



WORLD
RESOURCES
INSTITUTE

IMPROVING FOREST INFORMATION

FOR ACTIONABLE FOREST MONITORING

SUSAN MINNEMEYER, SENIOR MAPPING AND DATA MANAGER

**GLOBAL
FOREST
WATCH**

**Better forest
information.
Better forest
management.**

Photo: Ollivier Girard/CIFOR

Growing, Global Reach

>**350,000** unique visitors from **226** countries/territories

- 18% returning, 82% new visitors

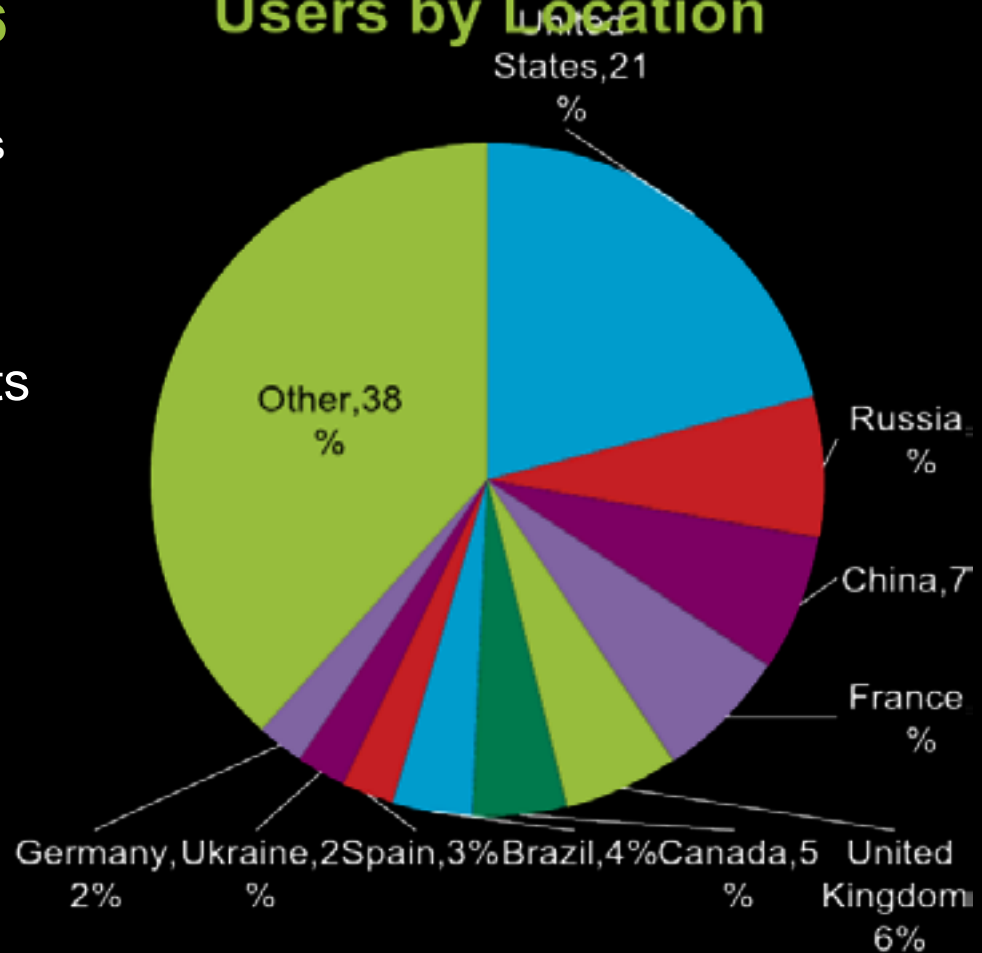
>**1 million** page views

394 subscriptions to FORMA alerts

707 members of GFW Discussion Forum

29, 874 views of animation video

Users by Location



GFW Platform Vision

Data

- Streamlined data management
- Uniting local and global data to tell a complete story
- Credible and reliable
- Open and transparent

Participation

- Smart phone & SMS enabled
- Optimized for easy sharing
- Crowdsourcing & citizen-science
- Customizable and personal
- Networks and communities

Analysis

- As simple or complex as you want
- Tools to support decision-making
- Customized tools and apps build off the flagship website

Storytelling

- Dynamic storytelling: discuss, interact, and promote
 - Connecting data, maps, and knowledge from the ground
 - Subscribe and follow
-

Data Acquisition

Current Datasets

Forest Change	(5):	FORMA, UMD, SAD, QUICC, Fires
Forest Cover	(3):	Tree density, Carbon, IFL
Forest Use	(4):	Oil palm, timber, mining, logging
Conservation	(2):	Protected Area, Biodiversity hotspots
People	(1):	Resources rights

Global, Tropical, Country

Ongoing process for all datasets to update, improve, and expand coverage

Acquisition Strategy

Discover and incorporate **publicly available data** (e.g. FAO Land Cover Data)

Build **relationships** through partnerships to move data into public domain (e.g. RSPO)

Finance the **creation of new datasets** to fill key data gaps (e.g. IFL 2010)

Data Policies

Data quality standards

Metadata development

description of data and limitations

Open Data Policy

all data can be downloaded!

