AFRICA BIODIVERSITY COLLABORATIVE GROUP

the Jane Goodall Institute

From the Ground to the Cloud: Innovative Mobile, Cloud and Web-Mapping Technologies for Chimpanzee Conservation

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Outline

- Conservation Needs:
  - Empower local communities to monitor their forests and wildlife
  - Minimizing the costs of technology use
  - Managing, accessing and using very high resolution satellite imagery
  - Collaboration and sharing across partners with different technical capacities

- Next steps: scaling up and integration towards operational platforms and decision support systems

The Jane Goodall Institute

Mission Focus:

To protect with partners 85% of chimpanzees and their habitats in Africa

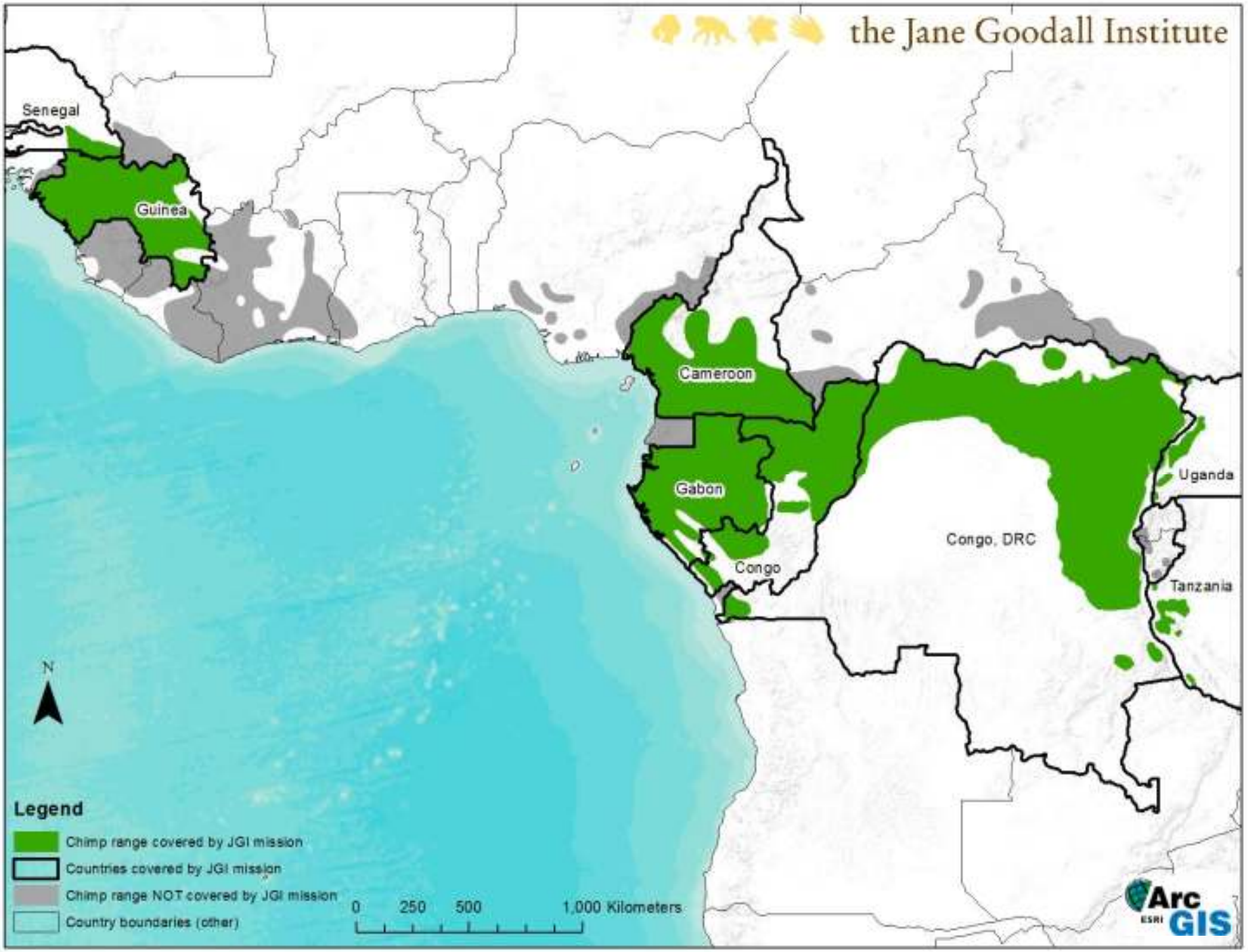
Vision:

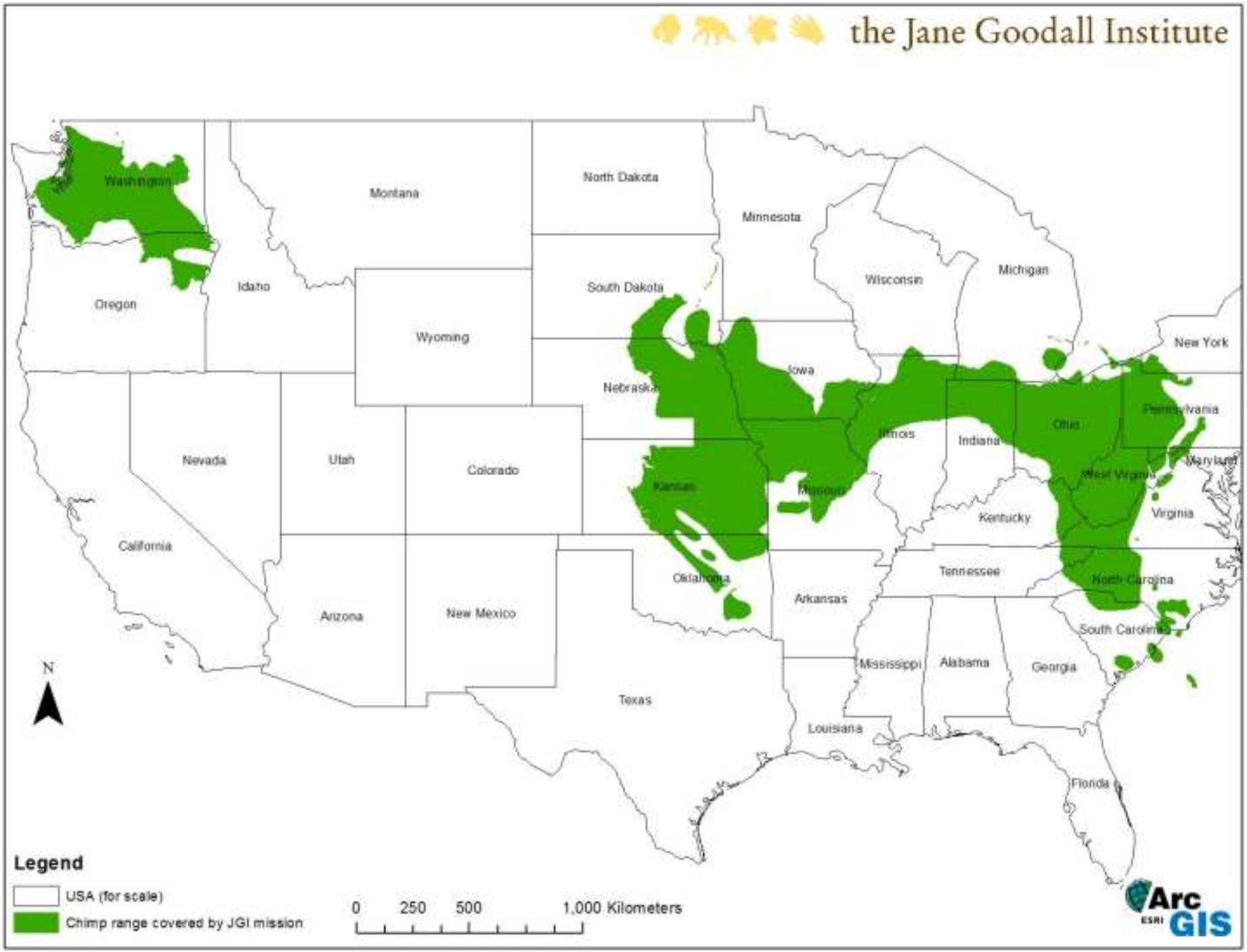
A viable, diverse and stable population of chimpanzees living in peaceful coexistence with human communities

The Jane Goodall Institute for Wildlife Conservation, Research and Education (founded 1977)

What began with Dr. Jane Goodall's pioneering work at Gombe Stream Reserve in Tanzania in 1960, has grown over the years into a global not-for-profit organization.

the jane goodall institute

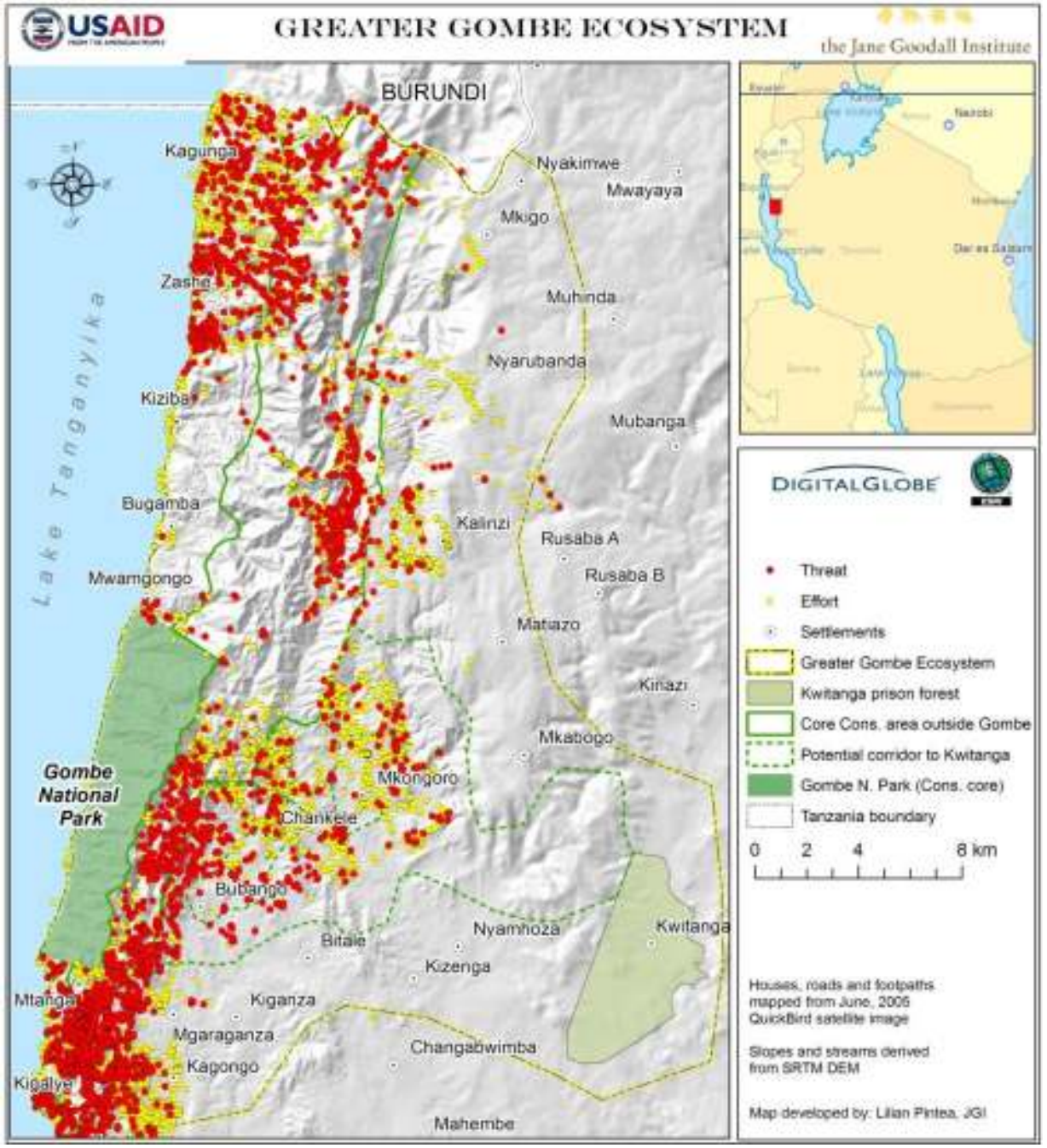

the Jane Goodall Institute
Senegal
Guinea
Cameroon
Gabon
Congo
Congo, DRC
Uganda
Tanzania
N
Legend
Chimp range covered by JGI mission
Countries covered by JGI mission
Chimp range NOT covered by JGI mission
Country boundaries (other)
0 250 500 1,000 Kilometers
ArcGIS ESRI


the Jane Goodall Institute
Washington
Oregon
California
Nevada
Idaho
Montana
Wyoming
Utah
Arizona
Colorado
New Mexico
North Dakota
South Dakota
Nebraska
Kansas
Oklahoma
Texas
Minnesota
Iowa
Missouri
Arkansas
Louisiana
Wisconsin
Illinois
Michigan
Indiana
Ohio
Kentucky
Tennessee
Mississippi
Alabama
Georgia
Florida
South Carolina
North Carolina
Virginia
West Virginia
Pennsylvania
New York
Maryland
N
Legend
USA (for scale)
Chimp range covered by JGI mission
0 250 500 1,000 Kilometers
ESRI ArcGIS

Integrating Geospatial Technologies and Local Knowledge: participatory mapping using 1-meter IKONOS satellite imagery in 2003

Garmin GPS limitations

- In 2005-06, 16 FMs collected more than 36,000 observations as part of USAID funded Greater Gombe Ecosystem project;
- Most of the attributes were on paper and not feasible to be digitized, visualized, analyzed or shared;
- Need for a different mobile data collection approach.

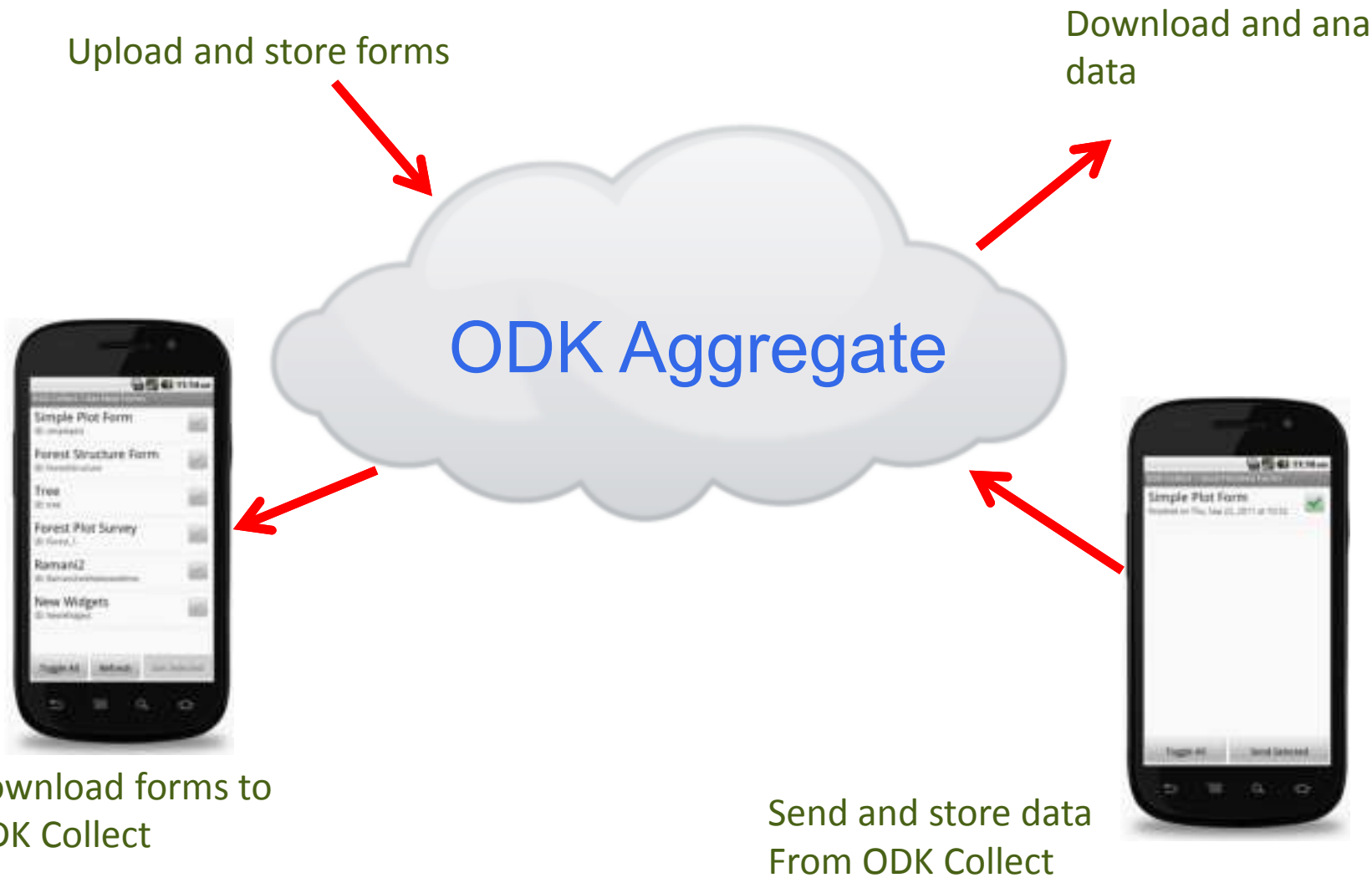


Presented at UNFCC COP-15, 2009 in Copenhagen

http://www.youtube.com/watch?v=ODszZsaSJdw

ODK Training of Village Forest Monitors in Kigoma, Tanzania 2009-2012

Big Picture



Source: David Thau, Google

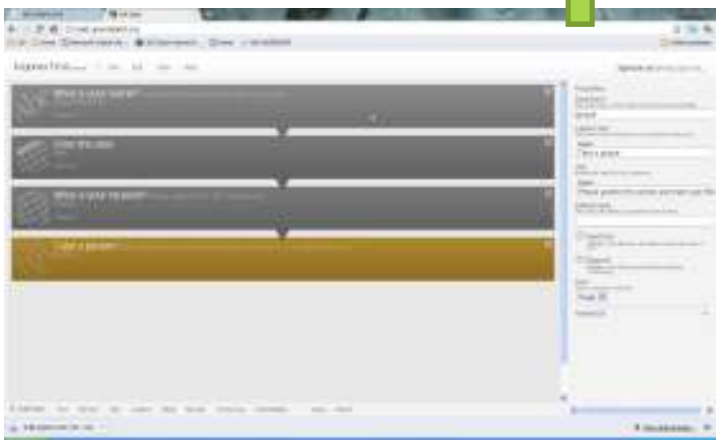
Open Data Kit Approach

Google Fusion Tables
Google Maps Engine
Google Earth

Android smartphones tablets or computers
- HTC G1
- HTC Desire
- Samsung Galaxy 7.7 & 10.1
- Nexus 4, 7 & 10
- Etc.

