

TECHNOLOGY MEETS POLICY IN THE AMAZON

*Bridging the gap between technology and policy to stop
deforestation and save one of the last wild places on Earth*

*Presented by John Beavers and Matt Finer
March 25, 2020*



THE WALL STREET JOURNAL

BUSINESS

London-Listed Cocoa Company Operating Illegally, Peru Says

An environmental group alleges United Cacao broke stock exchange's rules

nature

When will the Amazon hit a tipping point?

Scientists say climate change, deforestation and fires could cause the world's largest rainforest to dry out. The big question is how soon that might happen.



The Amazon is a key buffer against climate change. A new study warns wildfires could decimate it



Amazon rainforest could reach 'point of no return' and vanish in 50 years, experts say

Bay Journal

Technology puts future of conservation in all of our hands

TIME

The Amazon Fires, From an Extraterrestrial Perspective



Planned Amazon roads could harm economies not just forests, researchers warn



Reflecting on a Tumultuous Amazon Fire Season

NEW YORK POST


Amazon rainforest could start emitting carbon instead of absorbing it

Vox

Brazil's Amazon rainforest destruction is at its highest rate in more than a decade

New satellite measurements show an alarming spike in deforestation this year.





Monitoring of the Andean Amazon Project

HOME · ARCHIVE · SECTORS · SYNTHESIS · INTERACTIVE · COUNTRIES · OTHER · ABOUT MAAP

MAAP #96: GOLD MINING DEFORESTATION AT RECORD HIGH LEVELS IN SOUTHERN PERUVIAN AMAZON

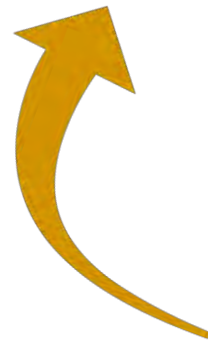
PERU · MAPS · GOLD MINING JAN 8, 2019

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Gold mining deforestation has been at **record high levels** in both 2017 and 2018 in the southern Peruvian Amazon.

Based on an analysis of nearly 500 high-resolution satellite images (from Planet and DigitalGlobe), we estimate the deforestation of **18,440 hectares** across southern Peru during these last two years. That is equivalent to 45,560 acres (or 34,400 American football fields) in just two years.





Peru cracks down on illegal gold mining to save deforested Amazon area

LATINO

Peru cracks down on illegal gold mining to save deforested Amazon area

If it works, Peru would be stopping a practice that releases harmful mercury as well as drives trafficking and child labor in mining camps.







Alliance of three local conservation nonprofits

One vision: A thriving Amazon that sustains the full diversity of life

One mission: Unite science, innovation and people to protect the western Amazon—the greatest wild forest on Earth

Working on-the-ground in the headwaters of the Amazon



OUR APPROACH

PROTECT WILD PLACES



EMPOWER PEOPLE



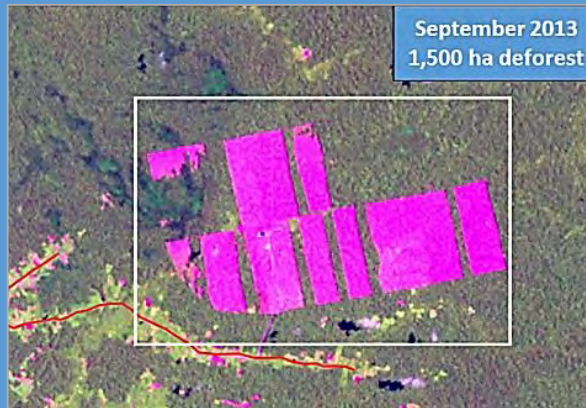
APPLY SCIENCE AND TECHNOLOGY



TECHNOLOGY: REAL-TIME DEFORESTATION MONITORING

2013

United Cacao
case



TECHNOLOGY: REAL-TIME DEFORESTATION MONITORING

2013

United Cacao
case

2015

Amazon
Conservation
launches MAAP



TECHNOLOGY: REAL-TIME DEFORESTATION MONITORING

2013

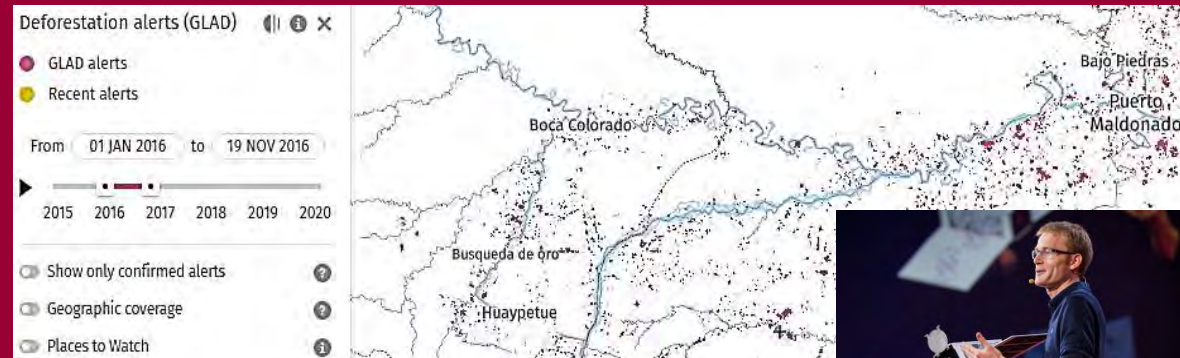
United Cacao
case

2015

Amazon
Conservation
launches MAAP

2016

Monitoring tech
boom: GLAD
Alerts and Planet



TECHNOLOGY: REAL-TIME DEFORESTATION MONITORING

2013

United Cacao
case

2015

Amazon
Conservation
launches MAAP

2016

Monitoring tech
boom: GLAD
Alerts and Planet

2018

Science
Magazine article

Science

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POLICY FORUM FOREST LOSS

Combating deforestation: From satellite to intervention

Matt Finer¹, Sidney Novoa², Mikaela J. Weisse³, Rachael Petersen³, Joseph Mascaro⁴, Tamia Souto¹,
+ See all authors and affiliations

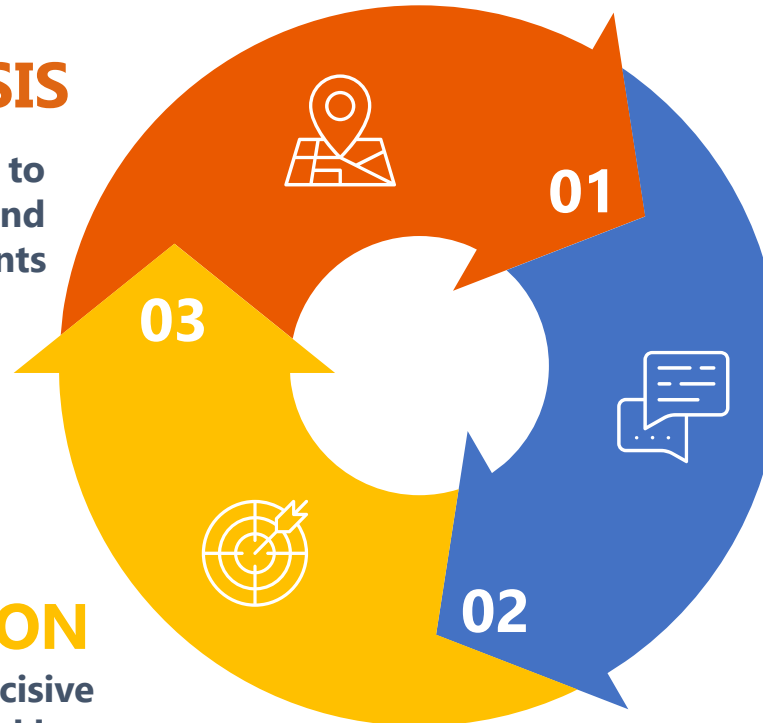
Science 22 Jun 2018:
Vol. 360, Issue 6395, pp. 1303-1305
DOI: 10.1126/science.aat1203

THE RESULT: A TECHNOLOGY - POLICY CYCLE

DETECTION & ANALYSIS

Real-time, high-tech monitoring to detect, prioritize, and understand new deforestation events

ACTION
Rapid and decisive government and law enforcement response



REPORTING

Capacity of key actors to share and process information

Landsat



30

DETECTION

Sentinel 2



10

Planet



3

& ANALYSIS

Drones



.05



REPORTING



PUBLIC REPORTS VIA MAAP WEBSITE



RESUMEN DE POLÍTICAS
ACA/ACCA-2019-19
03 de Junio de 2019

DEFORESTACIÓN CAUSADO POR POSIBLES ASENTAMIENTOS MENONITAS EN TIERRA BLANCA (LORETO) Y MASISEA (UCAYALI).