DATA PIPELINE | Forest Change

- UMD** 2013 change expected July,
Landsat alert prototype expected
November
- FORMA** 250m upgrade, Full tropics
- SAD(+)** Multi-sensor upgrade
- Terra-i** Integrate & expand to tropics, test
ensemble with FORMA

All activities are (co) funded by GFW

DATA PIPELINE | Forest Cover

National forest cover data*

Indonesia, Central America, Georgia, Cambodia

**Goal: country level data for all countries*

Global Land Cover

FAO Share, ESA GLOBCOVER)

Intact forest Landscape 2010. UMD/Greenpeace

30m carbon/GHG emissions layer. WHRC

Mangroves

Wetlands data

****Commissioned by WRI, Public data, Partnerships, Wish list****

New Carbon Map - WHRC

- 30m resolution carbon density layer circa 2000
- Annual emissions period 2000-2012
 - Gross emissions | Gross uptake | Deforestation | Regrowth
- Net emissions
 - loss minus gain over 12 year period
- National CO₂ fluxes
 - distinguishing fluxes attributable to deforestation, afforestation, degradation, shifting cultivation, industrial logging, and fuelwood harvest
- Associated maps of spatially explicit uncertainty estimates classes
- Report with methods, materials + peer-reviewed publication

DATA PIPELINE | Forest Use

Logging Malaysia, Liberia, Indonesia, Cambodia

Mining Sierra Leone

Timber Malaysia, Liberia, Indonesia, Cambodia

Oil palm Cameroon

*Goal: concession data for all countries

NEW: Planted area. Transparent World

Malaysia, Liberia, Colombia, Indonesia, Brazil.

**Goal: global coverage*

Infrastructure: Dams and Roads

*****Commissioned by WRI, Public data, Partnerships, Wish list*****

New Plantation Data

- High resolution satellite imagery donation
1 million square kilometers
- Manual interpretation of plantations
 - Large industrial plantations
 - Mosaic of medium size elements (10-50)
 - Small private “gardens” of small size (below 2-3 hectares)
- Pilot countries: Malaysia, Colombia, Liberia
- Manual of methods

DATA PIPELINE |

Conservation

National protected area data

Congo Basin, Indonesia, Cambodia

REDD+ and VCS project areas

GFW-Biodiversity

Global species richness & endemism

Zero Extinction Sites

Priority habitat for endangered species

And much more....