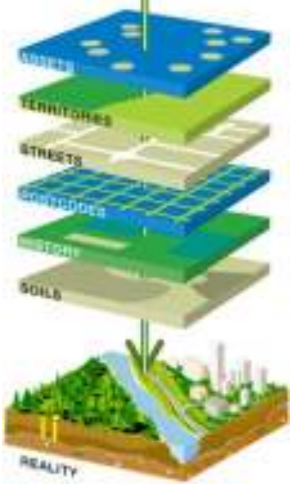
Google Cloud Geodatabase

Users / Decision-makers



Free online tool to build XML forms for ODK

Excel
ArcGIS Desktop
ArcGIS Online



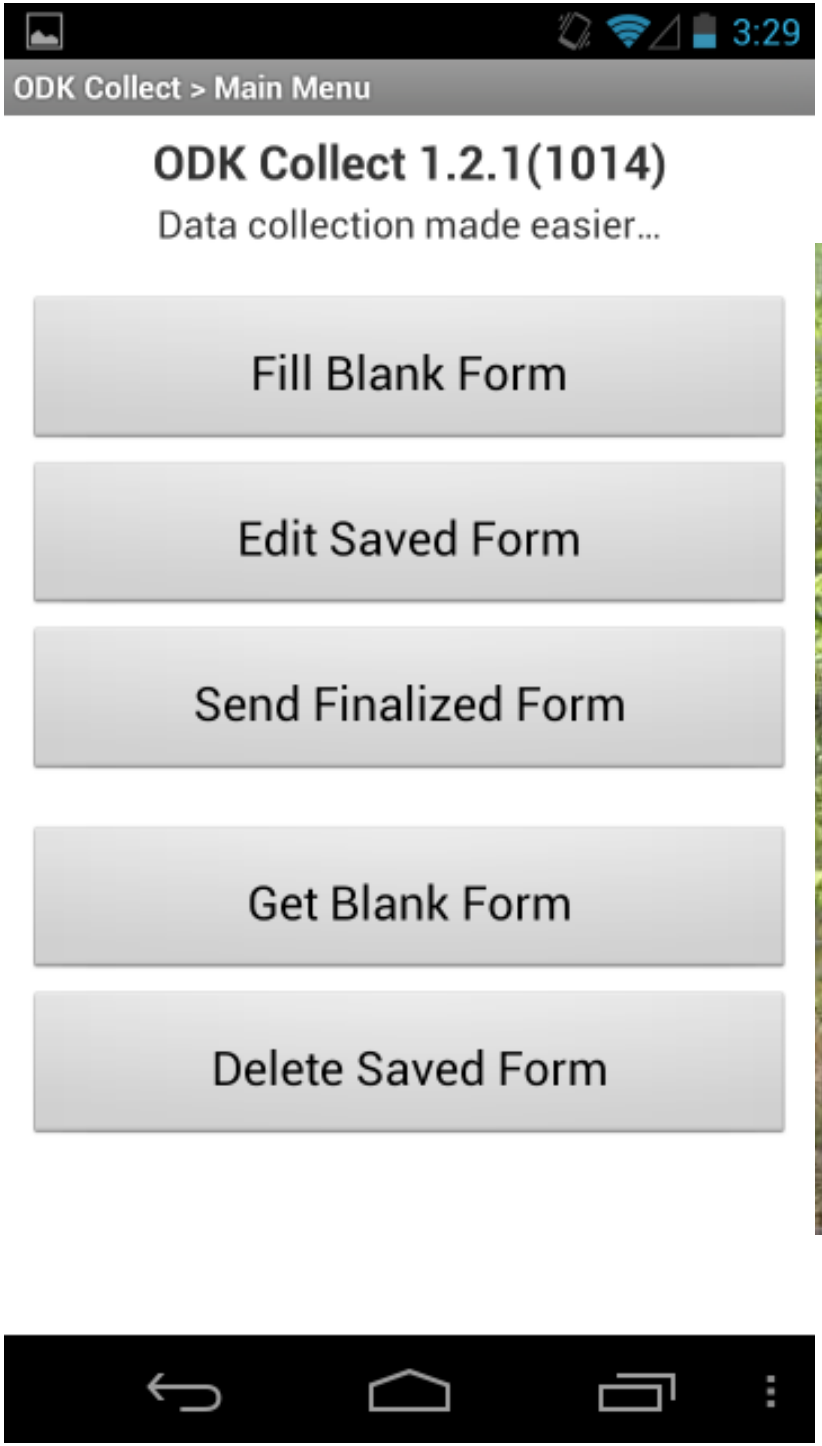
Ongoing JGI Projects using ODK

Project	Gombe-Masito-Ugalla Ecosystem Project (Tanzania)	Masito-Ugalla REDD Prepareness Project (Tanzania)	Bukoma-Budongo Corridor REDD Preparedness Project (Uganda)
Users	• 60 Forest Monitors • 52 villages	• 30 Forest Monitors • 7 villages	3 JGI-Uganda staff and 5 community assist.
Data types	• Effort (every 30 minutes) • Threats • Wildlife Presence • Chimpanzee Presence • Other	• Effort (every 30 minutes) • Threats • Wildlife Presence • Chimpanzee Presence • Tree/carbon plots • Other	Forest Private Land Owners Inventory Forest Associations Registration
Training	On-site & train the trainer	On-site & train the trainer	On the web/On-site train the trainer
Hardware	27 Motorola smartphones & 12 Galaxy 7.7 tablets	7 Galaxy 7.7 tablets	5 Galaxy 10.1 tablets
Donor	USAID	Royal Norwegian Embassy	AEP

Data collection in the field

- Experience
  - Training
    - Train the trainer
    - Multiple refresher training
    - On the job training
  - Acceptance of technology
  - Incentives to use
    - Education
    - Role and pride in the community
    - Small compensation for time lost
    - Empowerment to share knowledge and contribute
    - Fun
  - Challenges faced
    - Power / battery
    - Data upload
    - Following the methodology
    - Lack of internet access in the villages

htc
08:34
8
34
Kigoma
Mostly Cloudy
3/04
23°
H: 28°
L: 19°
Tips
ODK Collec
Messages
Mail
Internet
Camera
Phone
menu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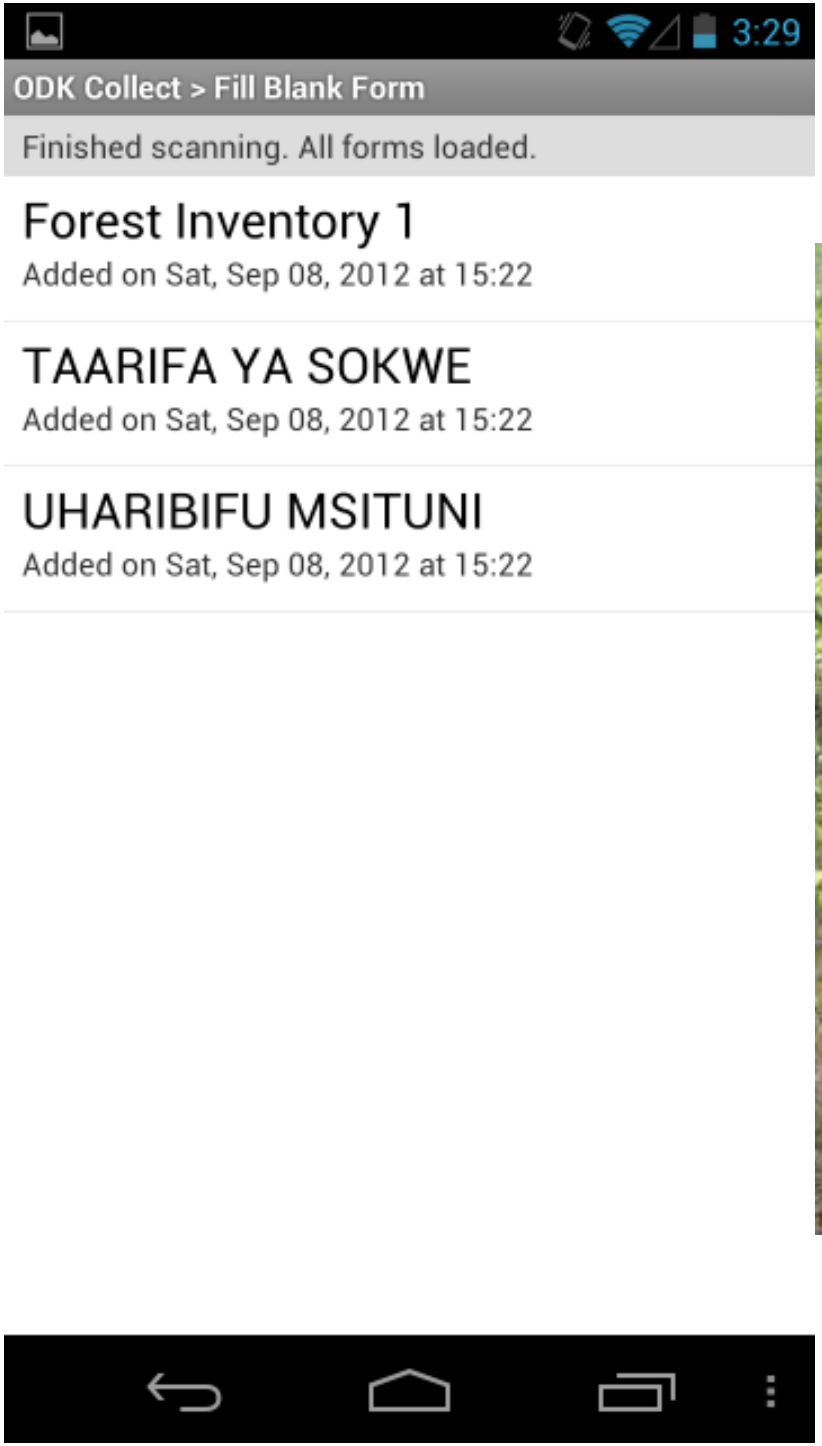
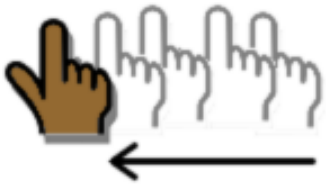
ODK Collect > Main Menu
ODK Collect 1.2.1(1014)
Data collection made easier...
Fill Blank Form
Edit Saved Form
Send Finalized Form
Get Blank Form
Delete Saved Form

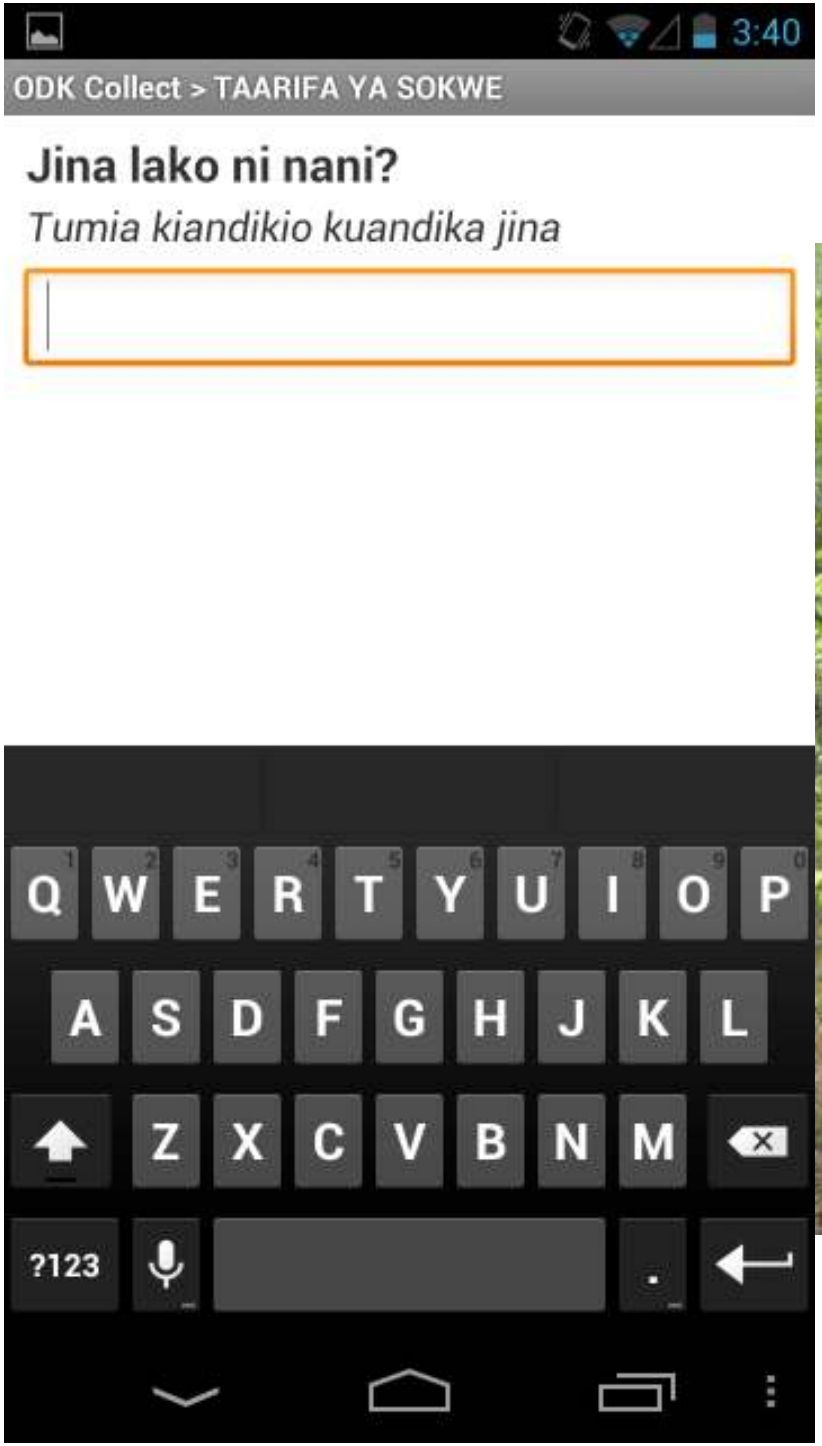

3:29
ODK Collect > Fill Blank Form
Finished scanning. All forms loaded.
Forest Inventory 1
Added on Sat, Sep 08, 2012 at 15:22
TAARIFA YA SOKWE
Added on Sat, Sep 08, 2012 at 15:22
UHARIBIFU MSITUNI
Added on Sat, Sep 08, 2012 at 15:22

You are at the start of "TAARIFA YA SOKWE". Swipe the screen as shown below to begin.

back to previous prompt



forward to next prompt


3:40
ODK Collect > TAARIFA YA SOKWE
Jina lako ni nani?
Tumia kiandikio kuandika jina
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
?123

3:40

ODK Collect > TAARIFA YA SOKWE

Chagua jina la kijiji chako hapa

Chagua jina la kijiji chako katika orodha uliyopewa

- Kagunga
- Zashe
- Kiziba
- Mwamgongo
- Mtanga
- Kigalye
- Kalalangabo
- Kagongo
- Mgaraganza

3:40

ODK Collect > TAARIFA YA SOKWE

Chukua majira ya nukta ulipo

Chukua Majira ya Nukta kwa kila dalili ya kuwepo Sokwe

Record Location

3:41

ODK Collect > TAARIFA YA SOKWE

Ni uoto gani unaouona mahali mnyama alipo?

