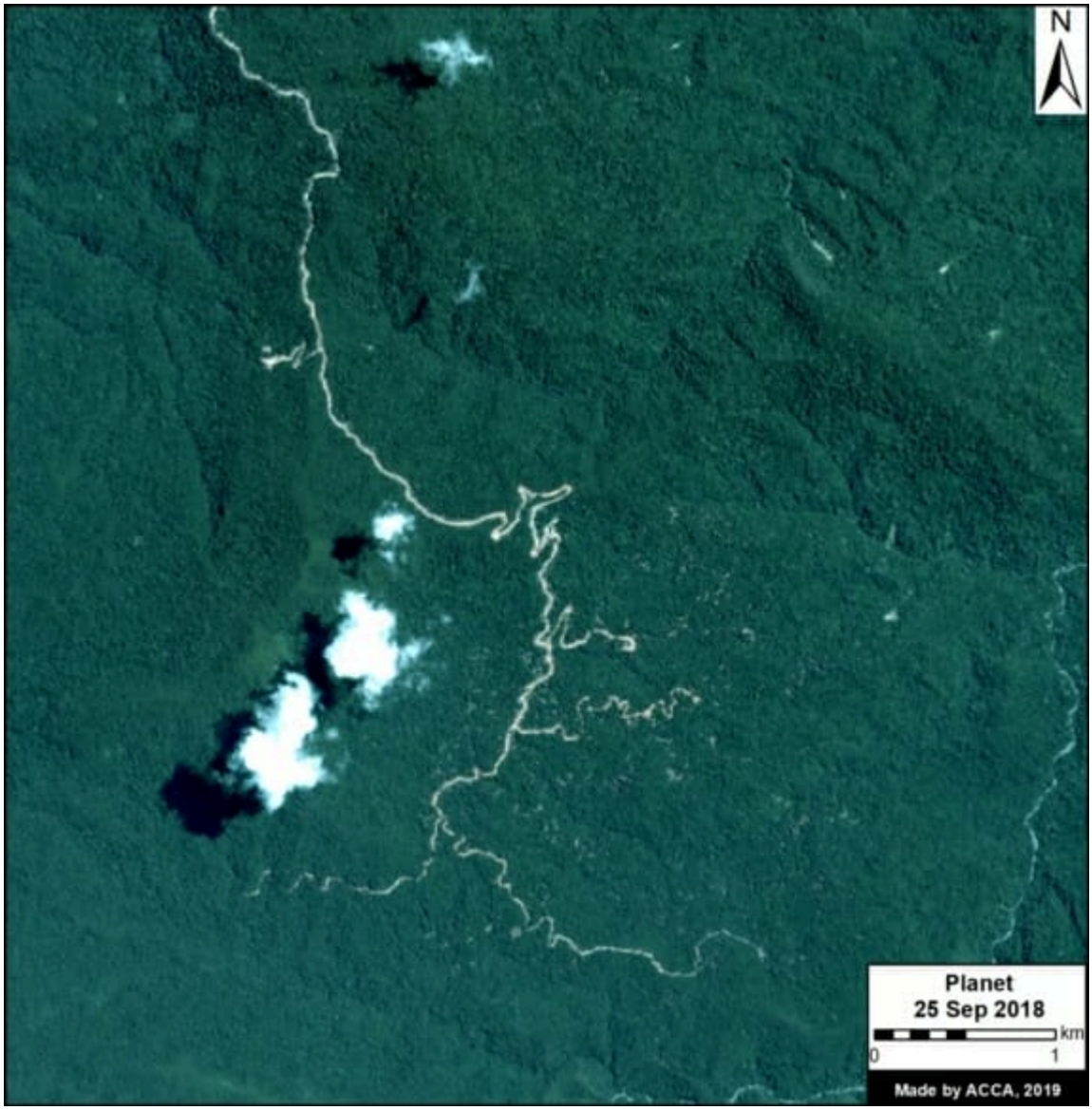


(https://www.maapprogram.org/wp-content/uploads/2019/03/Cover_EN.jpg)

New logging road in the Peruvian Amazon. Data: Planet.

In the Peruvian Amazon, most of the logging is selective (not clearcutting), with the targets being higher-value species. Thus, illegal logging is difficult to detect with satellite imagery.

In **MAAP #85** (https://www.maapprogram.org/2018/illegal_log/), however, we presented the potential of satellite imagery in identifying **logging roads**, which are one of the main indicators of logging activity in the remote Amazon.