****Commissioned by WRI, Public data, Partnerships****

DATA PIPELINE | People

Global population layer

Gridded Population of the World

Community & indigenous lands & resource rights

Canada, Indonesia

**Goal: community lands for all countries*

*** Commissioned by WRI, Public data, Partnerships ***

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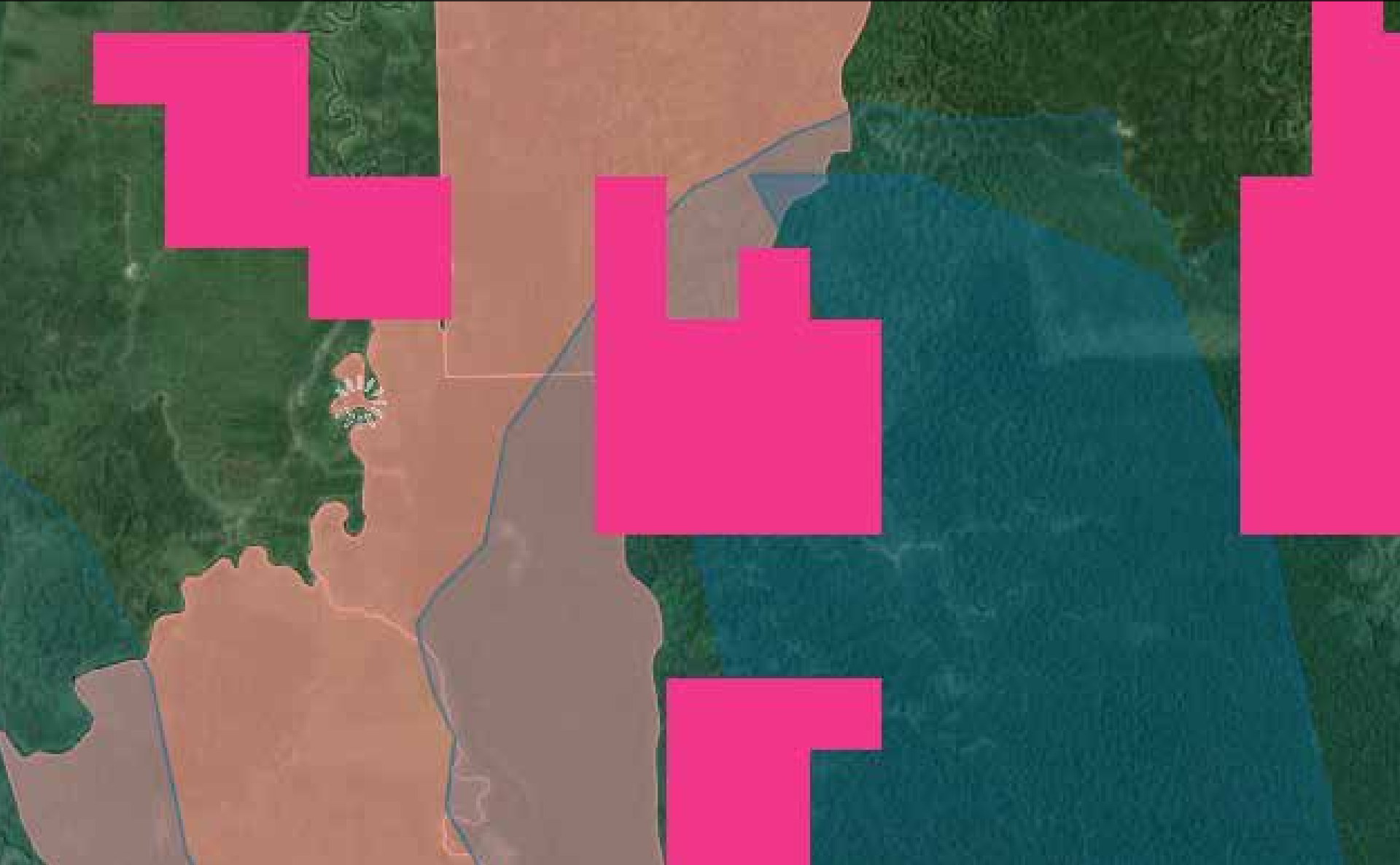
GFW →

Action



INFORMATION INTO ACTION

USE CASE | Data-Driven Journalism



**UNDISCLOSED
LOCATION**

Sumatra, Indonesia



**UNDISCLOSED
LOCATION**

Sumatra, Indonesia





GLOBAL FOREST REPORTING NETWORK



[ABOUT THE GFRN](#) | [APPLICATION GUIDELINES](#) | [GFRN STORIES](#) | [GFRN FAQ](#)

THE APPLICATION PERIOD FOR THE GFRN HAS CLOSED. Please check back for future opportunities.

Mongabay.org, in collaboration with Global Forest Watch – an initiative led by the World Resources Institute – is launching the Global Forest Reporting Network to improve management and conservation of forests around the world through the power of data and information. The program will establish a network of on and off-site reporters that will cover forest-related topics in areas particularly threatened by human impacts. By doing so, we seek to increase global transparency of forest and land-use issues, build capacity among local journalists, bolster the market for environmental journalism, and encourage the integration of high-quality data into environmental reporting. The Global Forest Reporting Network will initially focus on the following regions:

- Southeast Asia (Indonesia, Malaysia, Philippines, PNG)
- Greater Mekong Region (Thailand, Laos, Cambodia, Vietnam)
- South Asia (India, Myanmar, Nepal, Sri Lanka, Bangladesh)
- West Africa (Liberia, Côte d'Ivoire, Ghana, Sierra Leone)
- Congo Basin (DRC, ROC, Gabon, CAR, Cameroon, Equatorial Guinea)
- East Africa (Tanzania, Kenya, Rwanda, Uganda)
- South America (Brazil, Peru, Ecuador, Colombia, Bolivia, Venezuela, Paraguay, Argentina, Guyana, Suriname, French Guiana)
- Central America (Mexico, Honduras, Guatemala, Nicaragua, Costa Rica, Belize, Panama)
- Boreal Regions (Canada, Russia, Nordic countries)



Mongabay.org is currently soliciting applications from experienced journalists who are interested in participating. Payment will be on a per-word basis, and pieces will generally be short to moderate in length (500-1000 words). Pieces must incorporate data from Global Forest Watch, which includes manipulation of GIS-based data and maps into accompanying images. This is a part-time, ongoing position most suitable for environmental writers looking for long-term, supplemental, rewarding work. Preference is given to applicants able to work on-site in a region mentioned above, and written fluency in English is required.