Chagua aina moja tu!

- Miombo
- Maeneo miti imetawanyika (open woodland
- Maeneo yaliyo mtoni (Riverine)
- Mianzi (Bamboo)
- Maeneo ya Nyasi tu (grassland)
- Shamba linalolimwa
- Matumizi mengine ya Kilimo

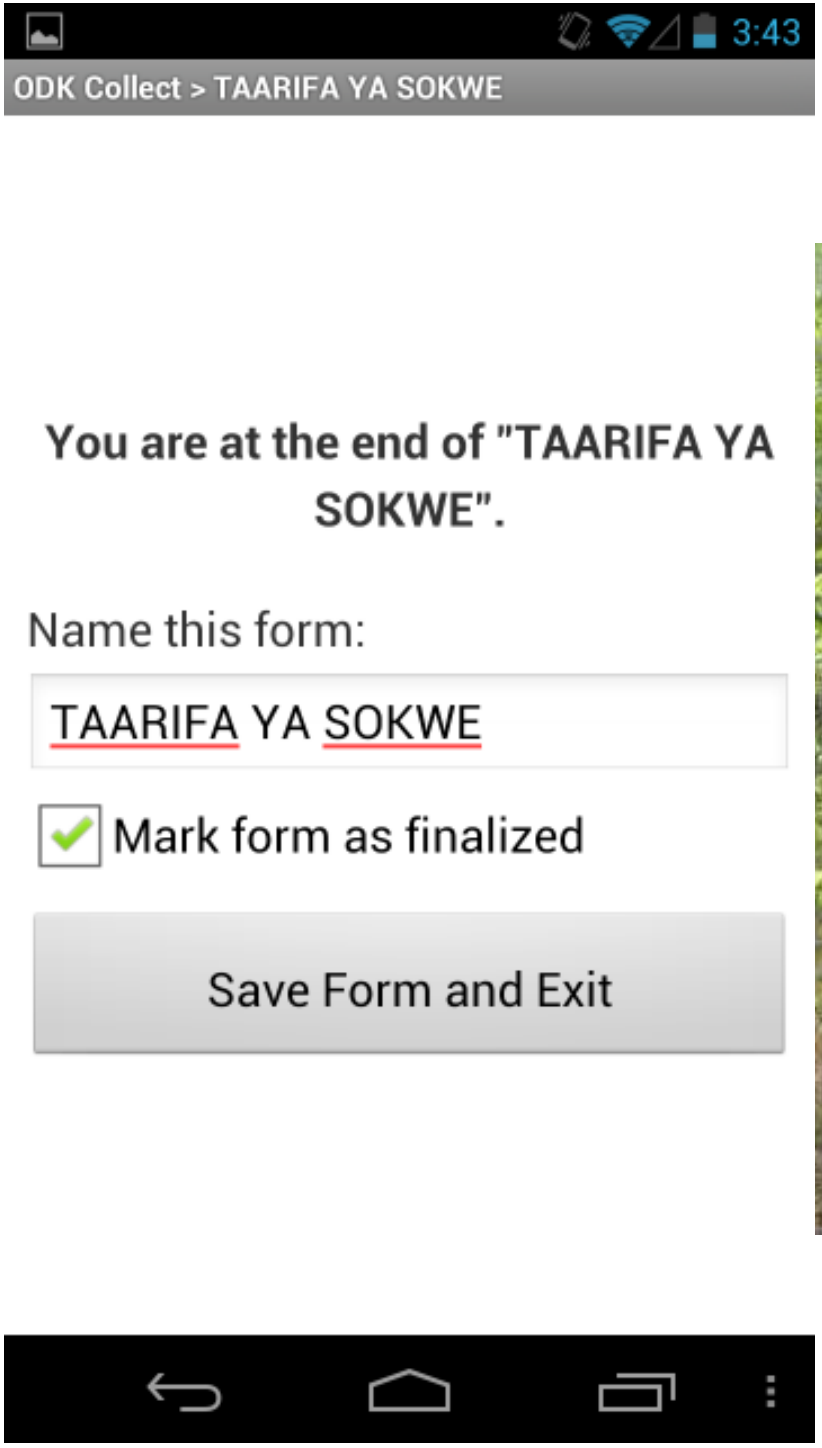
3:41

ODK Collect > TAARIFA YA SOKWE

Piga picha ya tukio maalum tu!

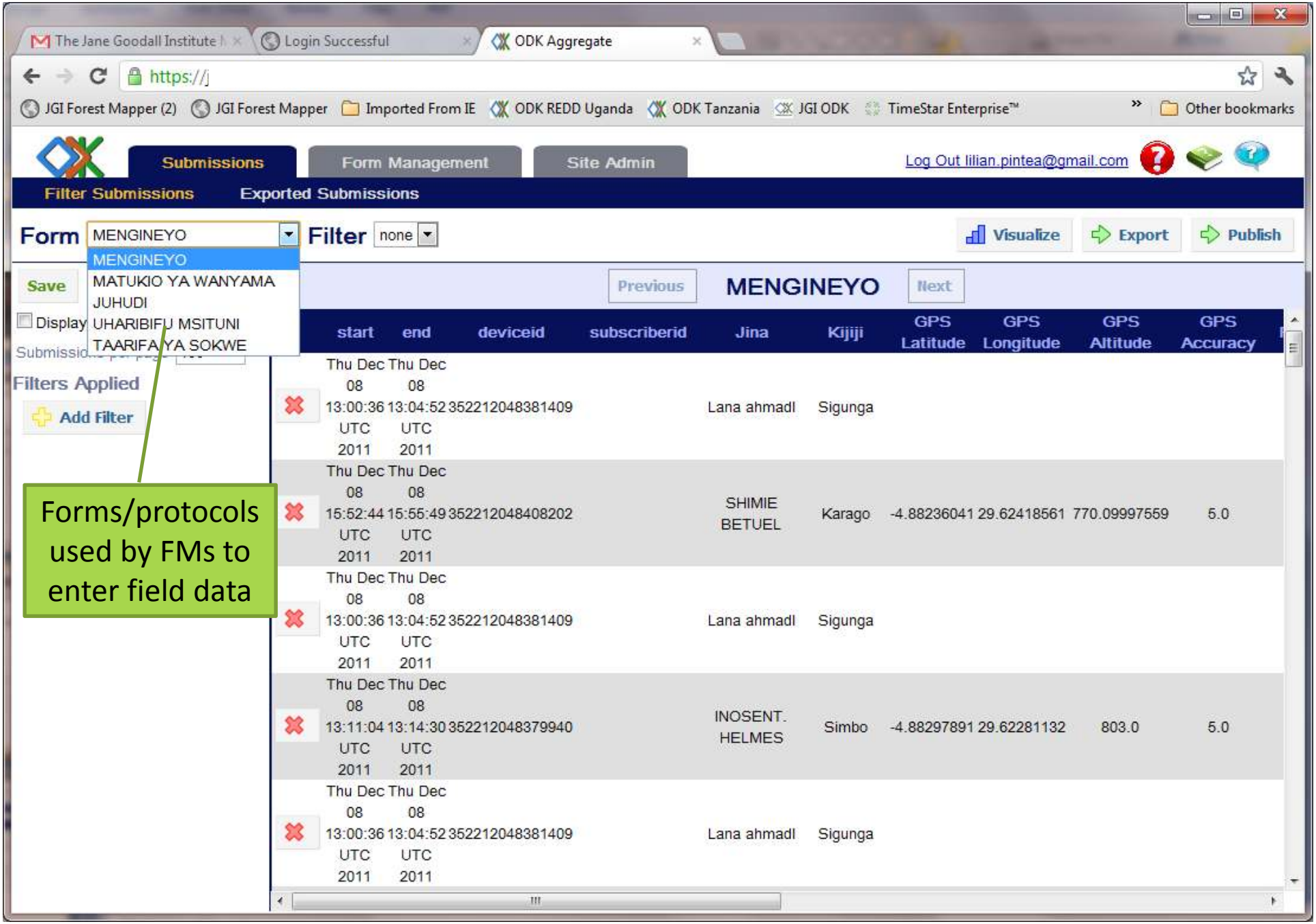
Take Picture

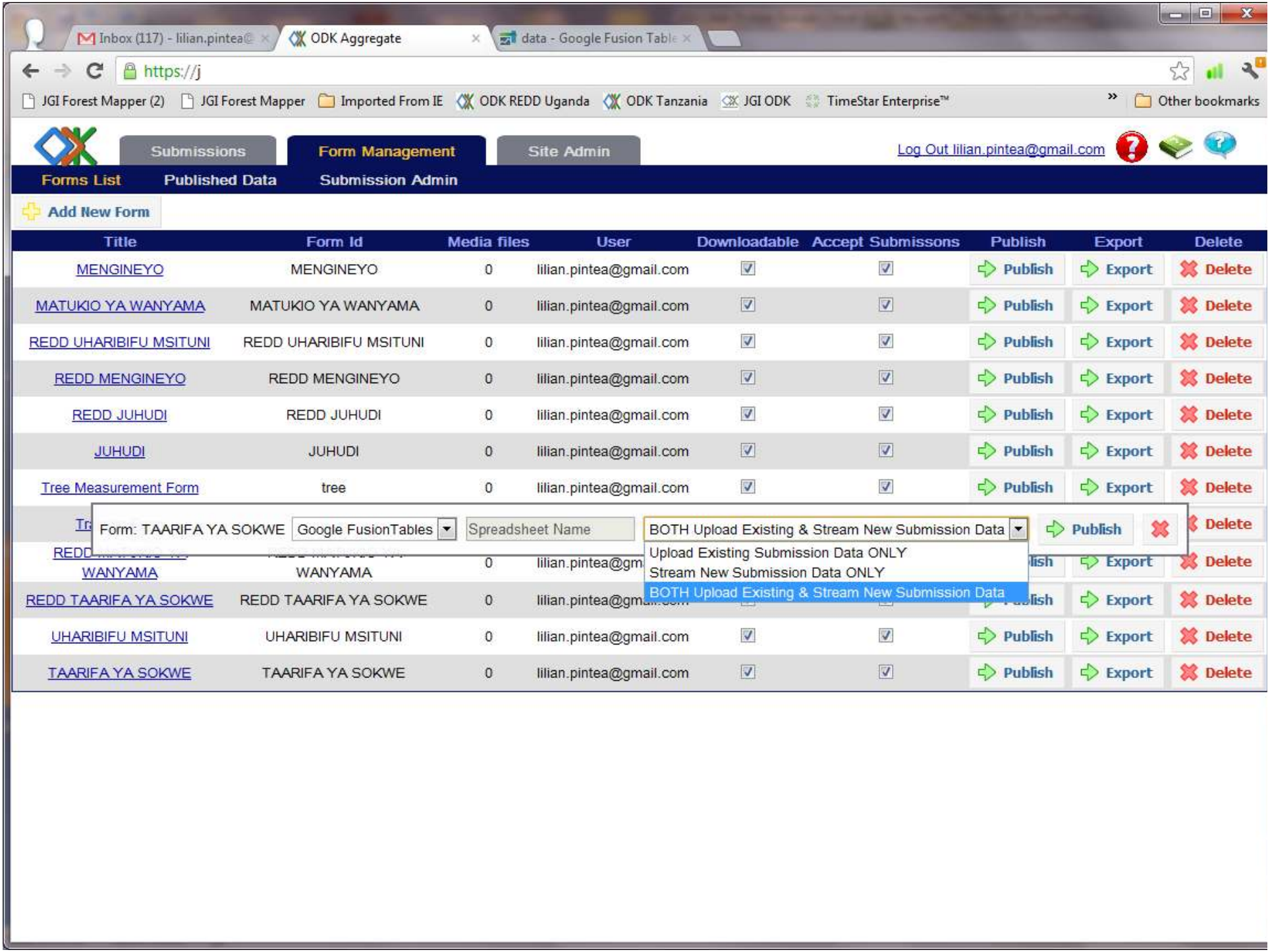
Choose Image

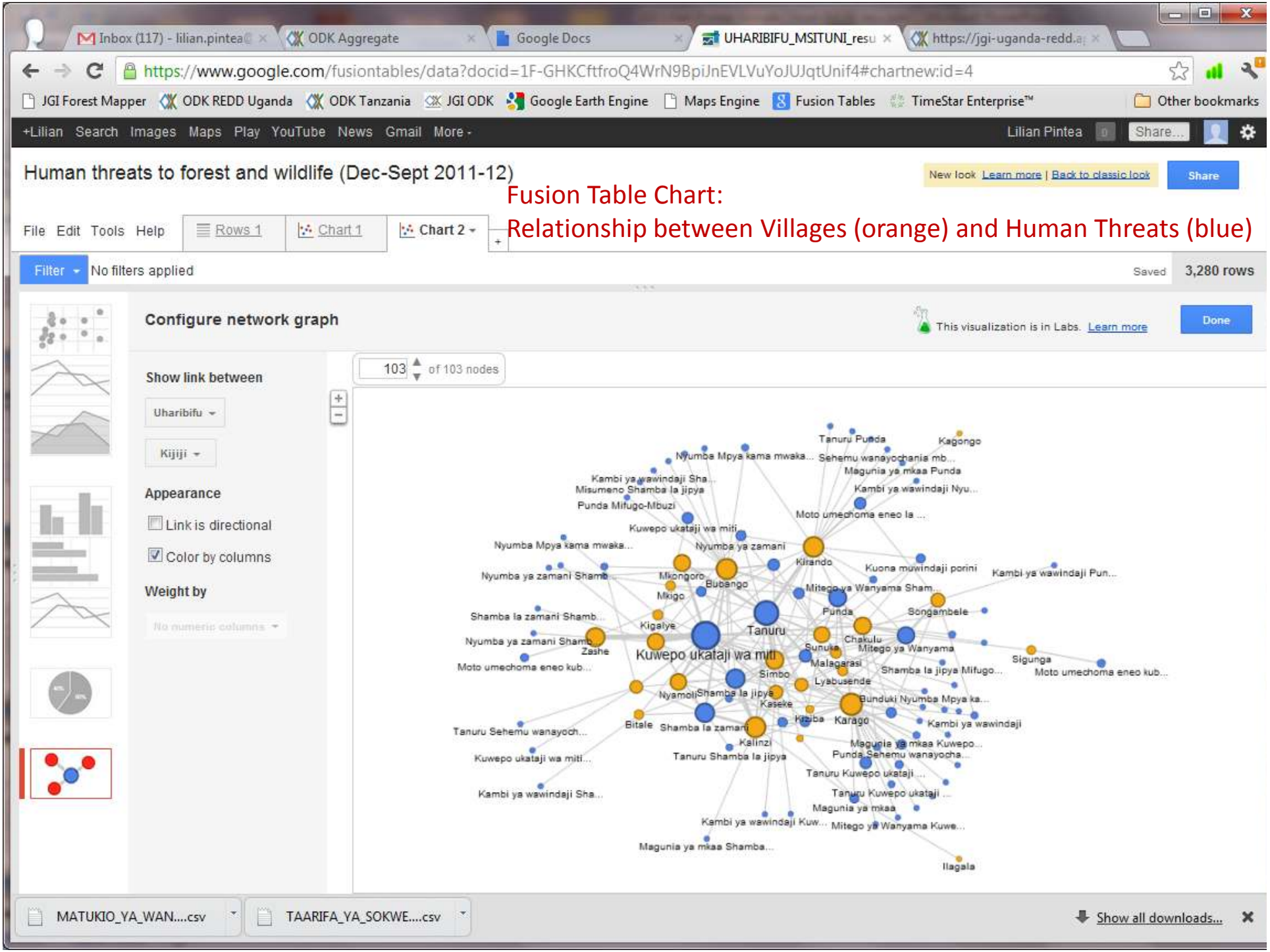

3:43
ODK Collect > TAARIFA YA SOKWE
You are at the end of "TAARIFA YA SOKWE".
Name this form:
TAARIFA YA SOKWE
Mark form as finalized
Save Form and Exit