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Adquisición de información de pérdida de bosques para el año 2017, y alertas tempranas de deforestación para el año 2018 y 2019 (30 de abril), disponibles a través de la página web de GeoBosques (MINAM).

Análisis de pérdida de bosque para los casos de Tierra Blanca y Masisea desde el año 2017 hasta el 30 de abril del 2019, así como la comparación de imágenes satelitales de alta resolución.

A continuación, se detallan las características de las imágenes satelitales adquiridas para el presente análisis:

Sector	Sensor	Fecha de adquisición	GSD	Cobertura del área de análisis
Caso Tierra	Planet	02-mayo-2019	3.125 m	Total

POLICY BRIEFS FOR GOVERNMENT AGENCIES

ACTION



Administrative



Legal

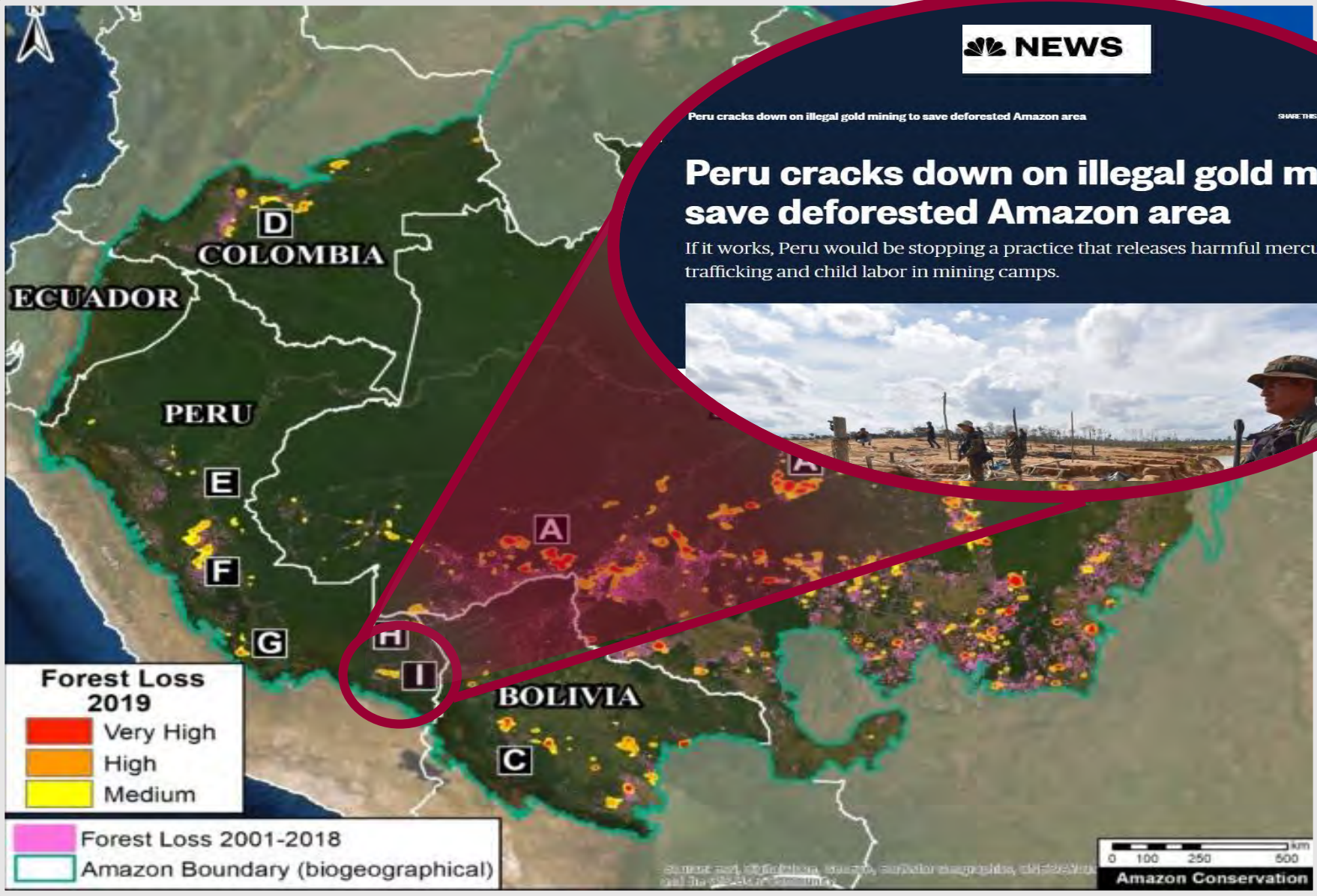


Policy

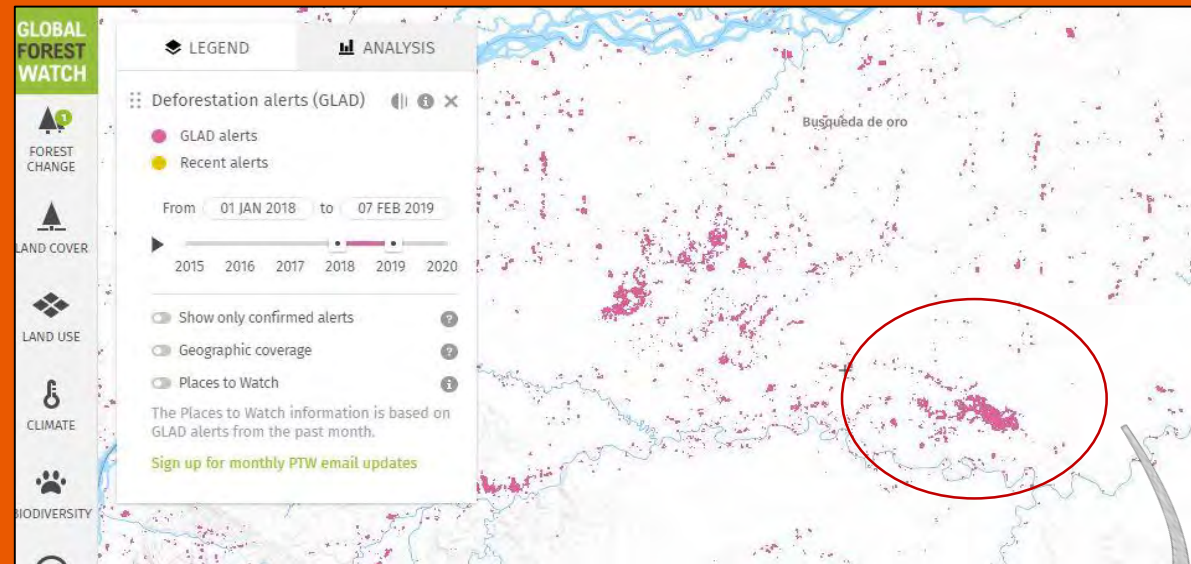


Intervention

TECH – POLICY CYCLE 2019: PERU, COLOMBIA, BRAZIL



DETECTION & ANALYSIS: PERU



REPORTING: PERU



MAAP #60: GOLD MINING INCREASES IN BUFFER ZONE OF TAMBOPATA NATIONAL RESERVE

PERU, MAPS, GOLD MINING MAY 24, 2017

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In the prev
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MAAP #87: GOLD MINING DEFORESTATION CONTINUES IN THE PERUVIAN AMAZON

PERU, MAPS, GOLD MINING JUL 13, 2018

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We have repo
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MAAP #96: GOLD MINING DEFORESTATION AT RECORD HIGH LEVELS IN SOUTHERN PERUVIAN AMAZON

PERU, MAPS, GOLD MINING

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Gold mining de

Based on an an
during these las



La Pampa: este es el registro satelital de cómo avanzó la minería ilegal de oro



(Imagen: PLANET/Proyecto MAAP)