Here, we go a step further and show how to combine logging road data with additional land use data, such as forestry licenses and concessions, to identify possible **illegal logging.**

This analysis, based in the Peruvian Amazon, has two parts. **First**, we identify the construction of new logging roads in 2018, updating our previous dataset from 2015-17 (see **Base Map**).

Second, we analyze these new logging roads in relation to addition spatial information now available on government web portals,* in order to identify possible illegality.

*We analyzed information on several websites now available from national and regional authorities, such as SISFOR (https://sisfor.osinfor.gob.pe/visor/) (OSINFOR), GEOSERFOR (http://geo.serfor.gob.pe/geoserfor/) (SERFOR), and IDERs (http://ider.regionucayali.gob.pe/) (Spatial Data Infrastructure of Regional governments). These new resources provide valuable information, however may have limitations in ability to constantly update information on the status of concessions and forest permits.

Base Map

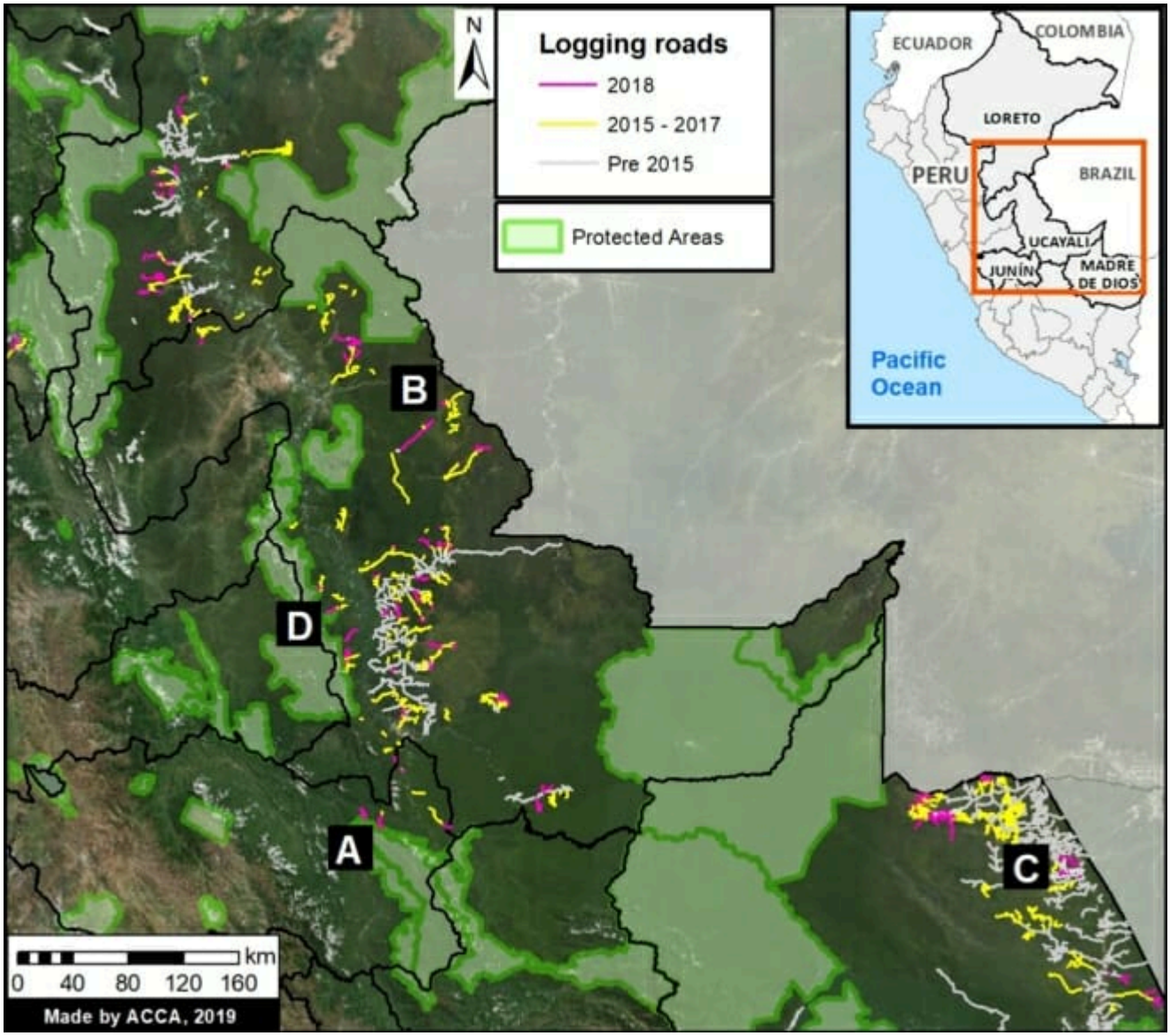
The **Base Map** illustrates the precise location of logging roads built in the Peruvian Amazon over the last four years.