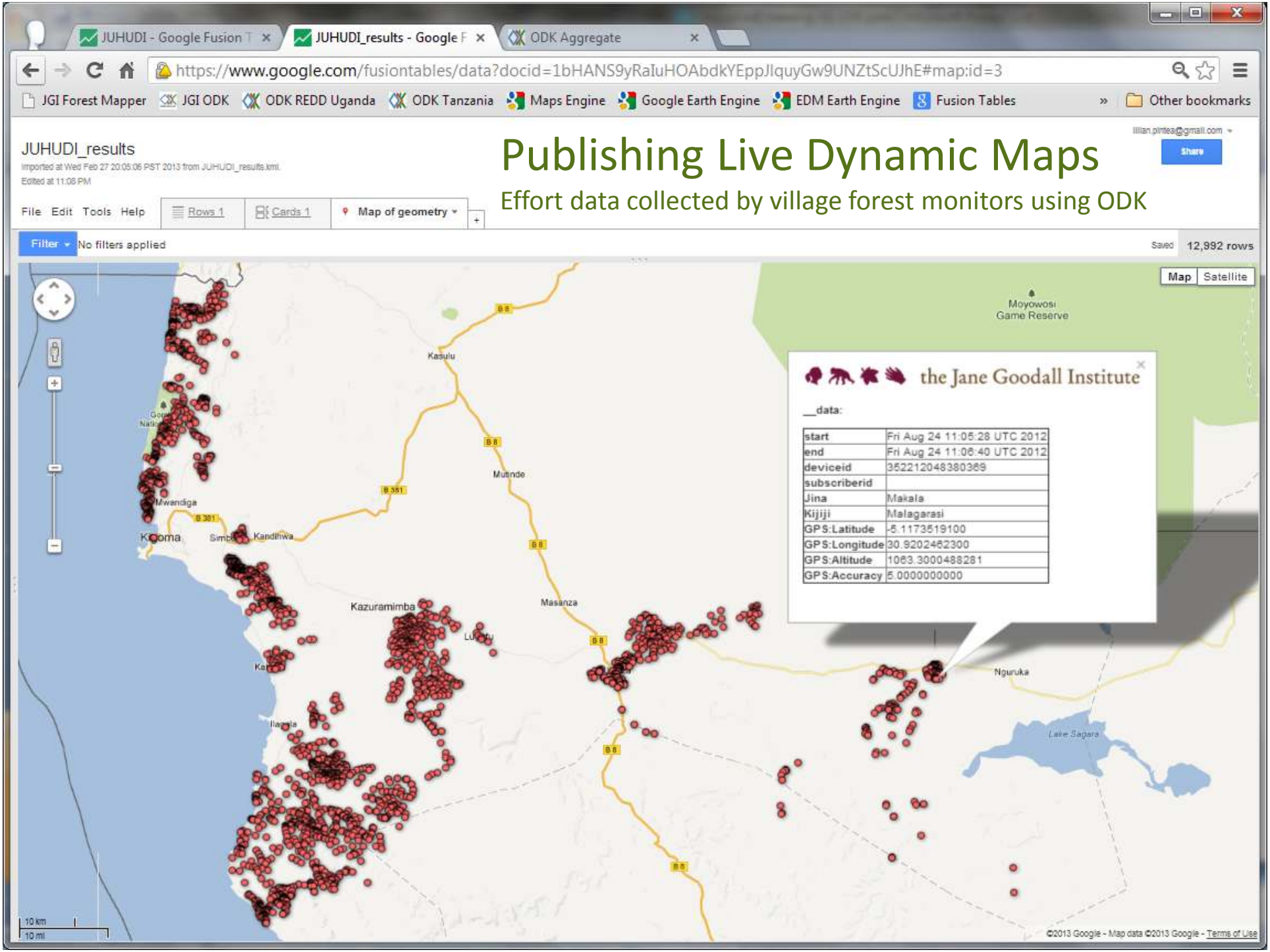
JGI’s GIS manager Jovin Lwehabura (right) is available if FMs need technical assistance

FM data are stored, managed and visualized in the Google cloud and analyzed in ArcGIS Esri




Inbox (117) - lilian.pintea@
ODK Aggregate
data - Google Fusion Table
https://j
JGI Forest Mapper (2)
JGI Forest Mapper
Imported From IE
ODK REDD Uganda
ODK Tanzania
JGI ODK
TimeStar Enterprise™
Other bookmarks
Submissions
Form Management
Site Admin
Log Out lilian.pintea@gmail.com
Forms List
Published Data
Submission Admin
Add New Form
Title
Form Id
Media files
User
Downloadable
Accept Submissons
Publish
Export
Delete
MENGINEYO
MENGINEYO
0
lilian.pintea@gmail.com
MATUKIO YA WANYAMA
MATUKIO YA WANYAMA
REDD UHARIBIFU MSITUNI
REDD UHARIBIFU MSITUNI
REDD MENGINEYO
REDD MENGINEYO
REDD JUHUDI
REDD JUHUDI
JUHUDI
JUHUDI
Tree Measurement Form
tree
Form: TAARIFA YA SOKWE
Google FusionTables
Spreadsheet Name
BOTH Upload Existing & Stream New Submission Data
Upload Existing Submission Data ONLY
Stream New Submission Data ONLY
BOTH Upload Existing & Stream New Submission Data
WANYAMA
REDD TAARIFA YA SOKWE
REDD TAARIFA YA SOKWE
UHARIBIFU MSITUNI
UHARIBIFU MSITUNI
TAARIFA YA SOKWE
TAARIFA YA SOKWE