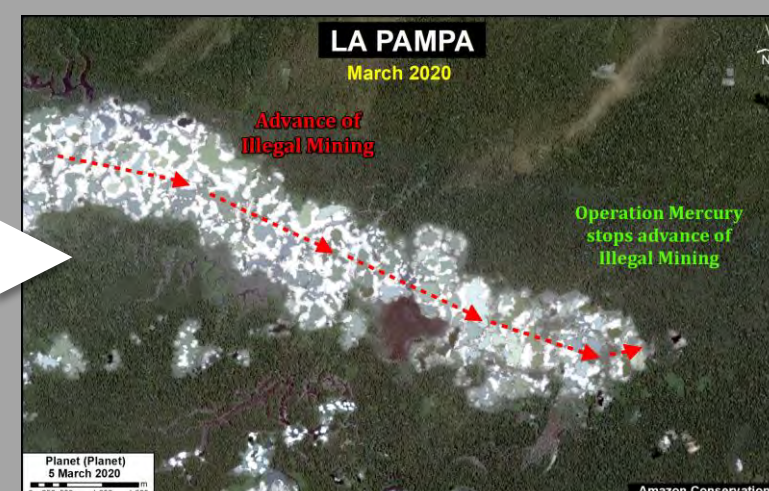
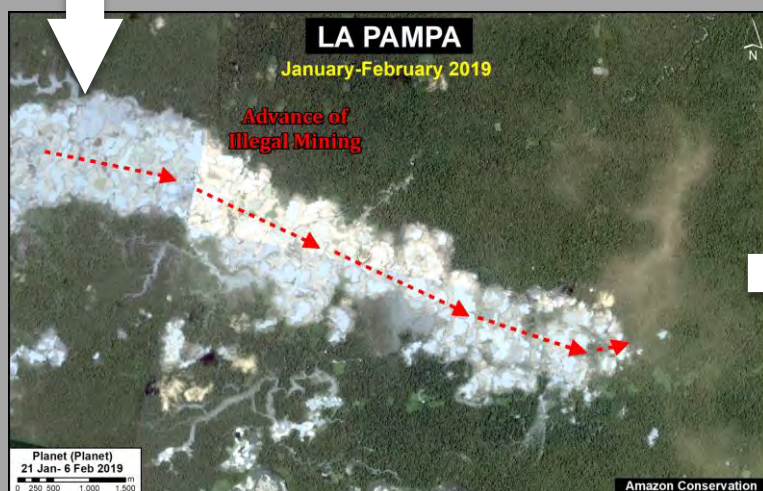
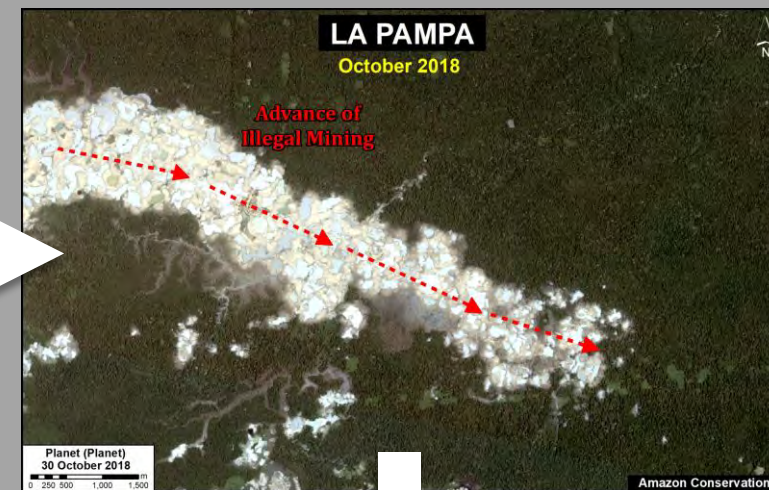
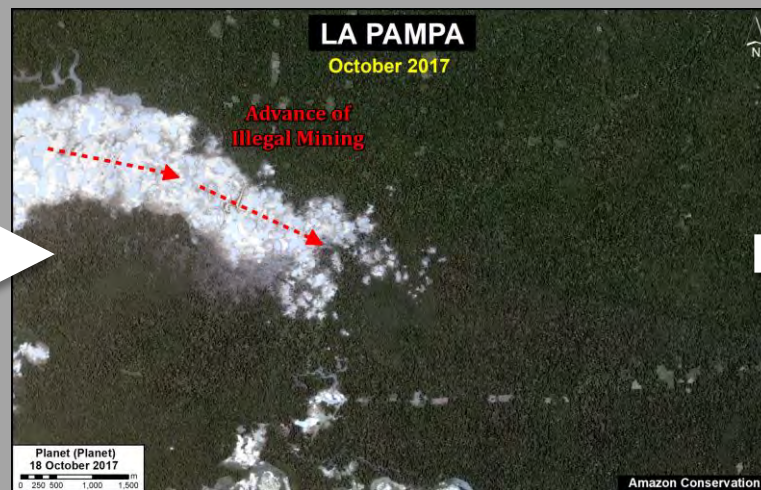
Anuncios de interés