Previously (**MAAP #85** (https://www.maapprogram.org/2018/illegal_log/)), we estimated the construction of 2,200 kilometers of logging roads during **2015-17** (yellow).

Here, we estimate the construction of an additional **1,100 km** in **2018** (**pink**).

Thus, in total, we have documented the construction of **3,300 km** of logging roads over the last four years (2015-18).

Note that these logging roads are concentrated mainly in the regions of Ucayali, Madre de Dios (northeast), and Loreto (south).



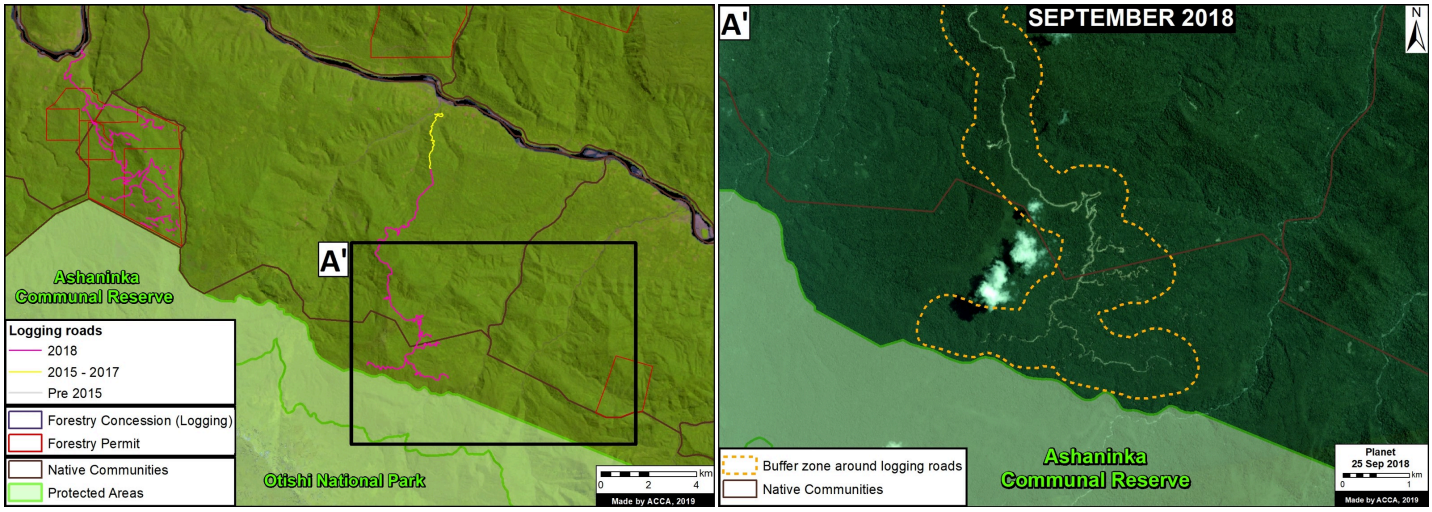
(https://www.maapprogram.org/wp-content/uploads/2019/03/MAAP_BaseMap_En.jpg)

Base Map. Logging roads. Data: MAAP, SERNANP

Cases of Possible Illegal Logging

A. Logging roads in non-forestry areas

Zoom A shows the construction of a logging road past the border of a forestry permit, into a non-forestry area. In this case, the road extends close (200 meters) to the border of a protected area (Ashaninka Communal Reserve). It is important to point out that this type of analysis requires frequently updated information from the entities that grant forest permits, such as regional governments.