Inbox (117) - lilian.pintea@
ODK Aggregate
Google Docs
UHARIBIFU_MSITUNI_resu
https://jgi-uganda-redd.a
https://www.google.com/fusiontables/data?docid=1F-GHKCftfroQ4WrN9BpiJnEVLVuYoJUJqtUnif4#chartnew:id=4
JGI Forest Mapper
ODK REDD Uganda
ODK Tanzania
JGI ODK
Google Earth Engine
Maps Engine
Fusion Tables
TimeStar Enterprise™
Other bookmarks
+Lilian Search Images Maps Play YouTube News Gmail More
Lilian Pintea
Share...
Human threats to forest and wildlife (Dec-Sept 2011-12)
New look Learn more | Back to classic look
Share
Fusion Table Chart:
Relationship between Villages (orange) and Human Threats (blue)
File Edit Tools Help
Rows 1
Chart 1
Chart 2
Filter
No filters applied
Saved
3,280 rows
Configure network graph
This visualization is in Labs. Learn more
Done
Show link between
Uharibifu
Kijiji
Appearance
Link is directional
Color by columns
Weight by
No numeric columns
103
of 103 nodes
Tanuru Punda
Kagongo
Nyumba Mpya kama mwaka...
Sehemu wanayochania mb...
Magunia ya mkaa Punda
Kambi ya wawindaji Sha...
Misumeno Shamba la jipya
Kambi ya wawindaji Nyu...
Punda Mifugo-Mbuzi
Moto umechoma eneo la ...
Kuwepo ukataji wa miti
Nyumba Mpya kama mwaka...
Nyumba ya zamani
Kirando
Nyumba ya zamani Shamb...
Mkongoro
Bubango
Kuona muwindaji porini
Kambi ya wawindaji Pun...
Mkigo
Mitego ya Wanyama Sham...
Shamba la zamani Shamb...
Punda
Songambele
Kigalye
Tanuru
Nyumba ya zamani Shamb...
Zashe
Kuwepo ukataji wa miti
Sunuka
Chakulu
Mitego ya Wanyama
Moto umechoma eneo kub...
Malagarasi
Sigunga
Shamba la jipya Mifugo...
Moto umechoma eneo kub...
Simbo
Lyabusende
Nyamoli
Shamba la jipya
Kaseke
Bunduki Nyumba Mpya ka...
Bitale
Shamba la zamani
Kiziba
Karago
Kambi ya wawindaji
Tanuru Sehemu wanayoch...
Kalinzi
Magunia ya mkaa Kuwepo...
Kuwepo ukataji wa miti...
Tanuru Shamba la jipya
Punda Sehemu wanayocha...
Tanuru Kuwepo ukataji ...
Kambi ya wawindaji Sha...
Tanuru Kuwepo ukataji ...
Magunia ya mkaa
Kambi ya wawindaji Kuw...
Mitego ya Wanyama Kuwe...
Magunia ya mkaa Shamba...
Ilagala
MATUKIO_YA_WAN....csv
TAARIFA_YA_SOKWE....csv
Show all downloads...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JUHUDI_results - Google F
ODK Aggregate
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JGI Forest Mapper
JGI ODK
ODK REDD Uganda
ODK Tanzania
Maps Engine
Google Earth Engine
EDM Earth Engine
Fusion Tables
Other bookmarks
JUHUDI_results
Publishing Live Dynamic Maps
Effort data collected by village forest monitors using ODK
File Edit Tools Help
Rows 1
Cards 1
Map of geometry
Filter
No filters applied
12,992 rows
Map
Satellite
Moyowosi Game Reserve
Kasulu
Mutinde
Mwandiga
Kibondo
Kandihwa
Kazuramimba
Masanza
Nguruka
Lake Sagara
the Jane Goodall Institute
__data:
start | Fri Aug 24 11:05:28 UTC 2012
end | Fri Aug 24 11:06:40 UTC 2012
deviceid | 352212048380369
subscriberid |
Jina | Makala
Kijiji | Malagarasi
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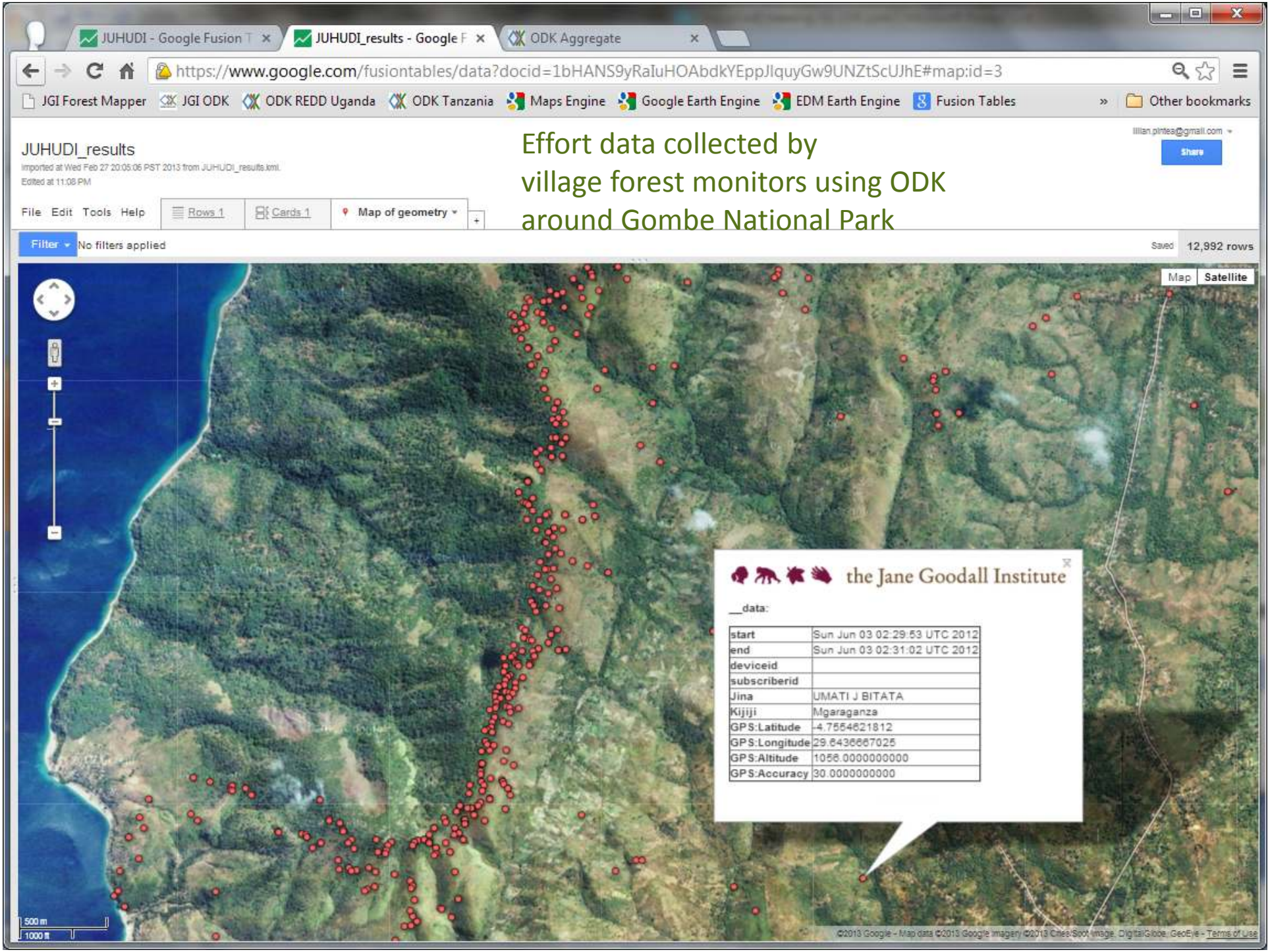
GPS:Longitude | 30.9202462300
GPS:Altitude | 1063.3000488281
GPS:Accuracy | 5.0000000000
10 km
10 mi
©2013 Google - Map data ©2013 Google - Terms of Use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JUHUDI_results - Google F
ODK Aggregate
https://www.google.com/fusiontables/data?docid=1bHANS9yRaIuHOAbdkYEppJlquyGw9UNZtScUJhE#map:id=3
JGI Forest Mapper
JGI ODK
ODK REDD Uganda
ODK Tanzania
Maps Engine
Google Earth Engine
EDM Earth Engine
Fusion Tables
Other bookmarks
JUHUDI_results
Imported at Wed Feb 27 20:05:06 PST 2013 from JUHUDI_results.kml.
Edited at 11:08 PM
File Edit Tools Help
Rows 1
Cards 1
Map of geometry
Share
Filter
No filters applied
Saved
12,992 rows
Map
Satellite
Effort data collected by
village forest monitors using ODK
around Gombe National Park
the Jane Goodall Institute
__data:
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Sun Jun 03 02:29:53 UTC 2012
end
Sun Jun 03 02:31:02 UTC 2012
deviceid
subscriberid
Jina
UMATI J BITATA
Kijiji
Mgaraganza
GPS:Latitude
-4.7554621812
GPS:Longitude
29.6436667025
GPS:Altitude
1056.0000000000
GPS:Accuracy
30.0000000000
500 m
1000 ft
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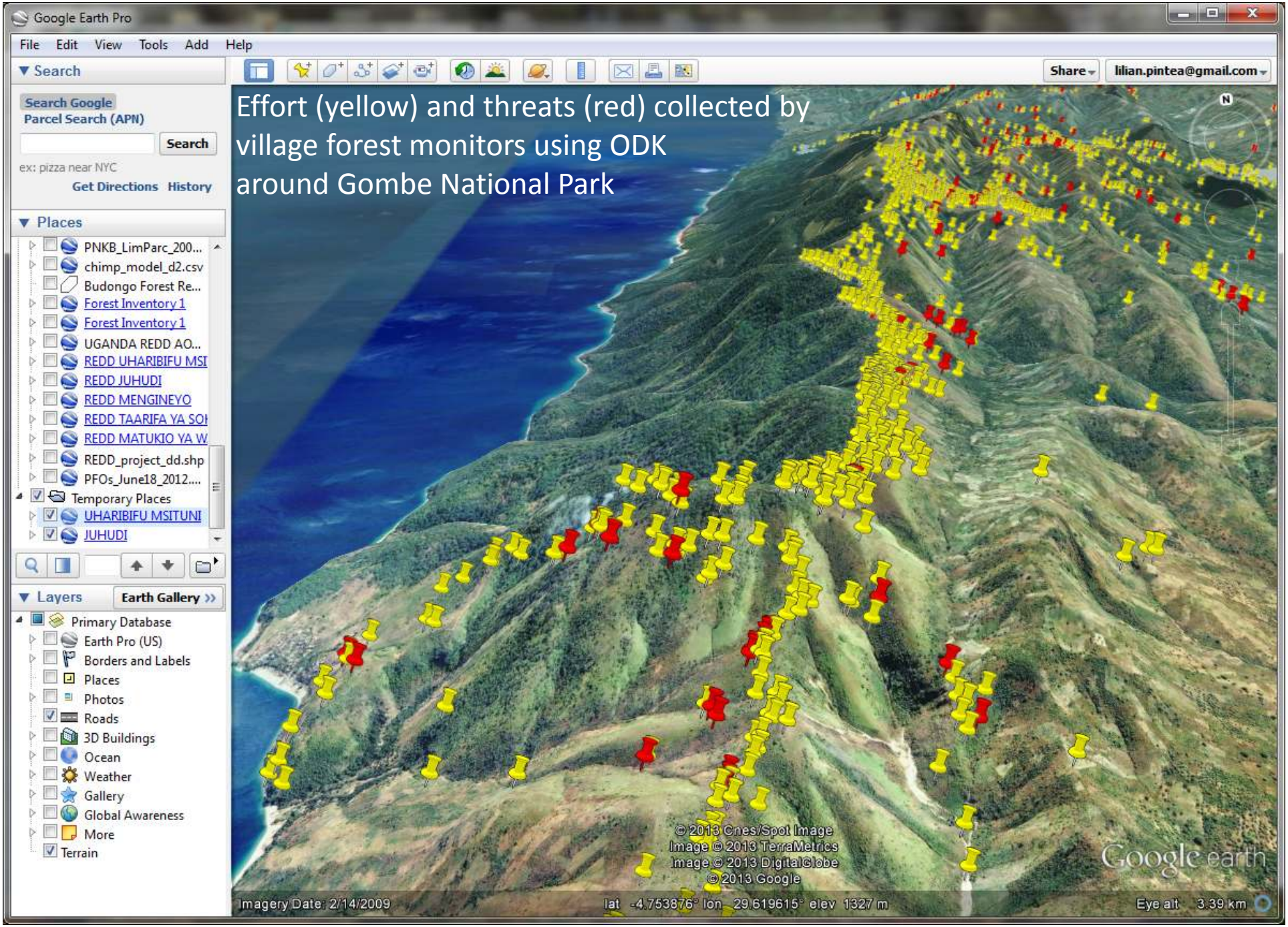
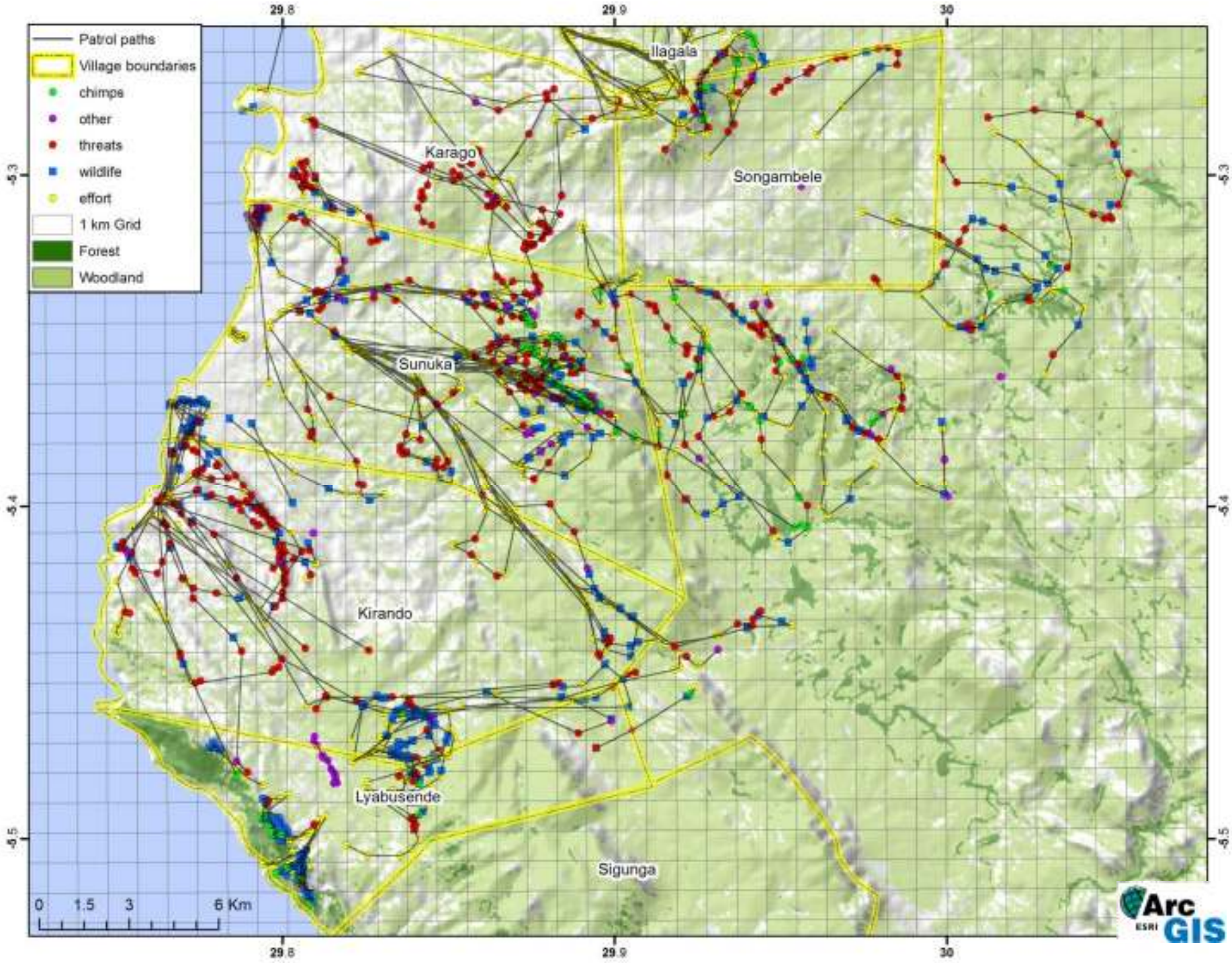
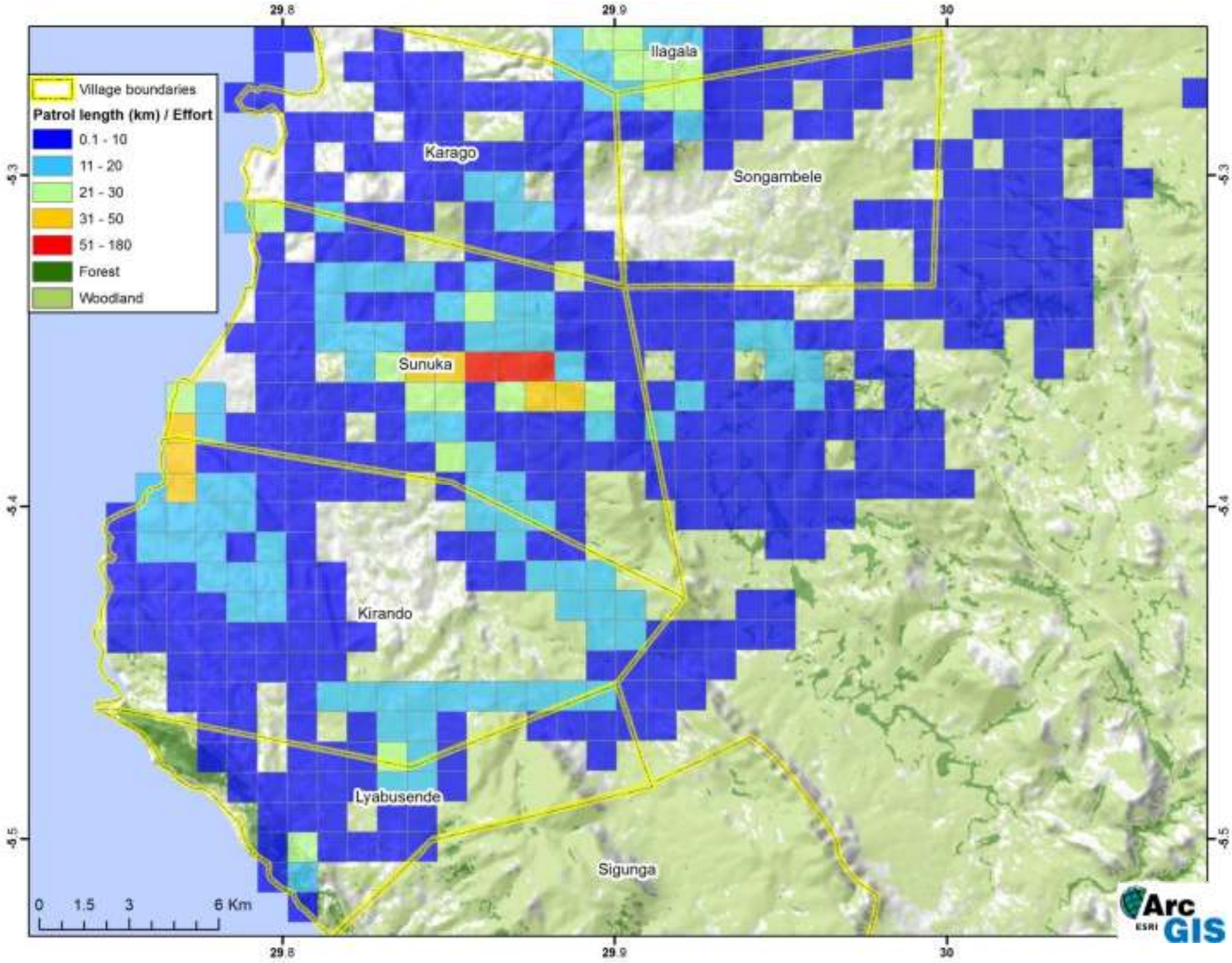
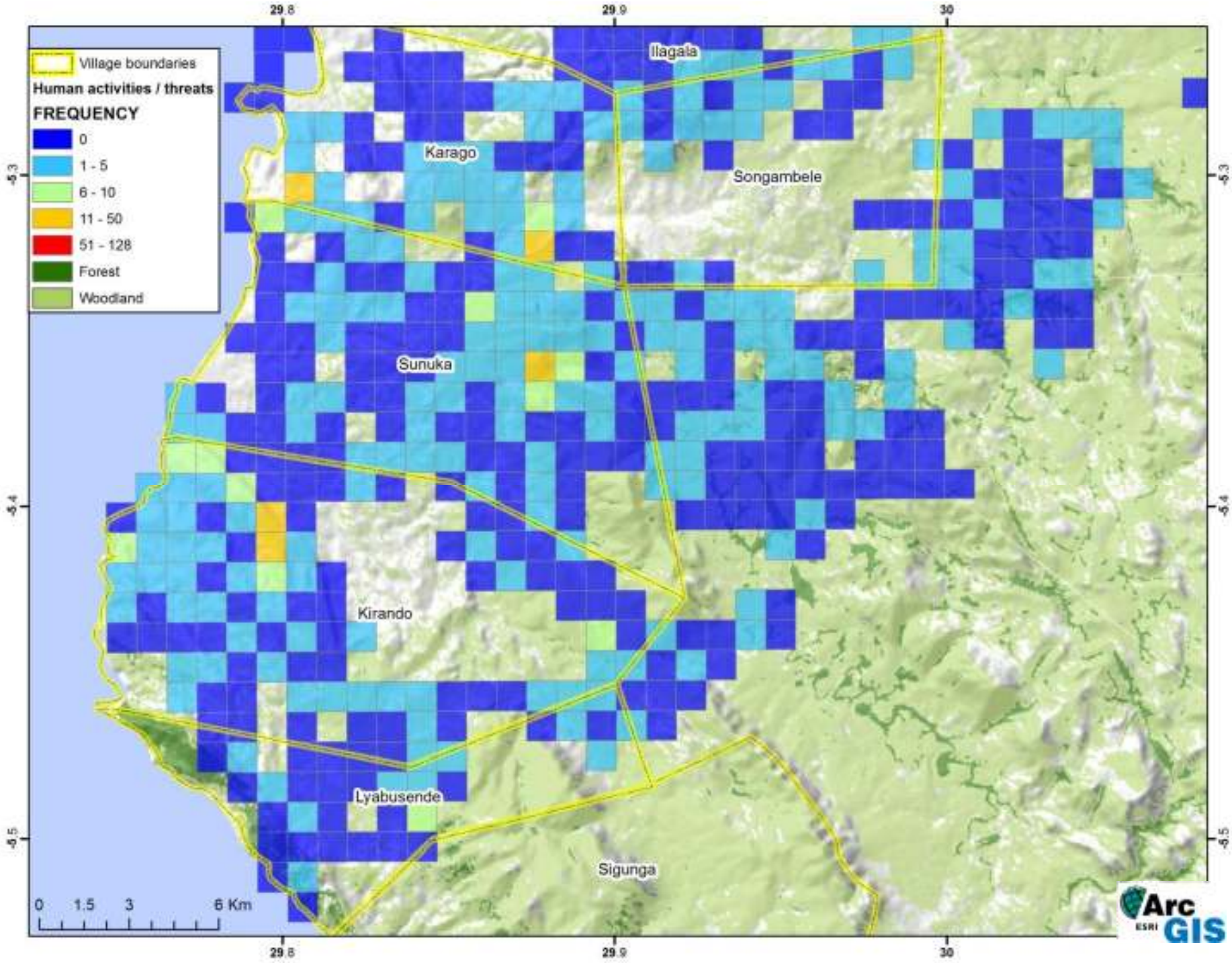

Google Earth Pro
File Edit View Tools Add Help
Search
Search Google
Parcel Search (APN)
Search
ex: pizza near NYC
Get Directions History
Places
PNKB_LimParc_200...
chimp_model_d2.csv
Budongo Forest Re...
Forest Inventory 1
Forest Inventory 1
UGANDA REDD AO...
REDD UHARIBIFU MSI
REDD JUHUDI
REDD MENGINEYO
REDD TAARIFA YA SOI
REDD MATUKIO YA W
REDD_project_dd.shp
PFOs_June18_2012....
Temporary Places
UHARIBIFU MSITUNI
JUHUDI
Layers
Earth Gallery
Primary Database
Earth Pro (US)
Borders and Labels
Places
Photos
Roads
3D Buildings
Ocean
Weather
Gallery
Global Awareness
More
Terrain
Share
lilian.pintea@gmail.com
Effort (yellow) and threats (red) collected by village forest monitors using ODK around Gombe National Park
© 2013 Cnes/Spot Image
Image © 2013 TerraMetrics
Image © 2013 DigitalGlobe
© 2013 Google
Google earth
Imagery Date: 2/14/2009
lat -4.753876° lon 29.619615° elev 1327 m
Eye alt 3.39 km

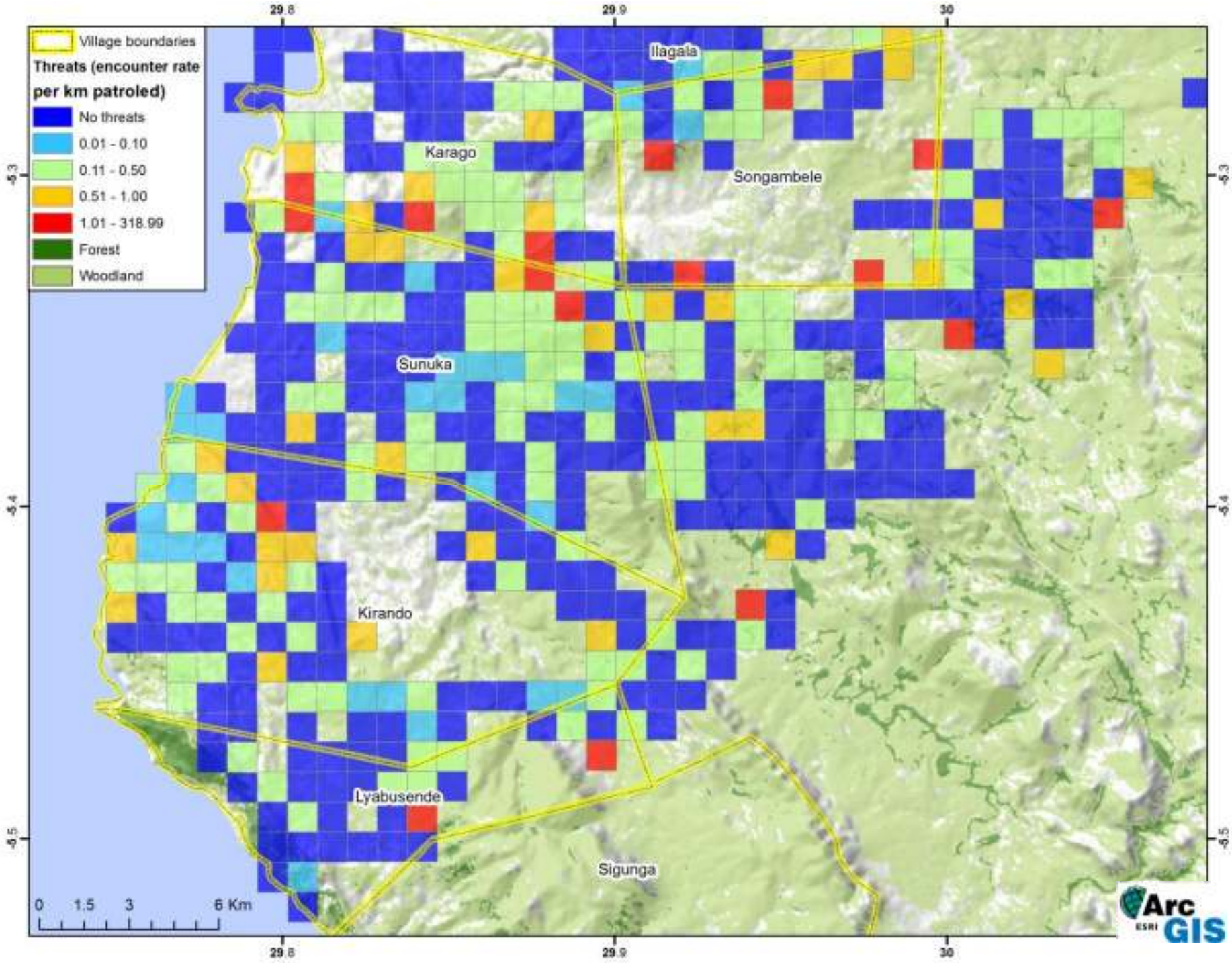
Data Analysis

- Export in CSV
- Microsoft Excel (edit, clean)
- Esri ArcGIS desktop / GDB format
  - Clean (e.g. remove duplicates)
  - Create unique line patrol paths IDs (village name – month-day-year)
  - ODK data and patrol paths with 1 km grid
  - Calculate encounter rates for each 1 km grid (frequency of observations / sum of km patrolled)
  - Produce maps