To apply, please send a resume or CV, a letter of interest, and published online samples to Africa@Economic

MONGABAY PARTNERSHIP

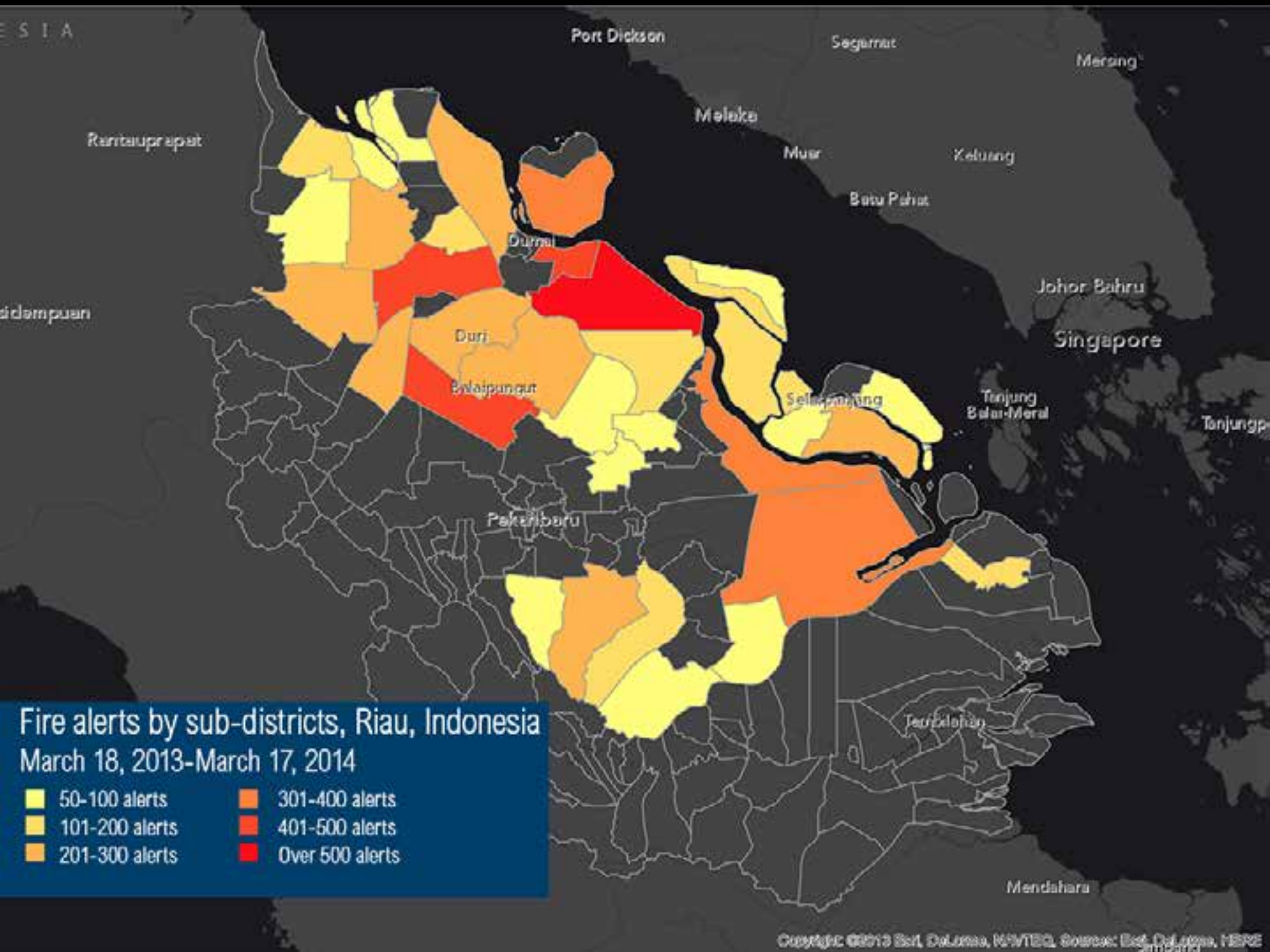
Producing 200 data-driven stories this year