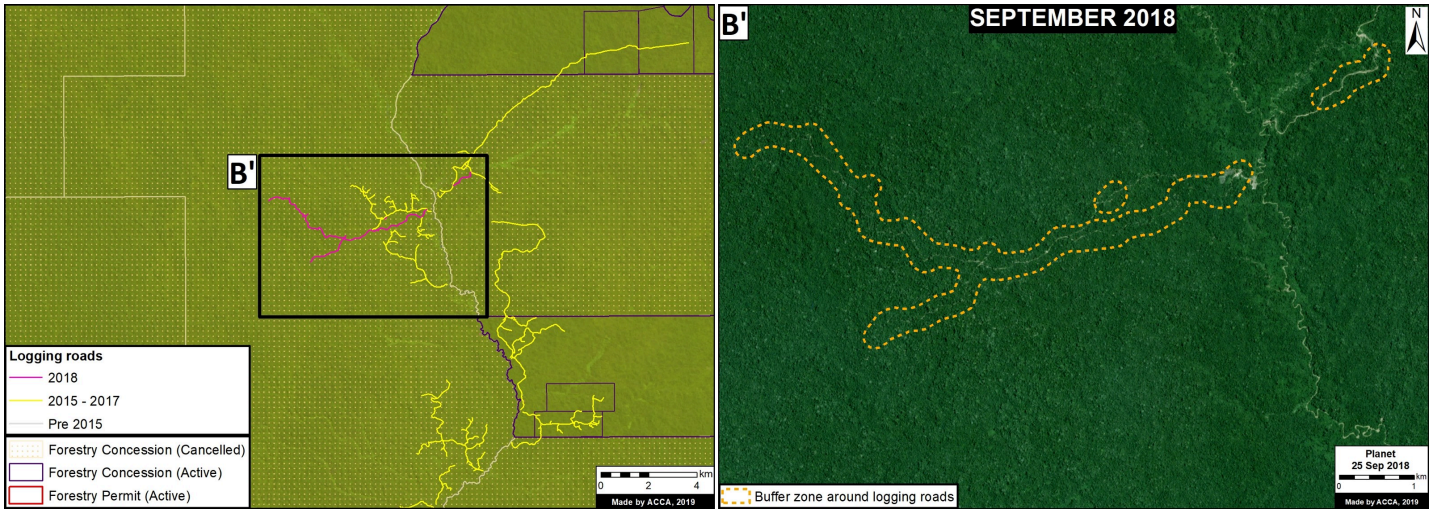


(https://www.maapprogram.org/wp-content/uploads/2019/03/ZoomA_EN.jpg)

Zoom A. Data: Planet, MAAP, SERNANP, OSINFOR, IBC

B. Logging roads in canceled concessions

Zoom B shows the construction of logging roads within logging concessions classified as “Caducado,” or cancelled (no longer active). This type of analysis also requires frequently updated information on the status of forestry concessionaries.

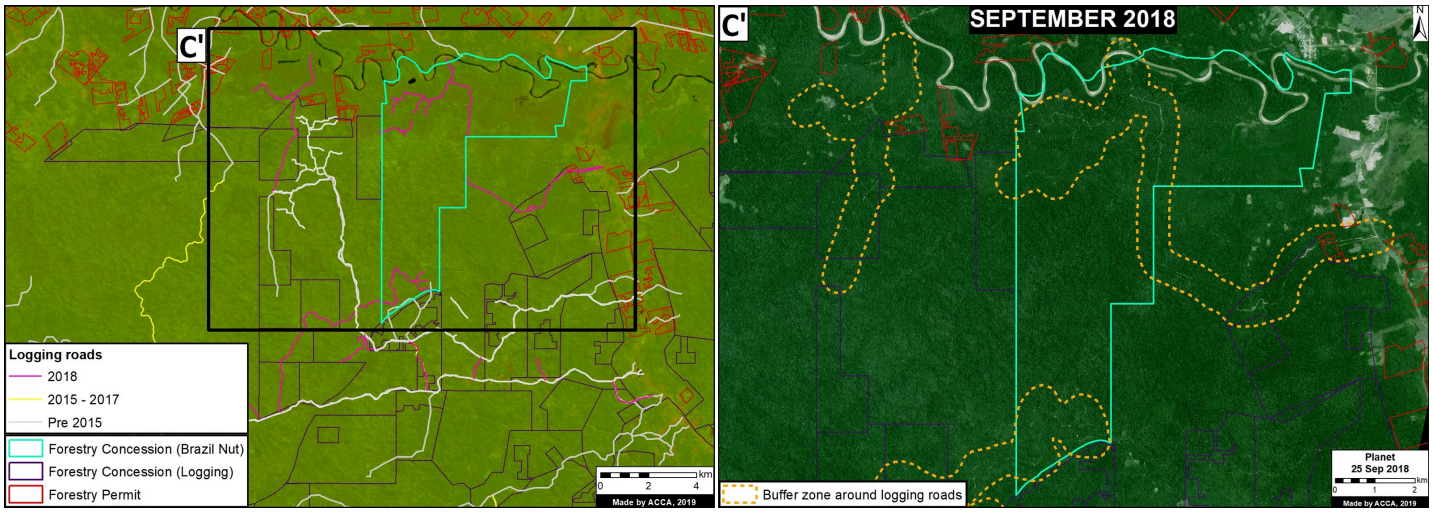


(https://www.maapprogram.org/wp-content/uploads/2019/03/ZoomB_EN.jpg)