Patrol paths
Village boundaries
chimps
other
threats
wildlife
effort
1 km Grid
Forest
Woodland
29.8
29.9
30
-5.3
-5.4
-5.5
Ilagala
Karago
Songambele
Sunuka
Kirando
Lyabusende
Sigunga
0
1.5
3
6 Km
ESRI
ArcGIS

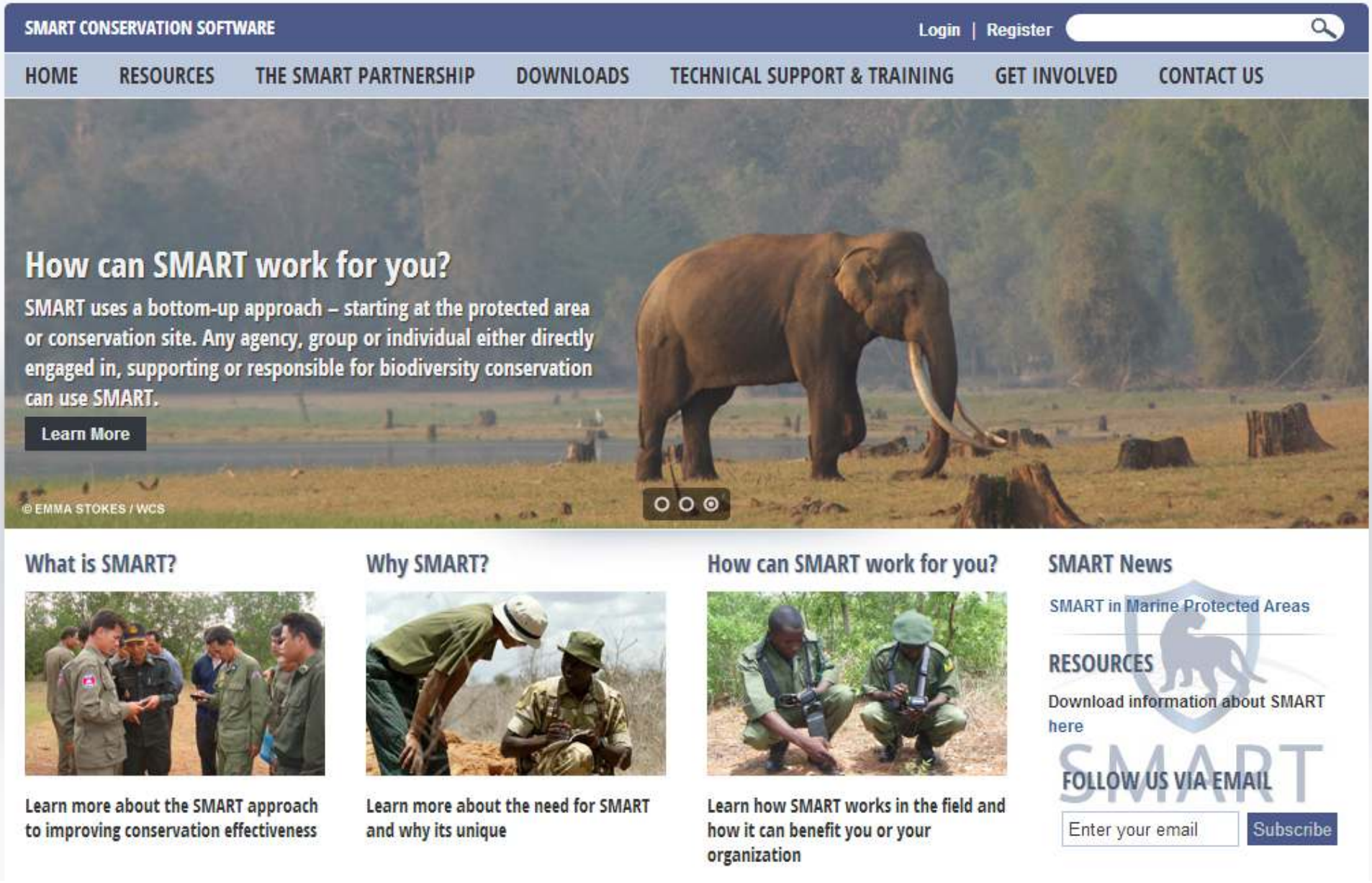

Village boundaries
Patrol length (km) / Effort
0.1 - 10
11 - 20
21 - 30
31 - 50
51 - 180
Forest
Woodland
Ilagala
Karago
Songambele
Sunuka
Kirando
Lyabusende
Sigunga
29.8
29.9
30
-5.3
-5.4
-5.5
0 1.5 3 6 Km
ArcGIS ESRI


Village boundaries
Human activities / threats
FREQUENCY
0
1 - 5
6 - 10
11 - 50
51 - 128
Forest
Woodland
Ilagala
Karago
Songambele
Sunuka
Kirando
Lyabusende
Sigunga
29.8
29.9
30
-5.3
-5.4
-5.5
0 1.5 3 6 Km
ESRI ArcGIS


Village boundaries
Threats (encounter rate per km patroled)
No threats
0.01 - 0.10
0.11 - 0.50
0.51 - 1.00
1.01 - 318.99
Forest
Woodland
Ilagala
Karago
Songambele
Sunuka
Kirando
Lyabusende
Sigunga
0 1.5 3 6 Km
29.8
29.9
30
-5.3
-5.4
-5.5
ArcGIS ESRI

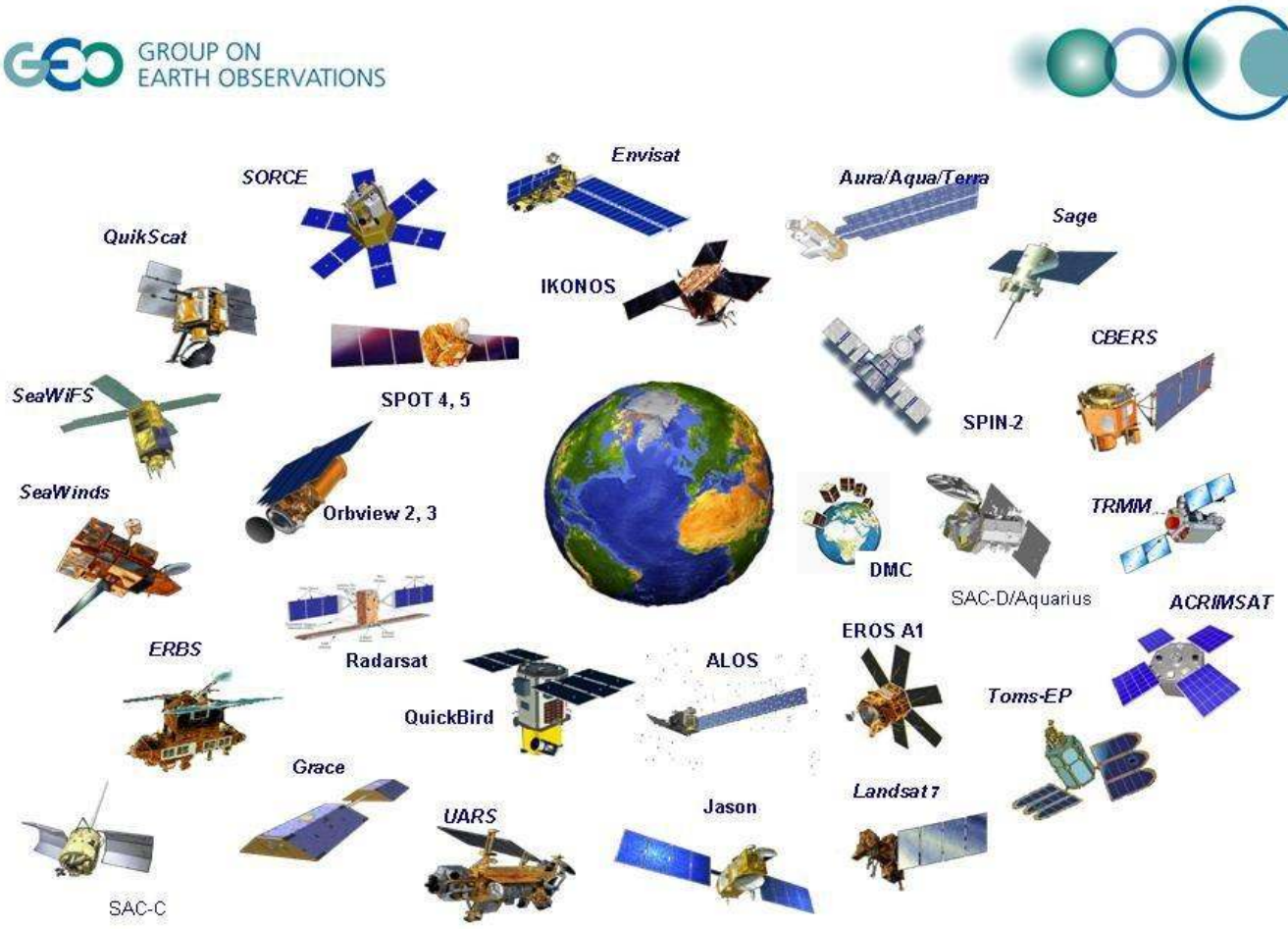
ABCG Activity: Integrating ODK with SMART in Tchimpounga Nature Reserve, Republic of Congo

http://www.smartconservationsoftware.org/



Minimizing the costs of technology use

- A variety of satellites collect data at different temporal, spatial and spectral resolutions



Source: David Thau, Google

Traditional Satellite Data Processing

Source: David Thau, Google

Cloud Based Approach

THE CLOUD

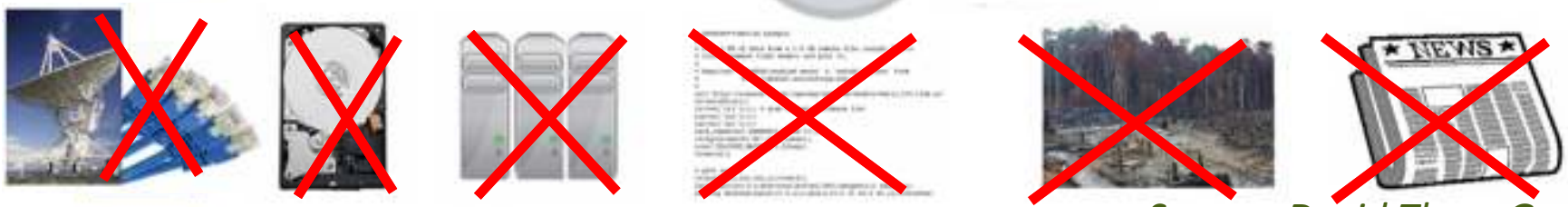
Data Archive

Computers

Algorithms

Data Collection

Data Publishing



Source: David Thau, Google

http://earthengine.google.org/

Google

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Earth Engine

Home | Data Catalog | Workspace

A planetary-scale platform for environmental data & analysis

Google Earth Engine brings together the world's satellite imagery — trillions of scientific measurements dating back almost 40 years — and makes it available online with tools for scientists, independent researchers, and nations to mine this massive warehouse of data to detect changes, map trends and quantify differences on the Earth's surface. Applications include: detecting deforestation, classifying land cover, estimating forest biomass and carbon, and mapping the world's roadless areas.

To learn more, view product videos and the Featured Gallery (below). Or visit the Data Catalog to explore our archive of satellite imagery. Certain features (such as data download) are restricted to members of our trusted tester program.

New! Congratulations to the Landsat program on 40 years of continuous Earth observation! Learn more...

Earth Engine API

Develop, access and run algorithms on the full Earth Engine data archive, all using Google's parallel processing platform.

The Earth Engine API is currently available as a limited release to a small group of partners. If you are interested in developing on the Earth Engine platform, let us know.

Featured gallery

We have precomputed a number of interesting datasets using the Earth Engine platform, below. Click on each to learn more and preview the data as a global time-lapse or as a layer in a Google Earth client.

Growth of Las Vegas: Timelapse
Interactive Landsat timelapse of urban expansion and water resources in the Nevada desert.

Amazon Deforestation: Timelapse
Interactive Landsat timelapse of deforestation of the Amazon rainforest, 1999-2011.

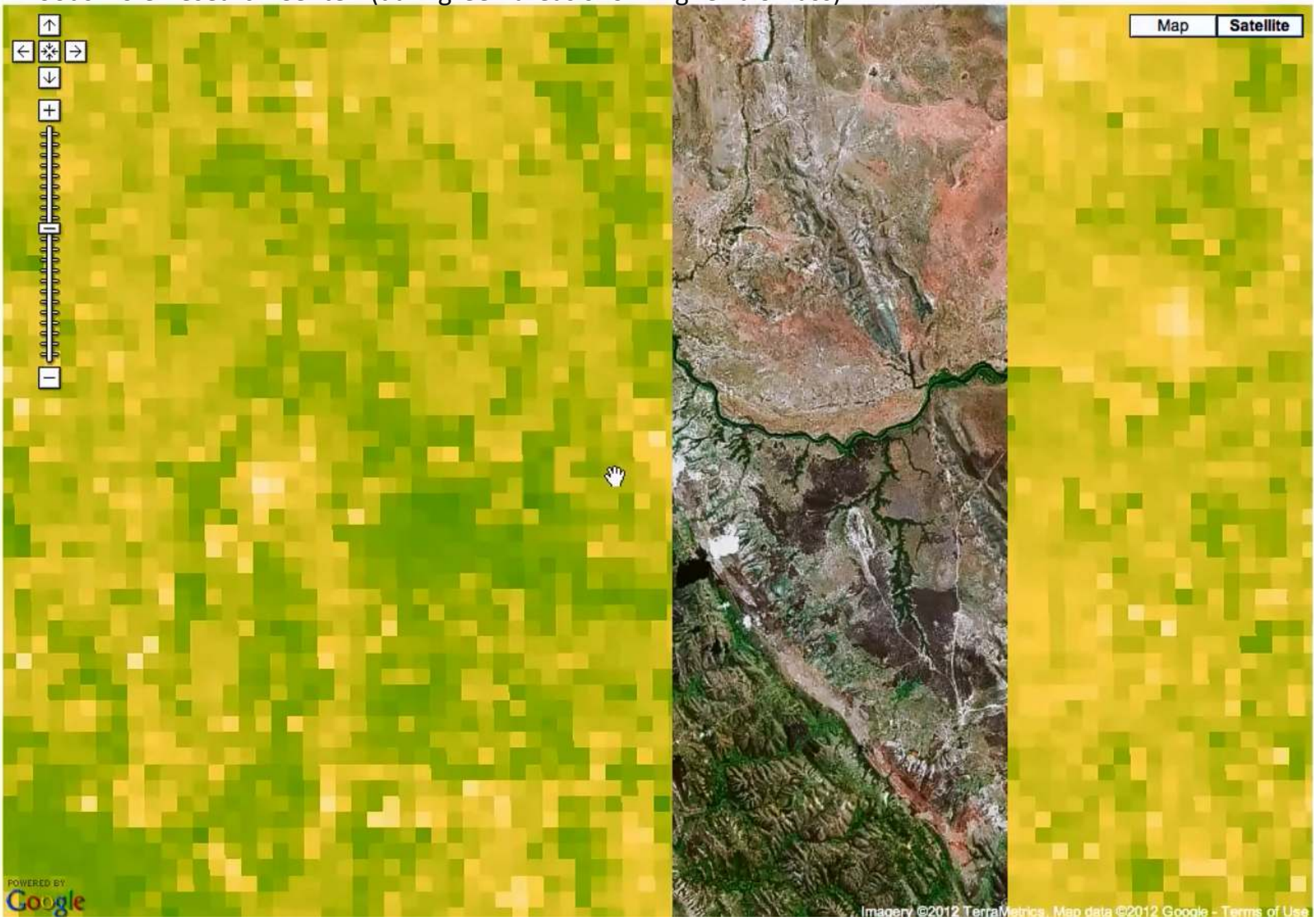
Drying of the Aral Sea: Timelapse
Interactive Landsat timelapse of the drying of the Aral Sea