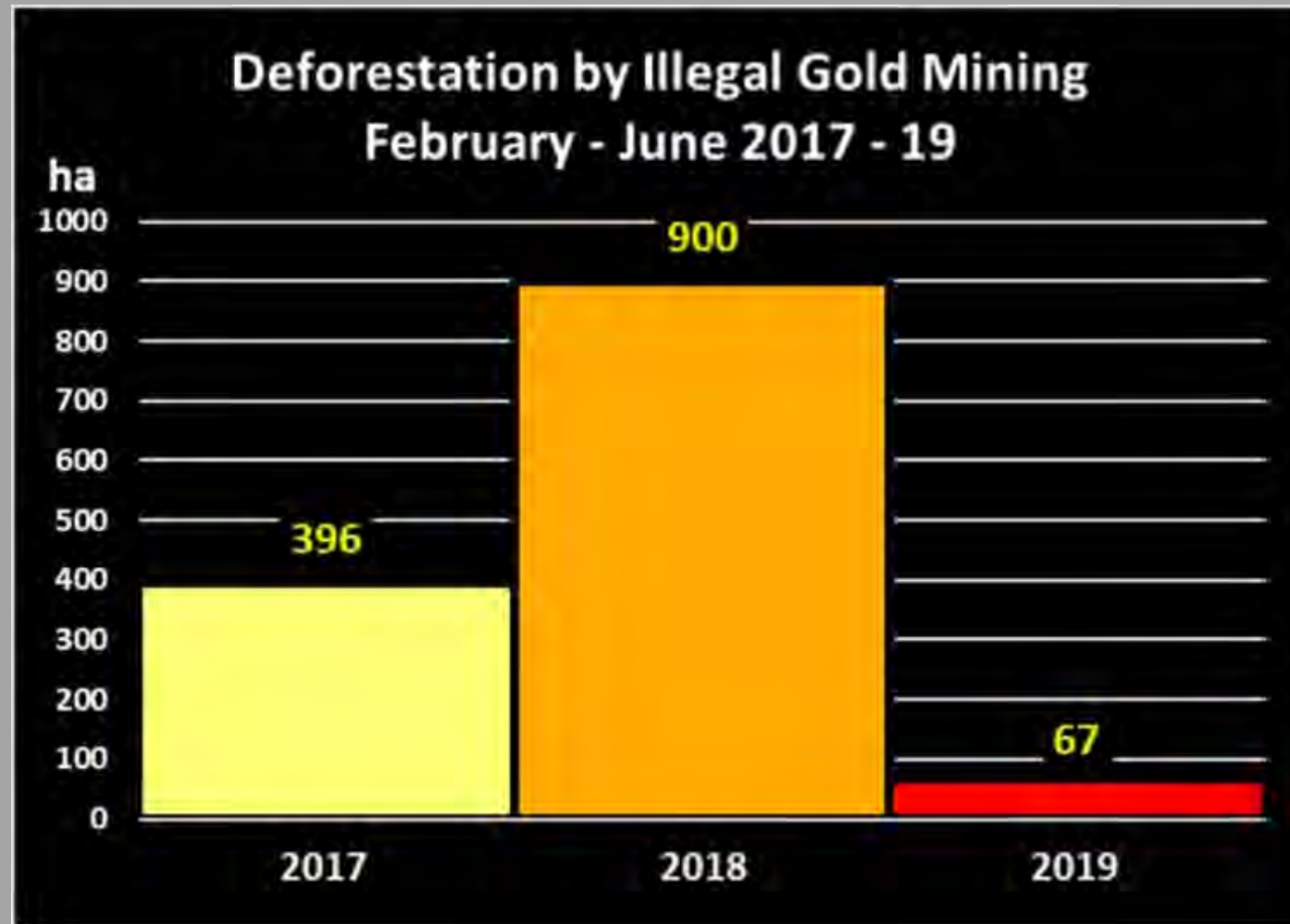
ACTION: PERU – OPERATION MERCURY



TECHNOLOGY TO POLICY IN PERU: HOW IT PLAYED OUT



TECHNOLOGY TO POLICY IN PERU: HOW IT PLAYED OUT



MAJOR RESULT: 92% DECREASE

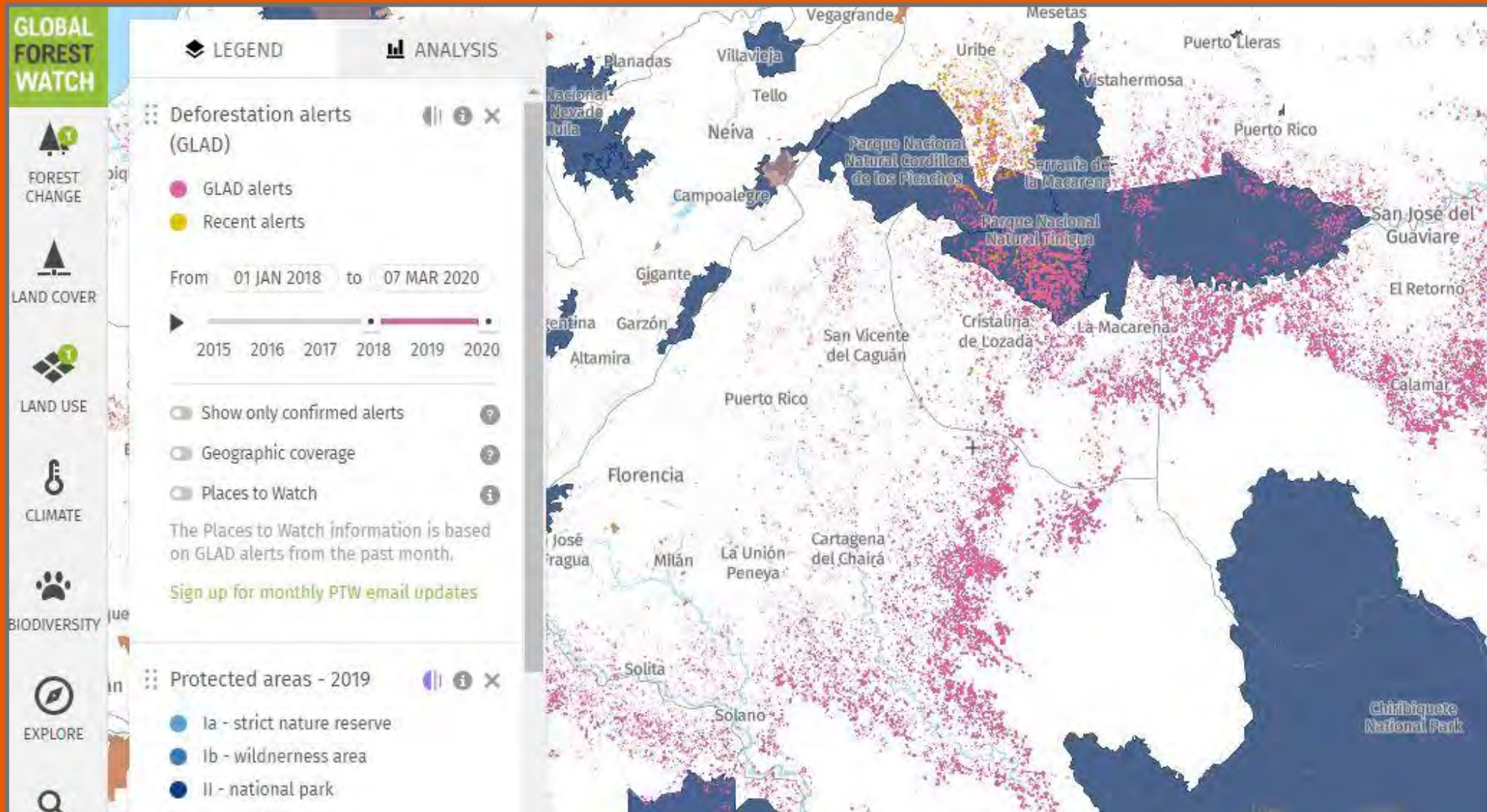
LOOPING POLICY BACK TO TECHNOLOGY



TECH – POLICY CYCLE 2019: COLOMBIA




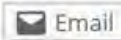
DETECTION & ANALYSIS: COLOMBIA



MAAP #97: DEFORESTATION SURGE IN THE COLOMBIAN AMAZON, 2018 UPDATE

COLOMBIA, MAPS FEB 12, 2019

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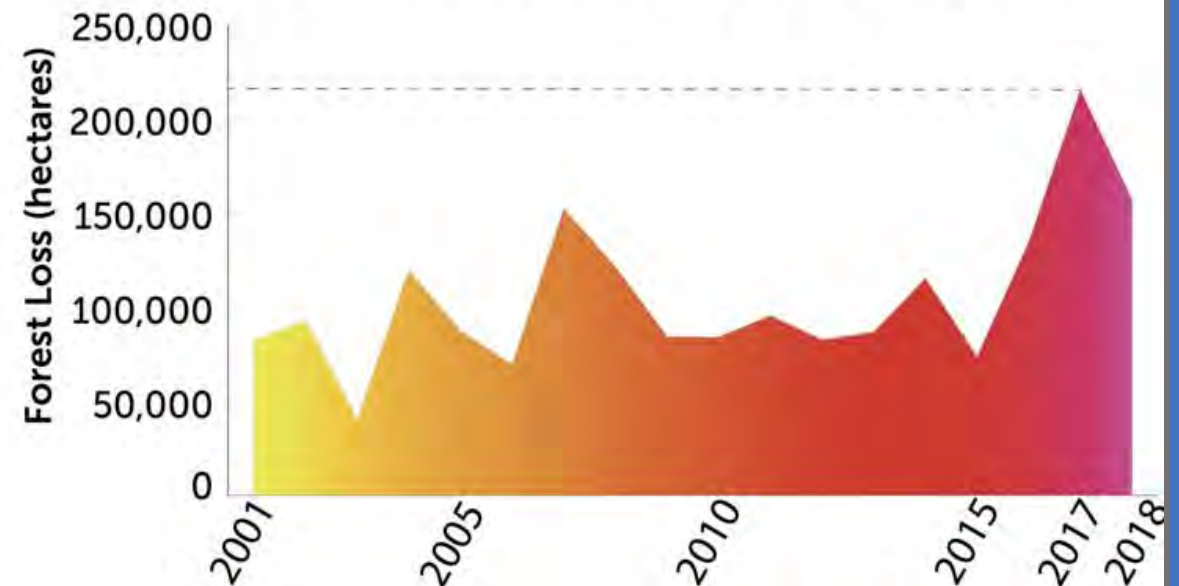
The Colombian Amazon is currently experiencing a **deforestation surge** (see graph).