USE CASE | Fires, Indonesia



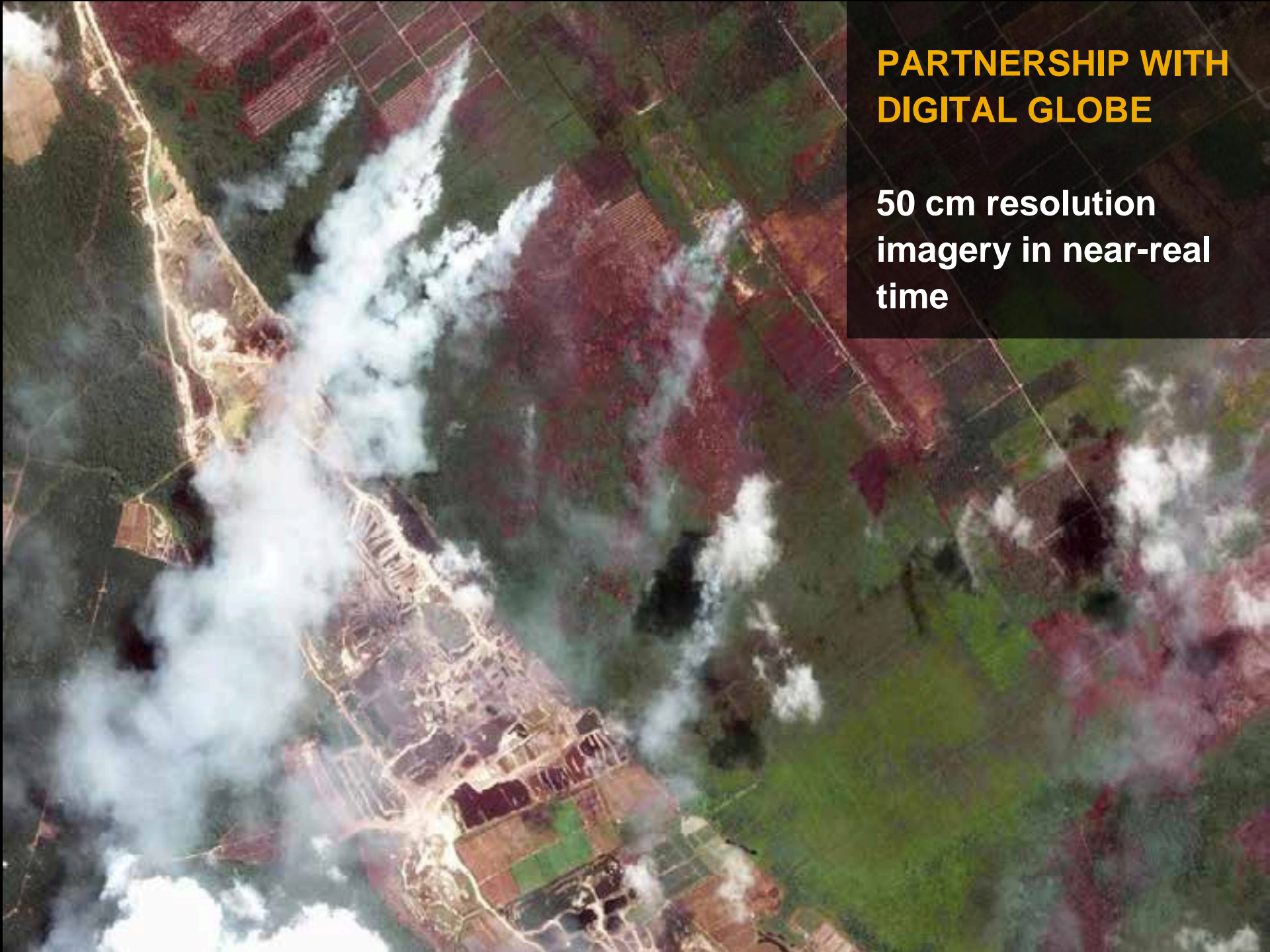
PULPWOOD CONCESSIONS WITH THE HIGHEST SHARE OF FIRE ALERTS

NAME	GROUP, AFFILIATE, OR MAIN BUYER	NUMBER OF FIRE ALERS (FEBRUARY 20- March 12 2014)
PT SAKATO PRATAMA MAKMUR	SINAR MAS FORESTRY / APP	323
PT ARARA ABADI	SINAR MAS FORESTRY / APP	173
PT RIAU ANDALAN PULP & PAPER	APRIL	130
PT Satria PERKASA AGUNG (SK 244)	SINAR MAS FORESTRY / APP	108
PT SUMATERA RIANG LESTARI	APRIL	103
PT SUNTARA GAJAPATI	SINAR MAS FORESTRY / APP	102
PT RIMBA ROKAN LESTARI	APRIL	33
PT RUAS UTAMA JAYA	SINAR MAS FORESTRY / APP	31
PT Satria PERKASA AGUNG UNIT (SK 102)	SINAR MAS FORESTRY / APP	19
PT PERKASA BARU	-	17
PT SERAYA SUMER LESTARI	APRIL	12
PT MITRA HUTANI JAYA	SINAR MAS FORESTRY / APP	11



Fire alerts by sub-districts, Riau, Indonesia
 March 18, 2013-March 17, 2014

- 50-100 alerts
- 101-200 alerts
- 201-300 alerts
- 301-400 alerts
- 401-500 alerts
- Over 500 alerts