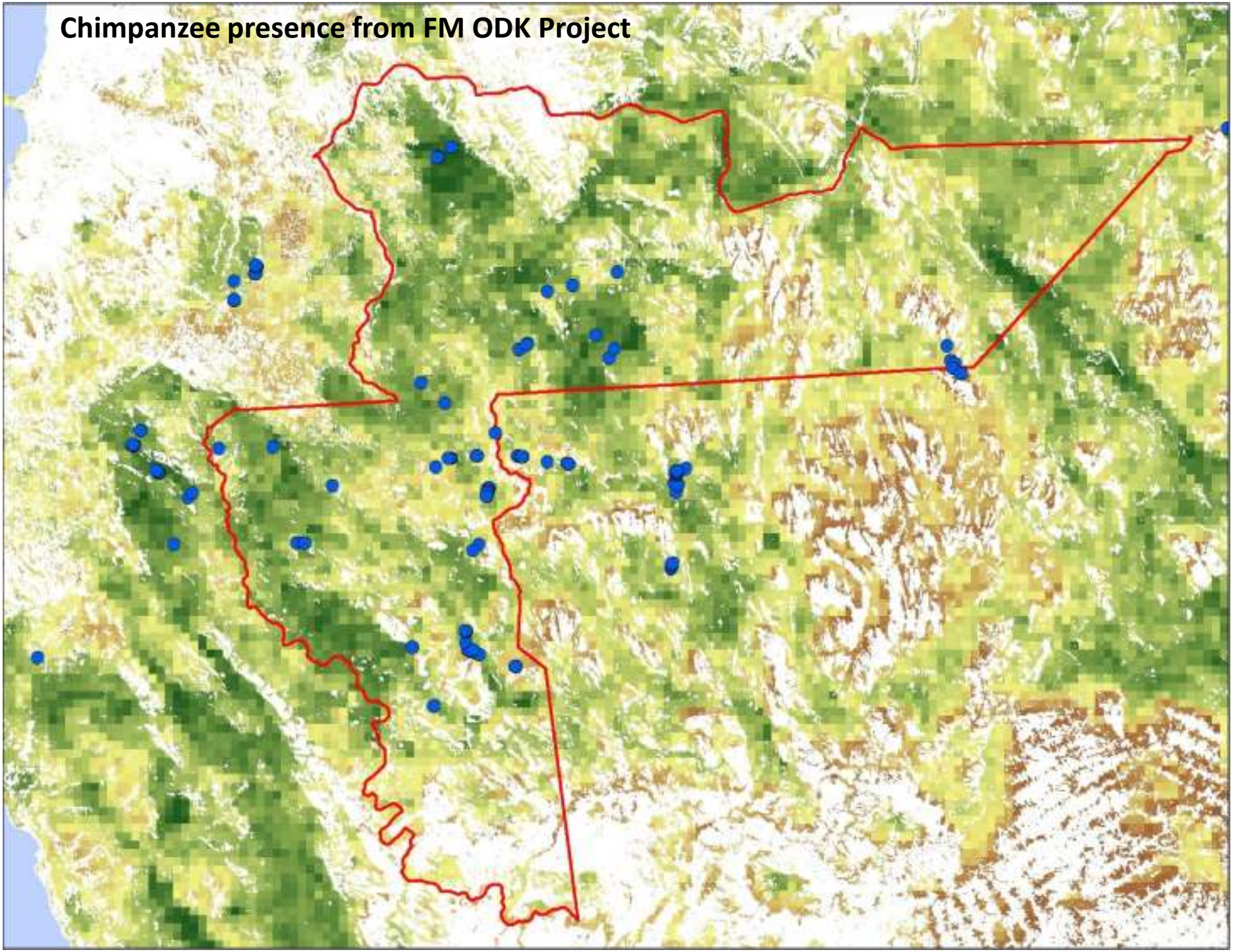
Seasonal Earth Timelapse
Interactive, MODIS timelapse of the planet. Weekly composites make seasonal dynamics visible.

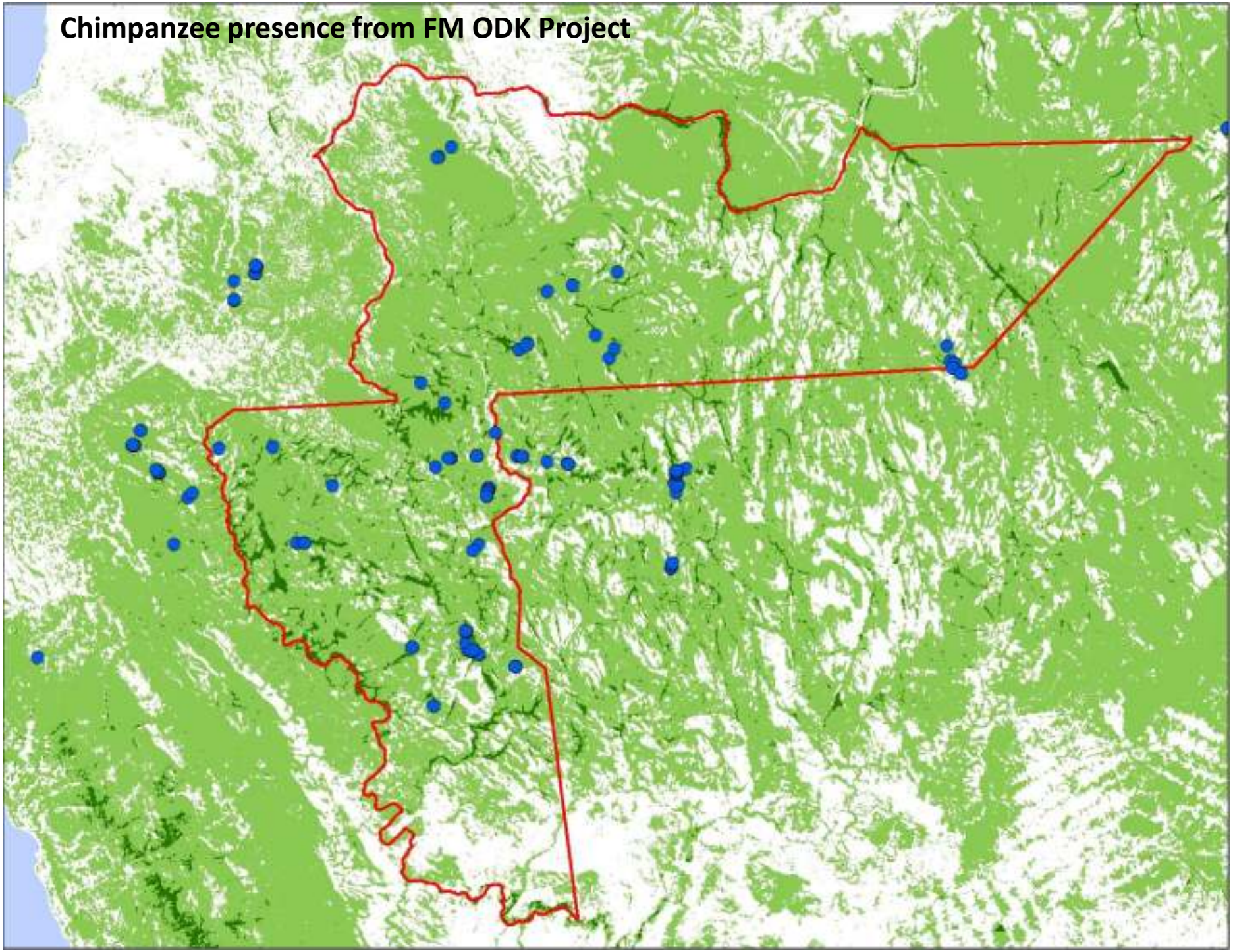
Global Roadless Areas: 1 km buffer
All areas of land more than one (1) kilometer from the nearest road, rail or navigable waterway.

Global Roadless Areas: 10 km buffer
All areas of land more than ten (10) kilometers from the nearest road, rail or navigable waterway.

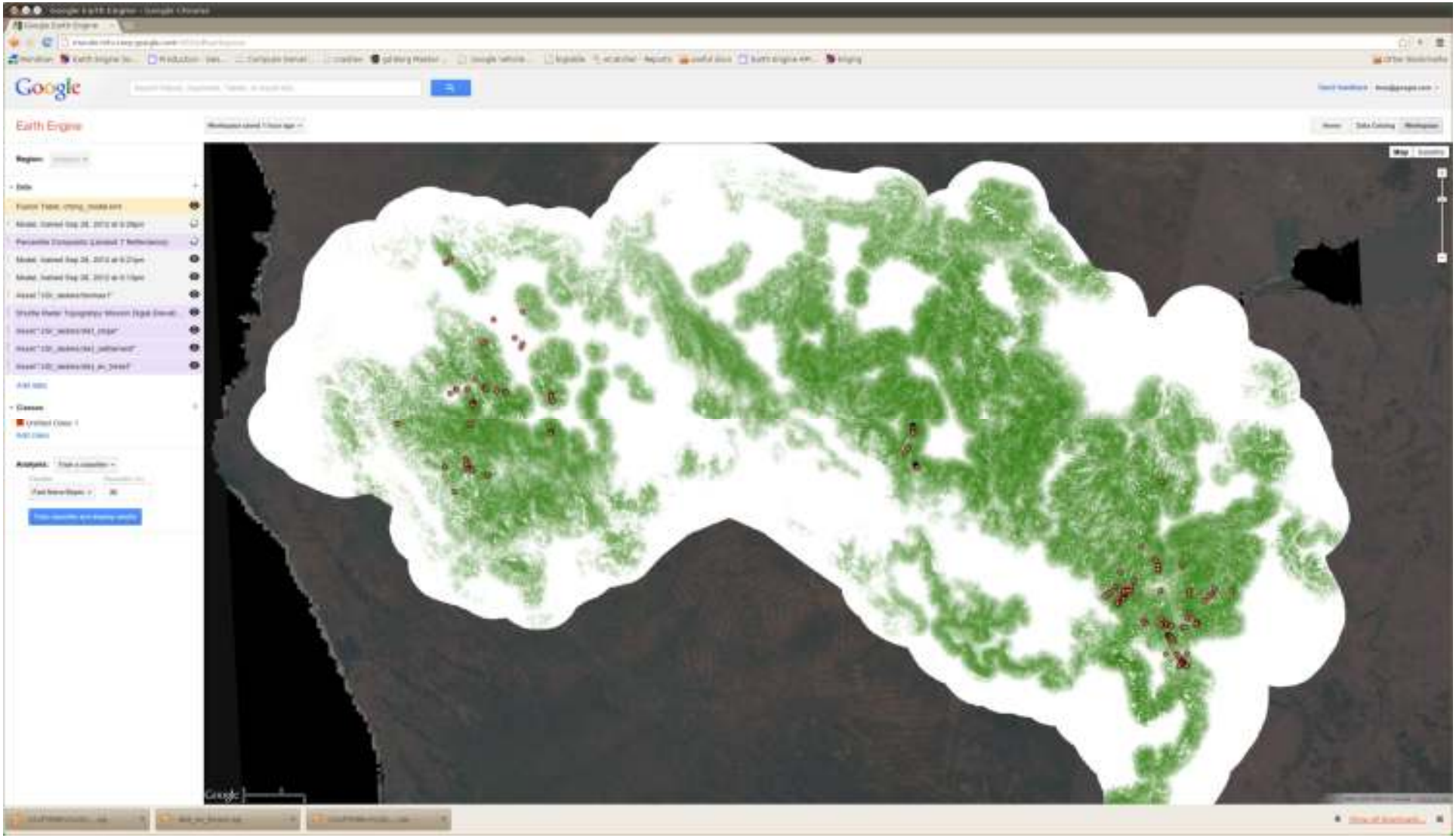
Biomass values calculated dynamically in Google Earth Engine using Baccini et all, 2012 Biomass Model, Woods Hole Research Center (dark green areas show higher biomass)