The surge started three years ago (2016) and peaked in **2017** with the highest annual deforestation on record (214,744 hectares).*

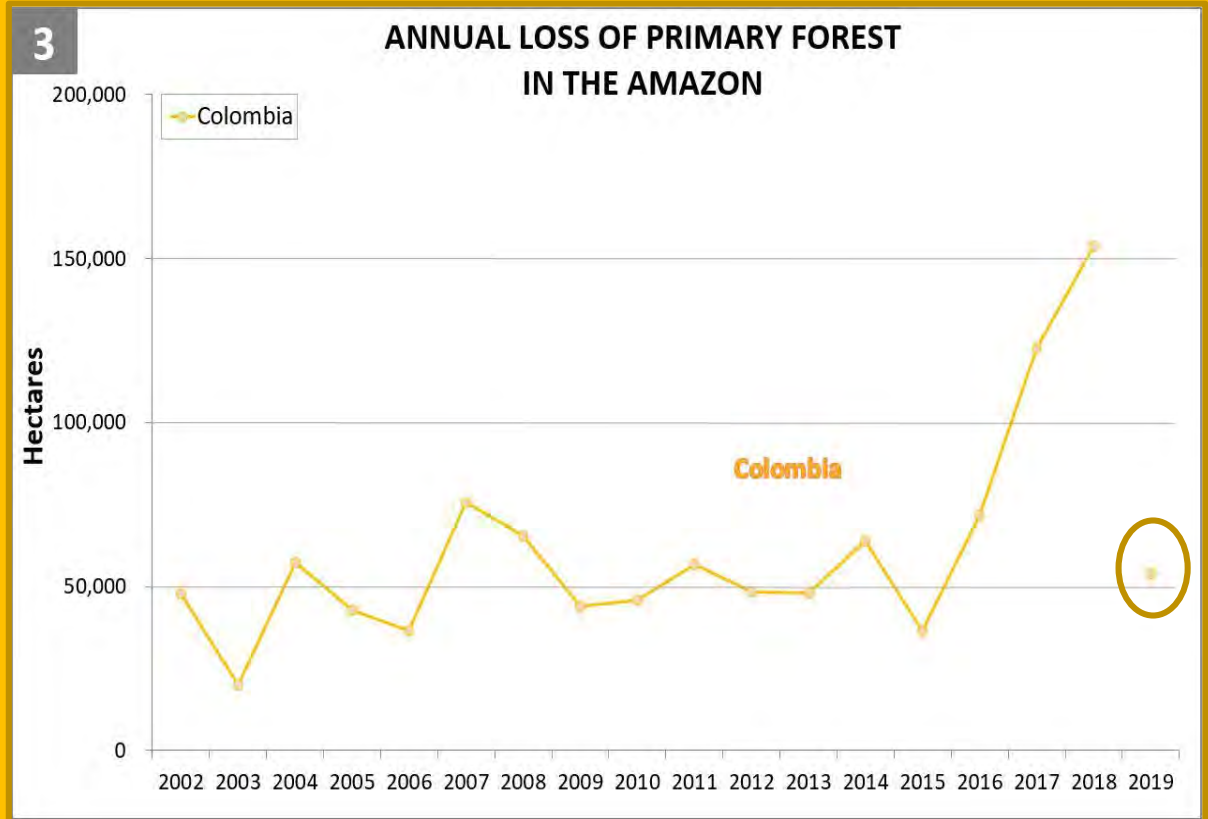
Deforestation remains high in **2018**: 156,722 hectares (based on early warning alert data).* If this estimate is confirmed, it would be the second highest on record (behind just 2017).

National experts indicate that **land grabbing** (acaparamiento de tierras) is an increasingly dominant direct driver of deforestation