PARTNERSHIP WITH DIGITAL GLOBE

**50 cm resolution
imagery in near-real
time**

USE CASE | Tar Sand Development, Canada





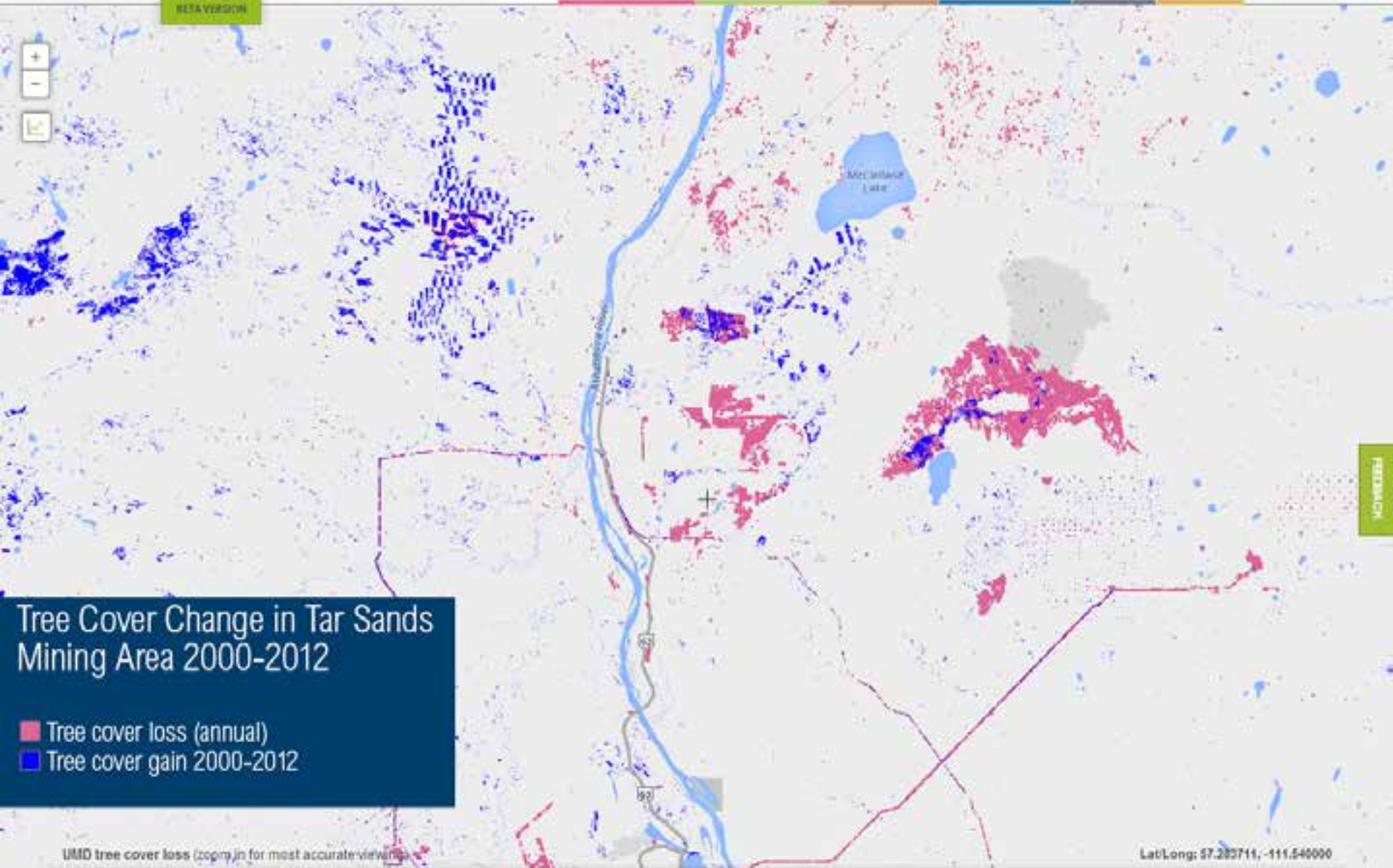
**COLLABORATION
WITH GLOBAL
FOREST WATCH
CANADA**

On data and outreach



Tree Cover Change in Tar Sands Mining Area 2000-2012

- Tree cover loss (annual)
- Tree cover gain 2000-2012



INTERACTIVE

UMD tree cover loss (zopm) in for most accurate view

Lat/Long: 57.283711, -111.540000



USE CASE | GFW Small Grants Fund



Project Objectives

Projects that extend the value of GFW to communities, grassroots organizations, and other local stakeholders in ways that positively impact their lives

Disseminate Information

Projects that use information in the GFW platform to conduct research or carry out advocacy to improve forest governance and law enforcement

Support Advocacy

Projects that provide new information to or validate existing information on GFW

Contribute Data

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COMMODITIES

GFW

Commodities

Global Forest Watch Commodities

An online platform that provides practical analysis for zero deforestation supply chains, when and where companies need it.

commodities.globalforestwatch.org

BETA site “launched” June 4th at RSPO European summit.

A business tool to end deforestation in commodity supply chains.

Would you like to...

Start
Exploring
Here

Explore
certified sustainable
palm oil areas...

(All users)

Map areas
for expansion...

(Beta users)

Analyze forest
loss in your
supply chain...

(Beta users)

A project of Global Forest Watch.