Zoom B. Data: Planet, MAAP, OSINFOR, GOREU

C. Logging Roads in Brazil nut concessions

Zoom C shows the construction of logging roads within a Brazil nut forestry concession. While some managed timber extraction is allowed in Brazil nut concessions, the extensive construction of two logging roads, along with the irregular logging area boundaries, drew attention. A detailed investigation by the Peruvian Forestry Service (SERFOR) and environmental prosecutor (FEMA) revealed the illegality of this logging activity (see this article (https://es.mongabay.com/2019/01/madre-de-dios-concesiones-castana-extraccion-ilegal-madera/?fbclid=IwAR2UCEqPFEeRGCBTpZPTURnMlfjkVqXk8_ZYCdbRmTB4aVcF1CWAb2il Mongabay for more information).



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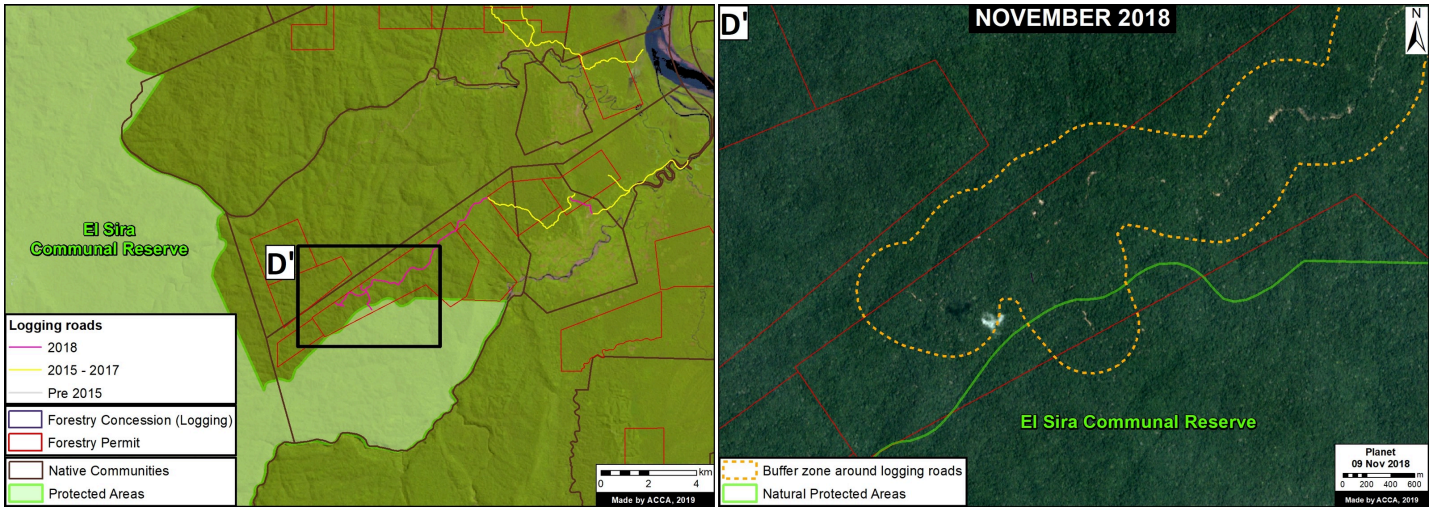
Zoom C. Data: Planet, MAAP, OSINFOR

D. Logging roads in protected areas

Zoom D shows part of a logging road entering a protected area (El Sira Communal Reserve). It appears that this section of the reserve overlaps with a forestry permit obtained after the creation of the protected area. It is worth emphasizing that according to Peruvian law, timber extraction is not permitted within protected areas such as El Sira.



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Zoom D. Data: Planet, MAAP, SERNANP, OSINFOR, GOREU, IBC

SERNANP (the Peruvian National Service of Natural Protected Areas) has communicated these facts to the region of Ucayali's Provincial Prosecutor's Office Specialized in Environment (Atalaya headquarters). Also, SERNANP is managing the process of nullifying the permit, given that it doesn't have the technical opinion of SERNANP, a requirement as stated by the current regulation.

References

Planet Team (2017). Planet Application Program Interface: In Space for Life on Earth. San Francisco, CA. https://api.planet.com (https://api.planet.com/)

Acknowledgments

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Citation

Villa L, Finer M (2019) Detecting Illegal Logging in the Peruvian Amazon. MAAP: 99.