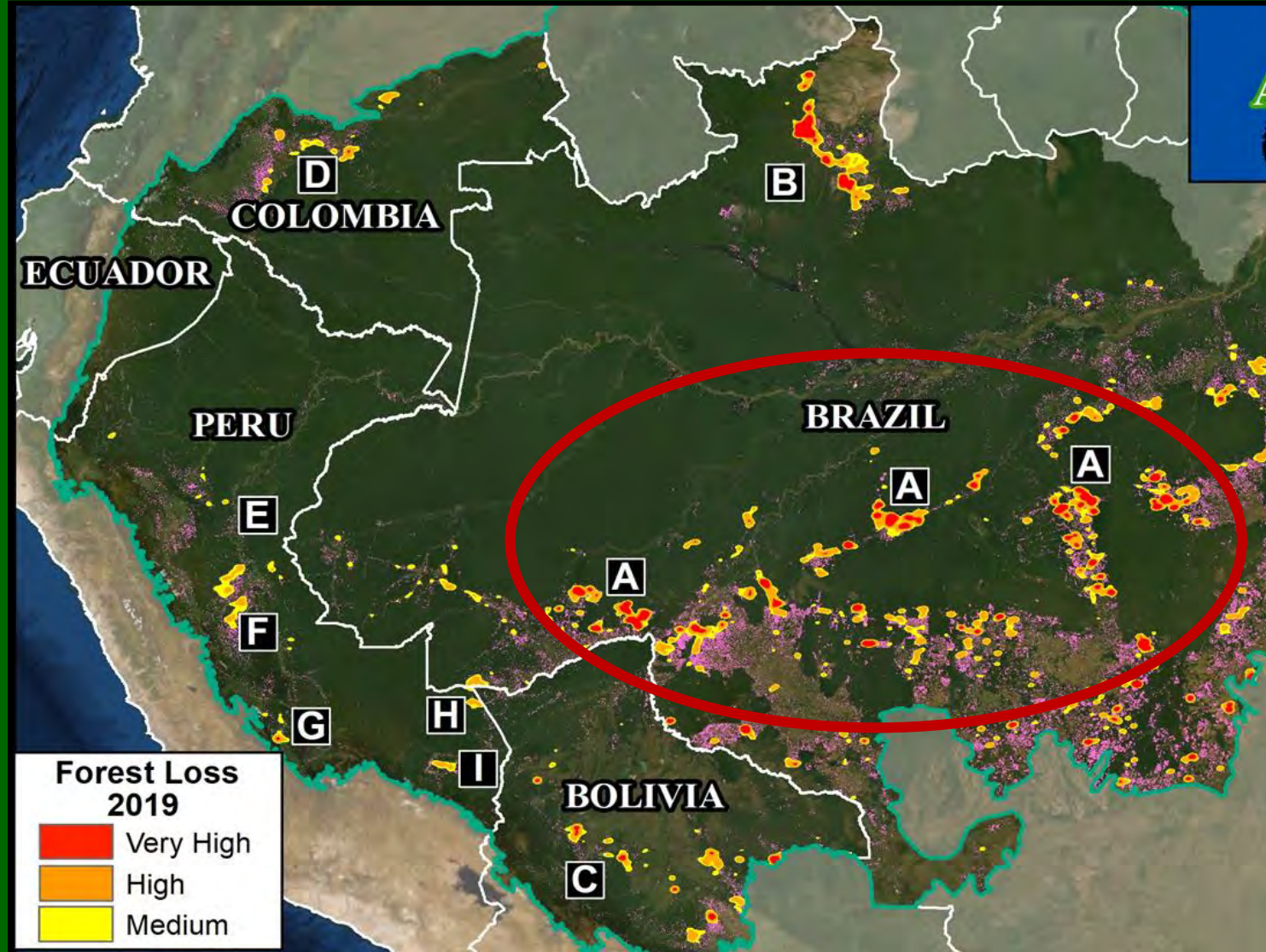
Colombian Amazon Deforestation



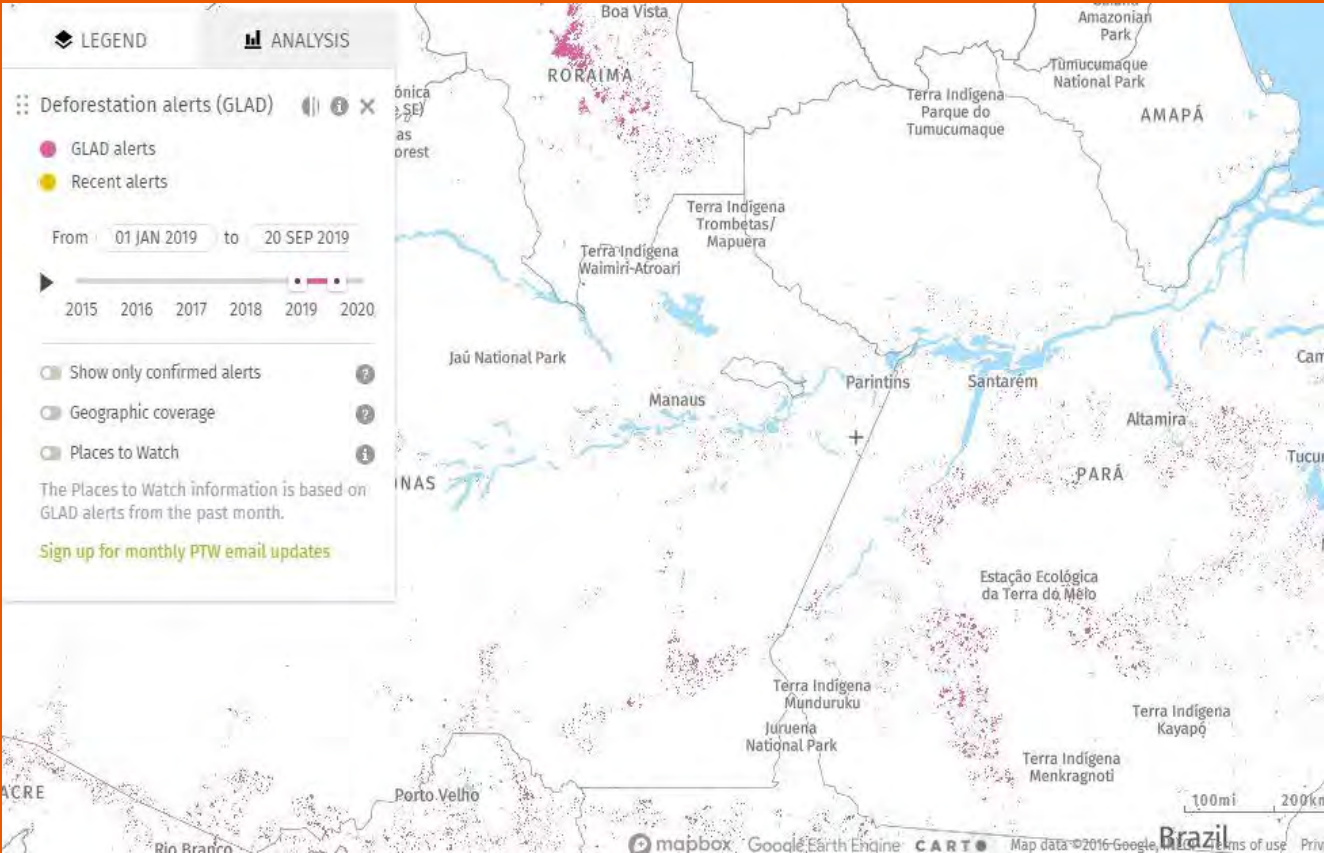
ACTION: COLOMBIA – OPERATION ARTEMISA



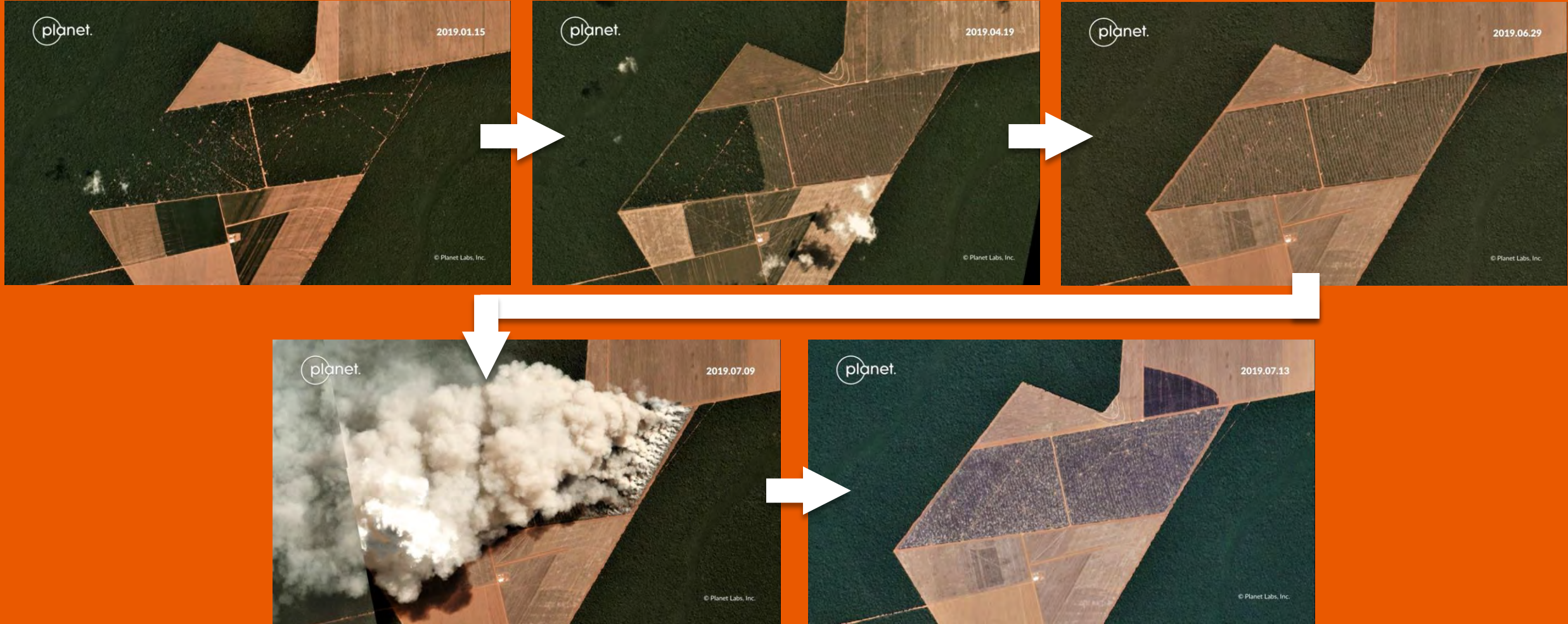
TECH – POLICY CYCLE 2019: BRAZIL



DETECTION & ANALYSIS: BRAZIL



DETECTION & ANALYSIS: BRAZIL



MAJOR FINDING: DEFORESTATION THEN FIRES

MAAP #110: MAJOR FINDING – MANY BRAZILIAN AMAZON FIRES FOLLOW 2019 DEFORESTATION

BRAZIL, MAPS, FIRE SEP 23, 2019

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In MAAP #109 we re

fires in the Brazilian

deforestation even

Here, we present our

acres) deforested in

equivalent to 172,00

MAAP #113: SATELLITES REVEAL WHAT FUELED BRAZILIAN AMAZON FIRES

BRAZIL, SYNTHESIS, MAPS, FIRE NOV 13, 2019

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As part of our ongoing coverage, we present findings about the Brazilian Amazon fires that captured world's attention in August (see our novel satellite methodology below).

First, we found that many of the fires, covering hectares, burned areas recently deforested in Base Map). That is a massive area equivalent to 830,000 American football fields, mostly in Amazonas, Rondônia, and Pará.

Importantly, 65% (298,000 hectares) of this area was deforested and burned this year, 2019.

Second, we found 160,400 hectares of primary forest in 2019 (purple in Base Map).* Most of these deforested lands in the states of Mato Grosso were likely pasture or agricultural fires that entered the forest.



RAINFORESTS OCEANS ANIMALS & ENVIRONMENT SOLUTIONS FOR KIDS DONATE IMPACT MORE

To search, type and hit enter.

Upset about Amazon fires last year? Focus on deforestation this year (commentary)

by Matt Finer on 4 February 2020

f t in w e b



- Satellites reveal the true story of the 2019 Brazilian Amazon fires, and how to avoid a repeat in 2020.
- The common media narrative, and resulting public perception, is that large uncontrolled fires were raging through the Brazilian Amazon rainforest, causing vast destruction and deforestation. Subsequent analysis of extensive satellite imagery archives, however, has quietly revealed the opposite scenario: many of the fires were actually burning the remains