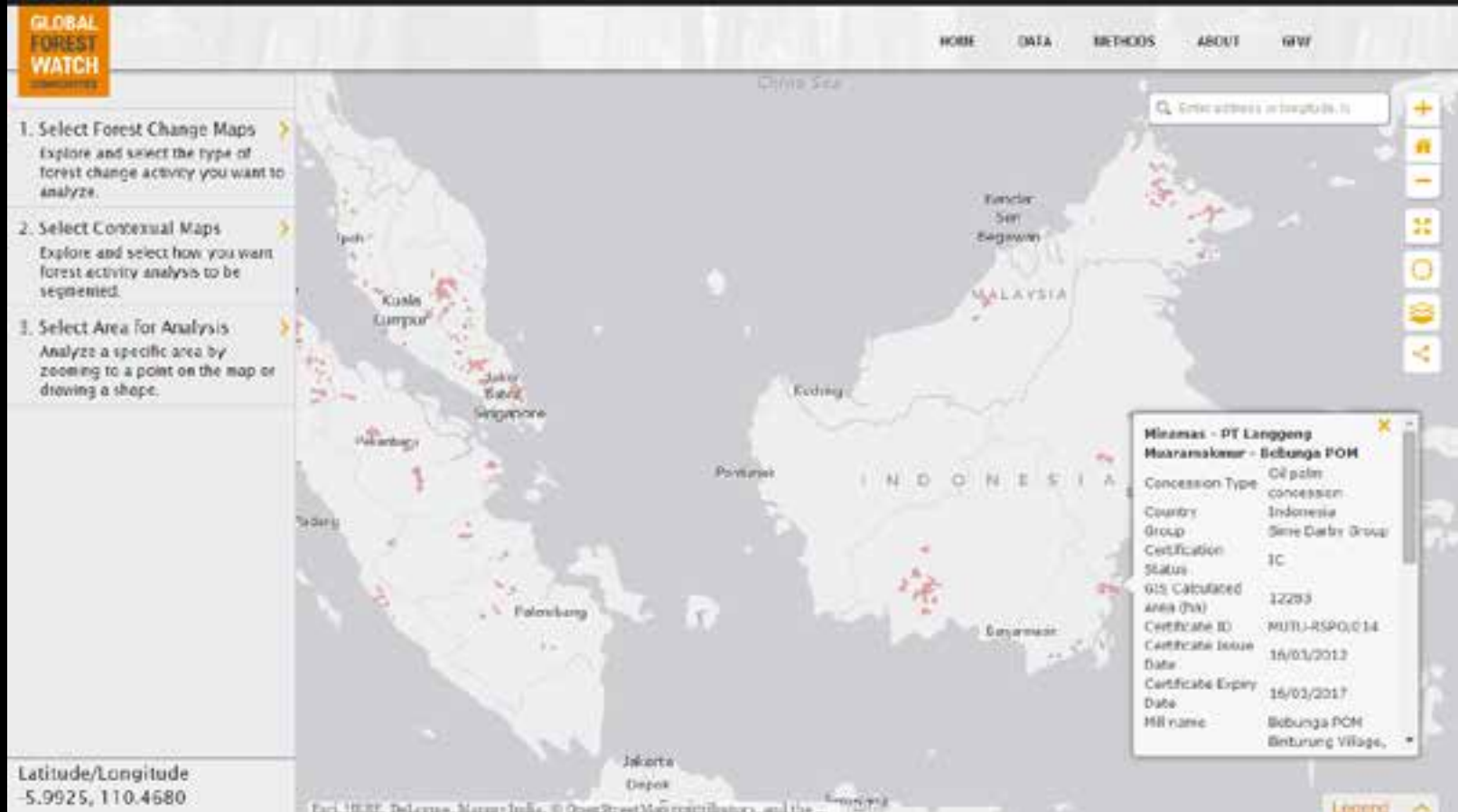
Key Distinguishing Features

- **Data** on forest change, forest use and other relevant data for zero-deforestation commodity production
 - Analysis **across multiple data layers**
 - Analysis put in **context of the supply chain**
 - Effective **communication** for a business audience

 - Forthcoming: **degraded areas** suitable for expansion
-

RSPO Certified Area Maps

- 1.6 million hectares of certified palm oil concessions
- 12% of global palm oil production area