ACTION (?) BRAZIL

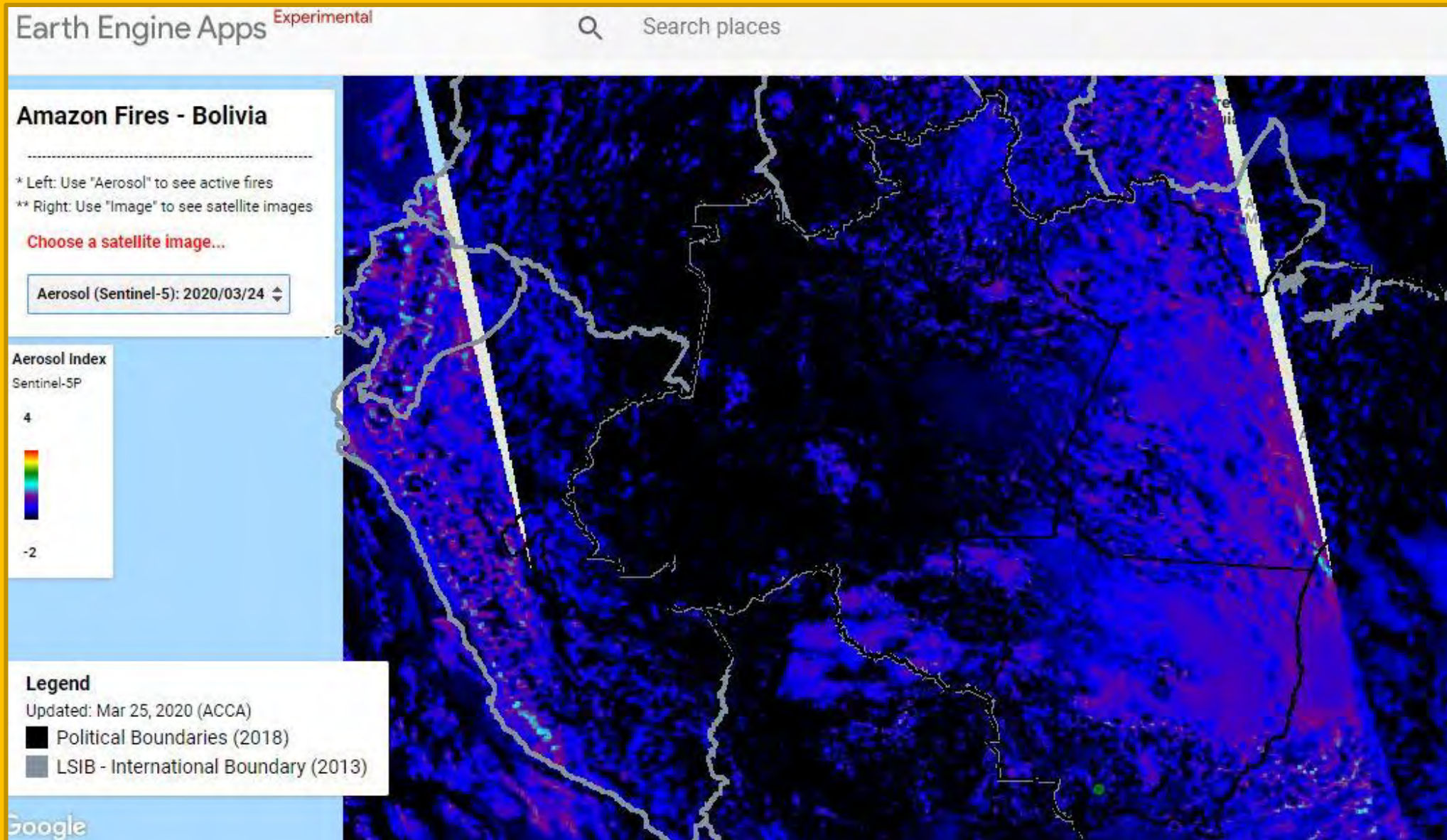


Brazil:
Fires burned recently
deforested areas

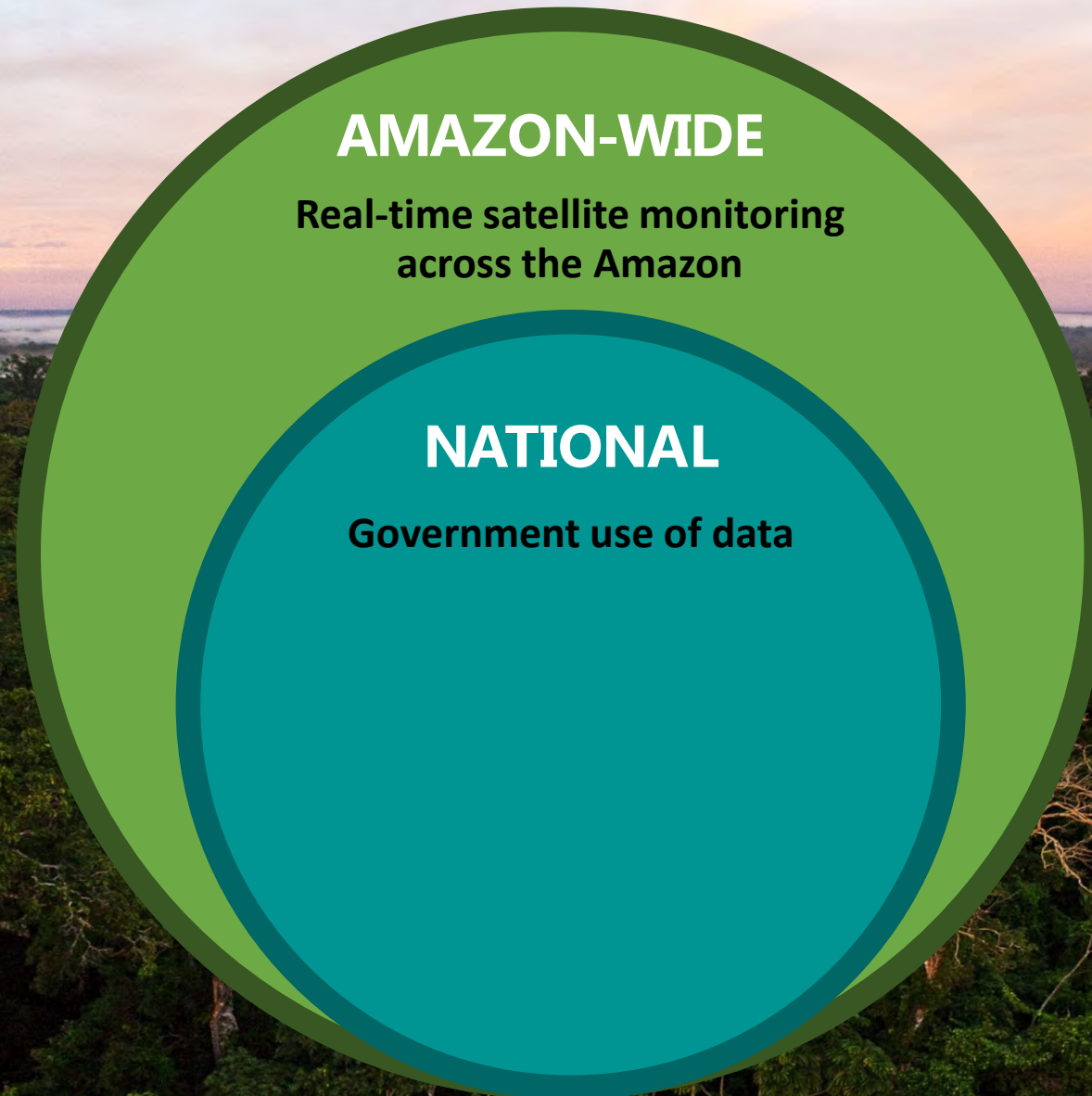


Bolivia:
Fires were uncontrolled and
escaped into dry forests

ACTION – FIRES/BOLIVIA



MULTI-SCALE STRATEGY





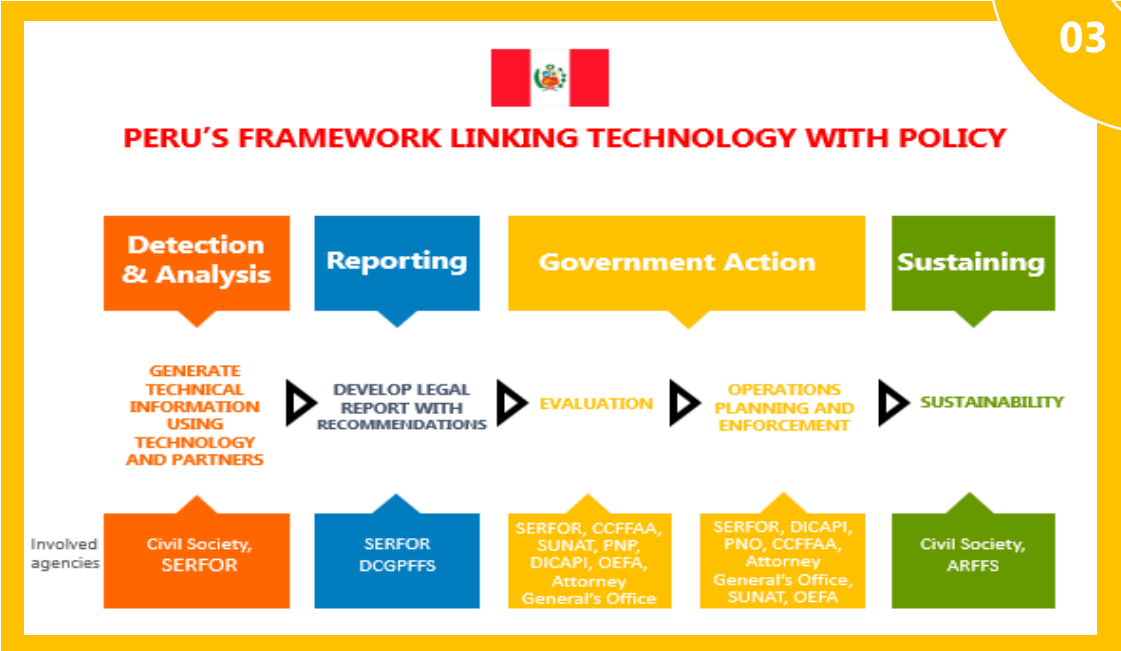
PERU'S NATIONAL SYSTEM OF MONITORING & CONTROL



DETECTION & ANALYSIS



ACTION



REPORTING

ACCA **AMAZON** **CONSERVATION ASSOCIATION**

Monitoring of the Andean Amazon Project

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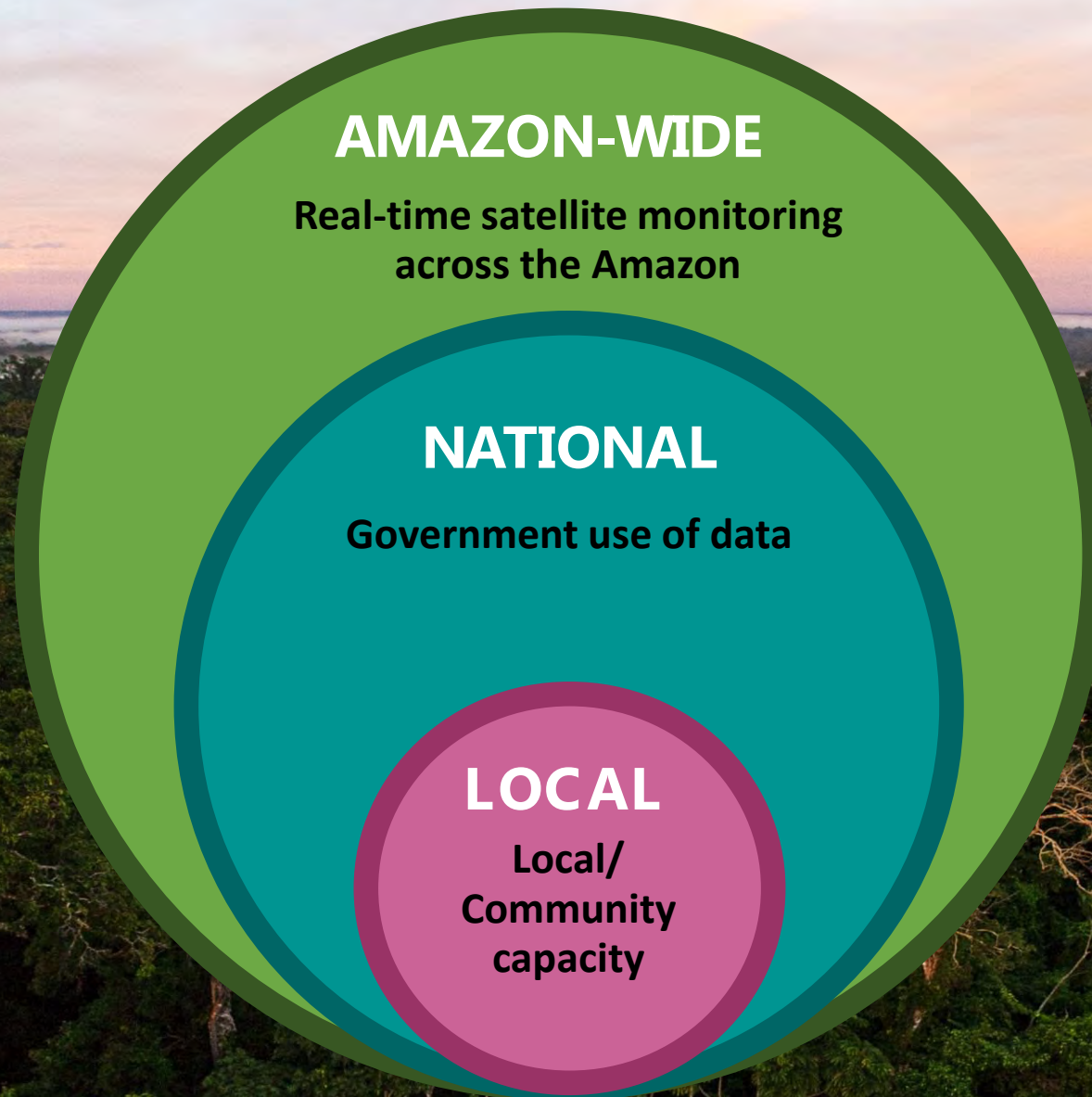
Sector	Sensor	Fecha de adquisición	GSD	Cobertura del área de análisis
Caso Tierra Blanca	Planet	02-mayo-2019	3.125 m	Total
	Sentinel-2	20-febrero-2017	10 m	Total
Caso Masisea	Planet	10-mayo-2019	3.125 m	Total
	Planet	24-junio-2017	3 m	Total

La siguiente tabla presenta las coordenadas de referencia para cada caso de estudio:

Punto	Este (m)	Norte (m)
Caso Tierra Blanca	-6.569118	-75.357971
Caso Masisea	-8.733077	-74.369202

RESULTADOS

MULTI-SCALE STRATEGY



DETECTION & ANALYSIS AT THE LOCAL LEVEL: USING DRONES FOR GROUND-TRUTHING



DETECTION & ANALYSIS AT THE LOCAL LEVEL: USING DRONES FOR GROUND-TRUTHING



**MAJOR PROGRESS:
SATELLITE AND DRONE
IMAGERY ARE NOW
LEGALLY ACCEPTABLE
EVIDENCE**

Aprueban el Reglamento de las Fiscalías Especializadas en Materia Ambiental

RESOLUCIÓN DE LA FISCALÍA DE LA NACIÓN