Additional Data Sets

- Peat depth, legal classifications, land cover type



Geospatial Context

PT. Sawit Murni

Total Area (ha): 18,991



Subscribe to Monthly Alerts

Tree Cover Density **Land Cover** Legal Classes Protected Areas Carbon Stocks >

Land Cover - SE Asia

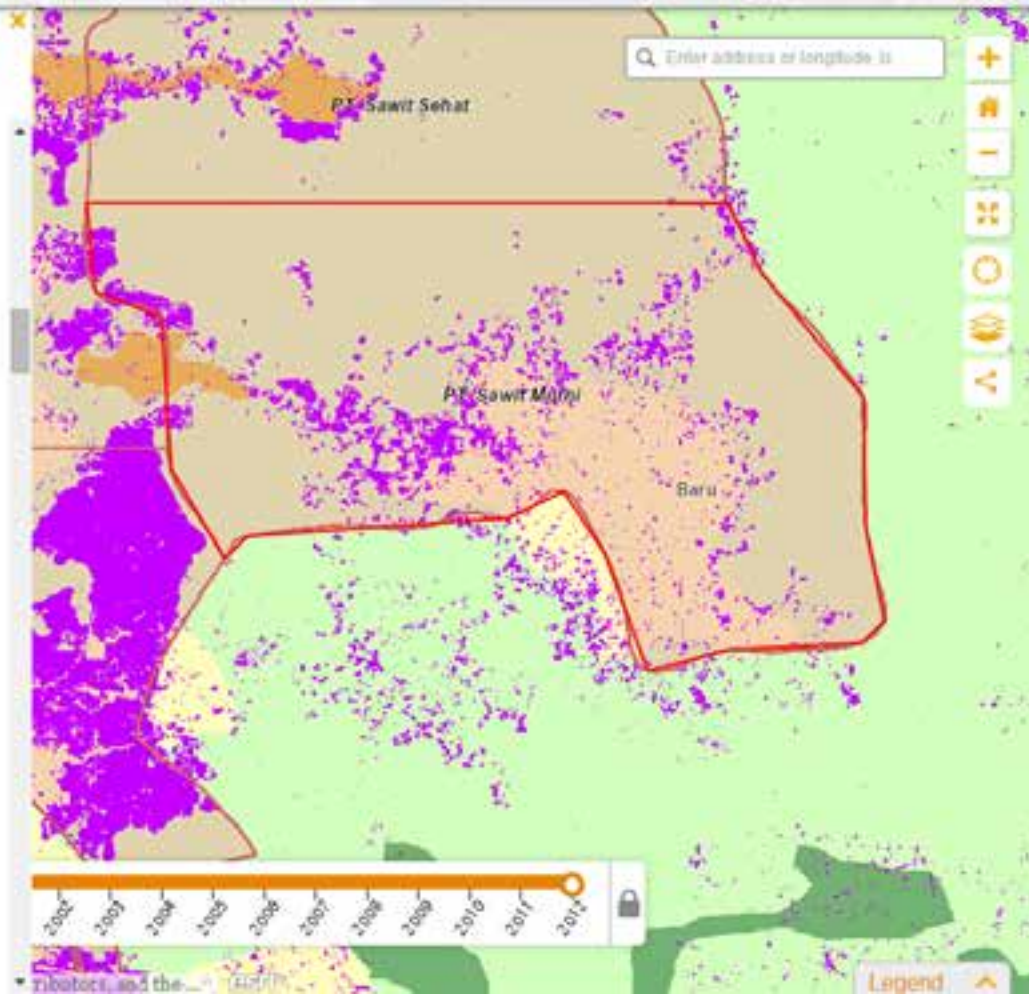
Annual Tree Cover Loss on Land Cover - Asia



There are currently
0
active fires
on southeast asia land cover out of
0 total active fires

- Agriculture
- Agroforestry
- Fish pond
- Grassland / Shrub
- Mining
- Oil Palm Plantation
- Primary Forest
- Rubber Plantation
- Secondary Forest
- Settlements
- Swamp
- Timber Plantation
- Water Bodies

Clearance Alerts on Land Cover - Asia since 2012



Contextualized in the Supply Chain

- **Upload** function allows users to analyze their own shape files
 - **Analyze by unit** – commercial, administrative, or certified areas
 - **Search attribute data** and perform analysis
 - **Prototyping additional features**
-

Next Steps

- **Road testing & rapid prototyping:**
 - “Case studies” to develop new workflows and features with corporate partners
 - Road testers providing feedback on user interface, functionality, feature set, etc.
 - **Developing new data sets**
 - **Expanding** to include other commodity sectors & certification schemes
 - Testing and deploying various formats for **communicating** outputs (e.g. reports) in format and language that makes sense for business users
 - **Integrating** with systems at key leverage points:
 - Certification schemes
 - Business forums (e.g. TFA2020, CGF)
 - Supply chain management systems
-

How to increase participation and amplify impact?

- Mobilizing the “crowd”
- Catalyzing (but not driving) local uptake of GFW data and tools
- Motivating and empowering partners to develop, pilot, and scale-up GFW applications (without having to fund everything)
- Creating an “ecosystem” of open project participants who contribute ideas, technology, and content to the GFW platform

How to identify priorities for significant, near-term impact

- Countries

Indonesia, Malaysia, Cambodia, Myanmar, Congo Basin, Liberia, Mexico, Colombia, Brazil, Peru

- Policy issues

Commodities, Biodiversity, Climate, Fires

- Data acquisition



**GLOBAL
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COMMODITIES

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information.
Better
supply chain
management.**

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