Nº 435-2020-MP-FN

Lima, 24 de febrero de 2020

VISTOS:

Los oficios Nº 1357-2019-MP-FN-CN-FEMA y Nº 148-2020-MP-FN-CN-FEMA, suscritos por la señora Fiscal Superior Coordinadora Nacional de las Fiscalías Especializadas en Materia Ambiental, el Informe Nº 2-2020-MP-FN-GAFN-BAZ, del Gabinete de Asesores de la Fiscalía de la Nación; y,

CONSIDERANDO:

Mediante Resolución de la Fiscalía de la Nación Nº 1177-2014-MP-FN, de fecha 02 de abril de 2014, se aprobó el Reglamento de las Fiscalías Especializadas en

MOVING FORWARD

AMAZON-WIDE



EXPAND REAL-TIME MONITORING TECH ACROSS THE AMAZON

- Build partnerships
- Expand coverage
- Systematize monitoring
- Monitor fires

NATIONALLY



DEEPEN AND EXPAND SYSTEM IN PERU

- Strengthen National
System of Monitoring
and Control

LOCALLY



IMPROVE ENABLING CONDITIONS IN OTHER COUNTRIES

- Build capacity of local
organizations to take
action

LET'S WORK TOGETHER FOR A THRIVING AMAZON!

MATT FINER: mfiner@amazonconservation.org

JOHN BEAVERS: jbeavers@amazonconservation.org

maaproject.org

Amazon Conservation is an alliance of three local organizations uniting science, innovation, and people to protect the Amazon – the greatest wild forest on Earth.



PERU

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ALLIANCE

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BOLIVIA

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