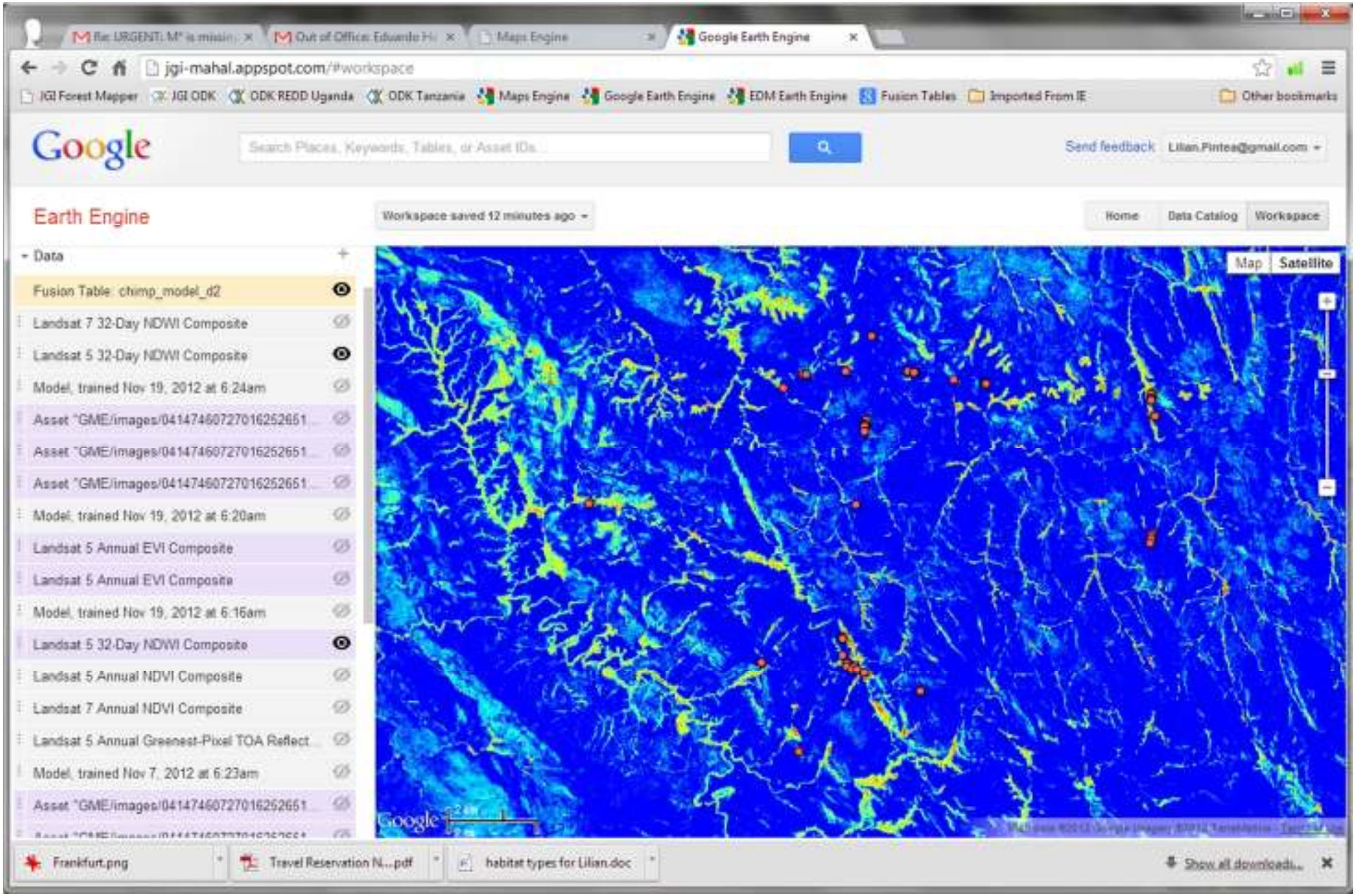

Chimpanzee presence from FM ODK Project


Chimpanzee presence from FM ODK Project

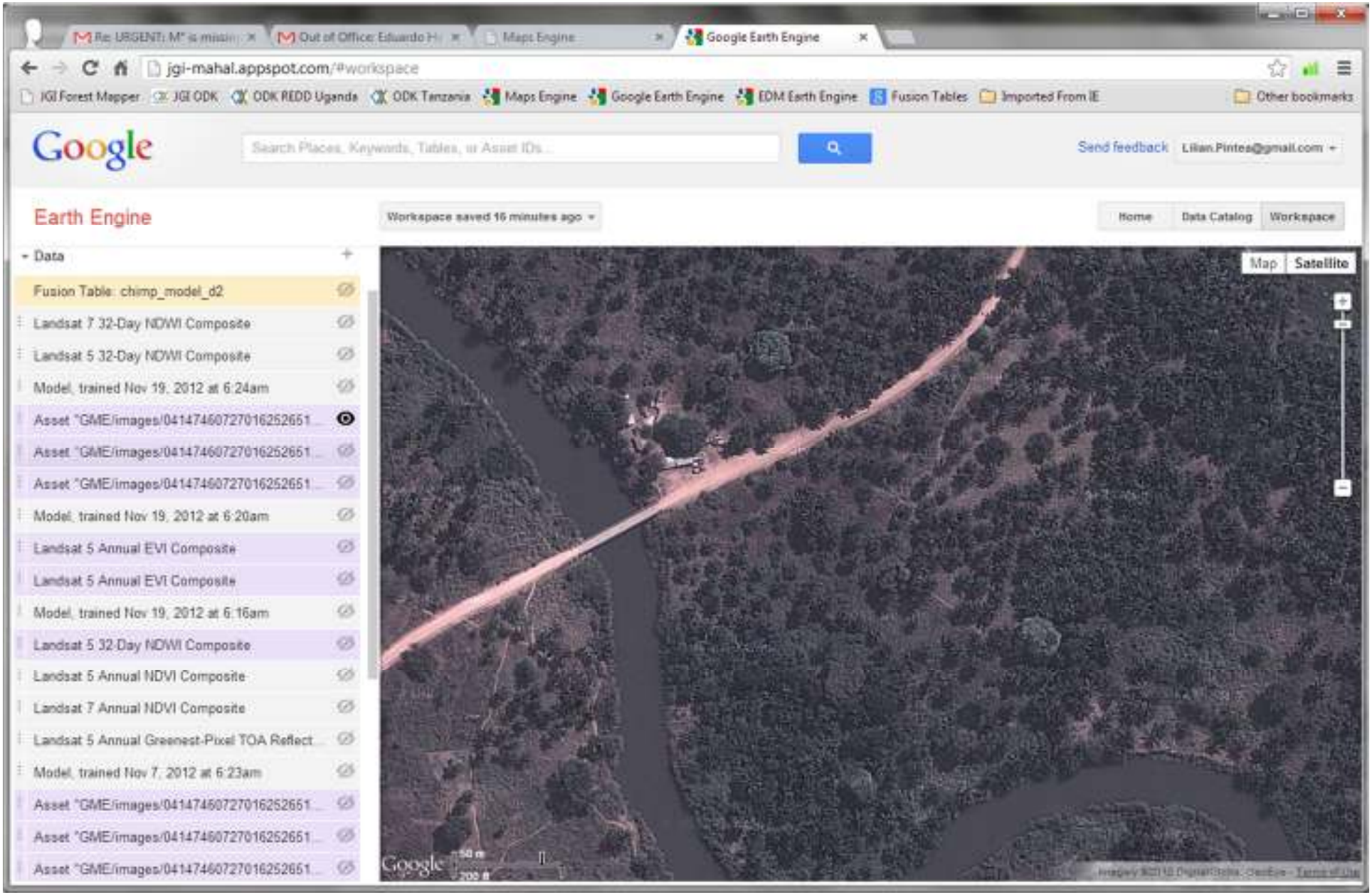
Chimpanzee Distribution Modeling in Google Earth Engine cloud:
Refined potential chimpanzee nesting habitats using 2 years of Landsat satellite data

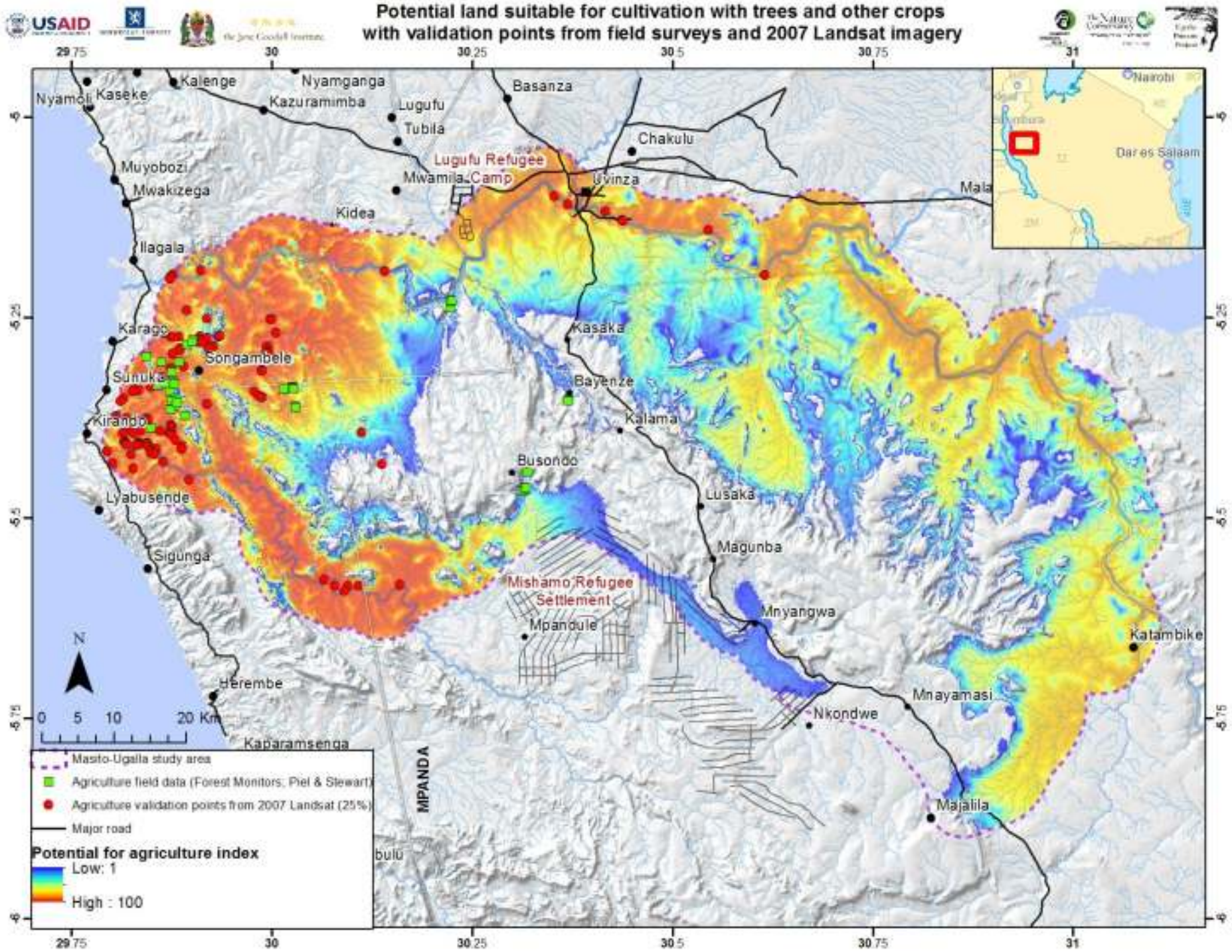


Screenshots of mahalanobis distance modeling workspace in Earth Engine. Note chimpanzee nests overlay over NDWI composites from Landsat satellite imagery

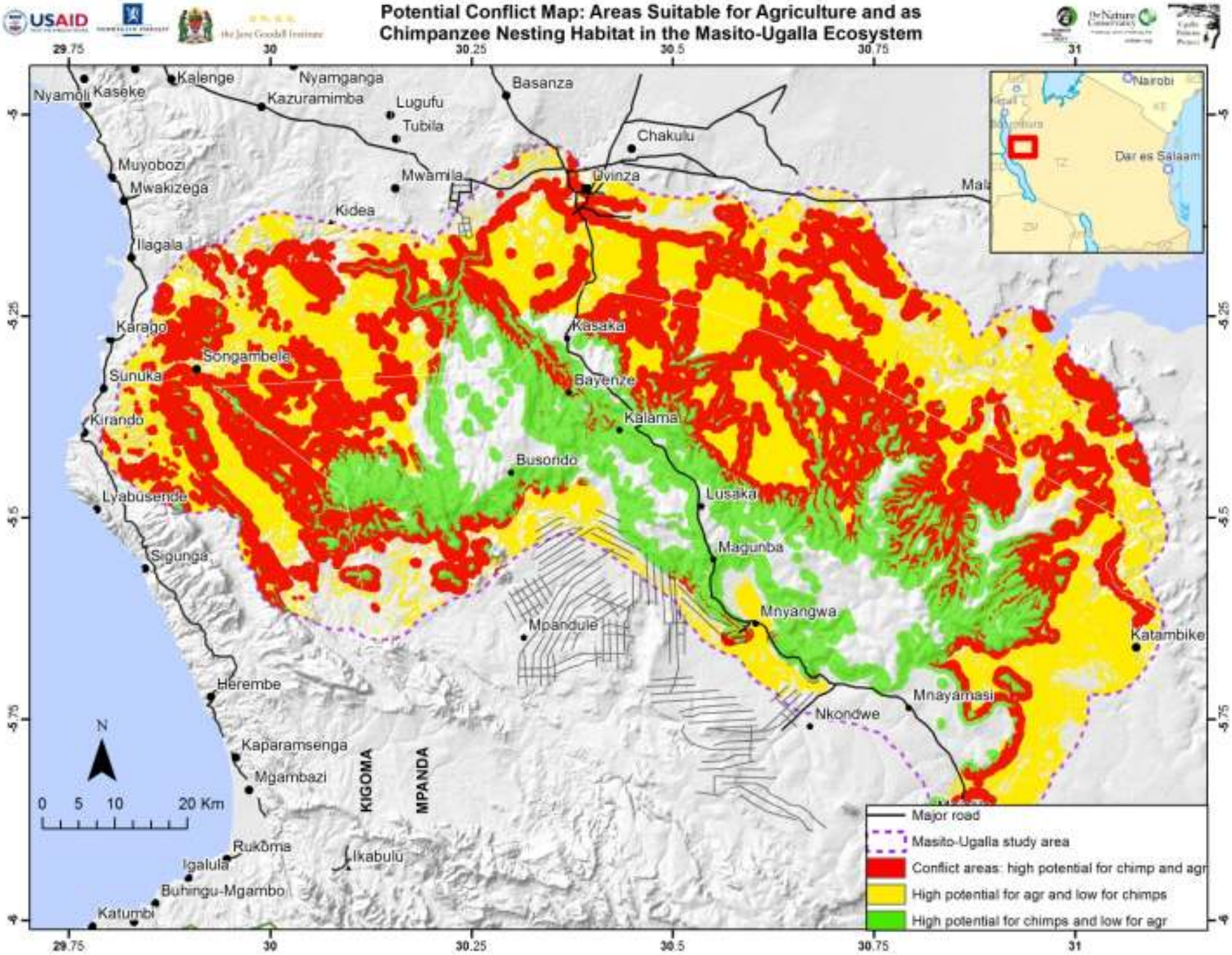


Screenshots of mahalanobis distance modeling workspace in Earth Engine. Note oil palms on the high resolution imagery

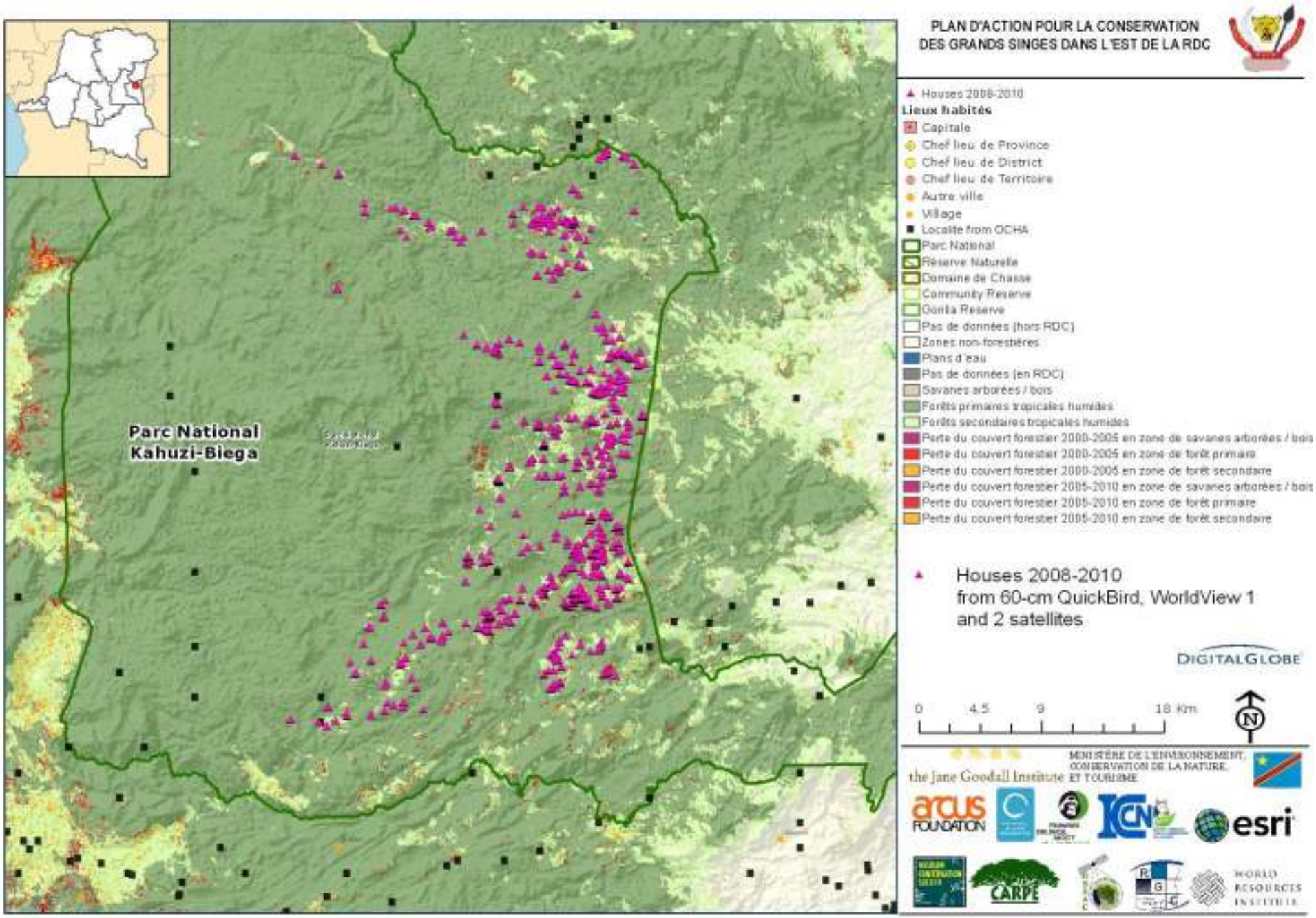



Potential land suitable for cultivation with trees and other crops
with validation points from field surveys and 2007 Landsat imagery
USAID
29.75
30
30.25
30.5
30.75
31
-5
-5.25
-5.5
-5.75
-6
Nyamoli
Kaseke
Kalenge
Nyamganga
Kazuramimba
Lugufu
Tubila
Basanza
Chakulu
Lugufu Refugee
Mwamila Camp
Uvinza
Muyobozi
Mwakizega
Kidea
Ilagala
Karago
Songambele
Sunuka
Kirando
Kasaka
Bayenze
Kalama
Busondo
Lyabusende
Sigunga
Lusaka
Magunba
Mishamo Refugee
Settlement
Mpandule
Mnyangwa
Katambike
Herembe
Mnayamasi
Nkondwe
Kaparamsenga
MPANDA
Majalila
bulu
Nairobi
Dar es Salaam
N
0 5 10 20 Km
Masito-Ugalla study area
Agriculture field data (Forest Monitors, Piel & Stewart)
Agriculture validation points from 2007 Landsat (25%)
Major road
Potential for agriculture index
Low: 1
High : 100

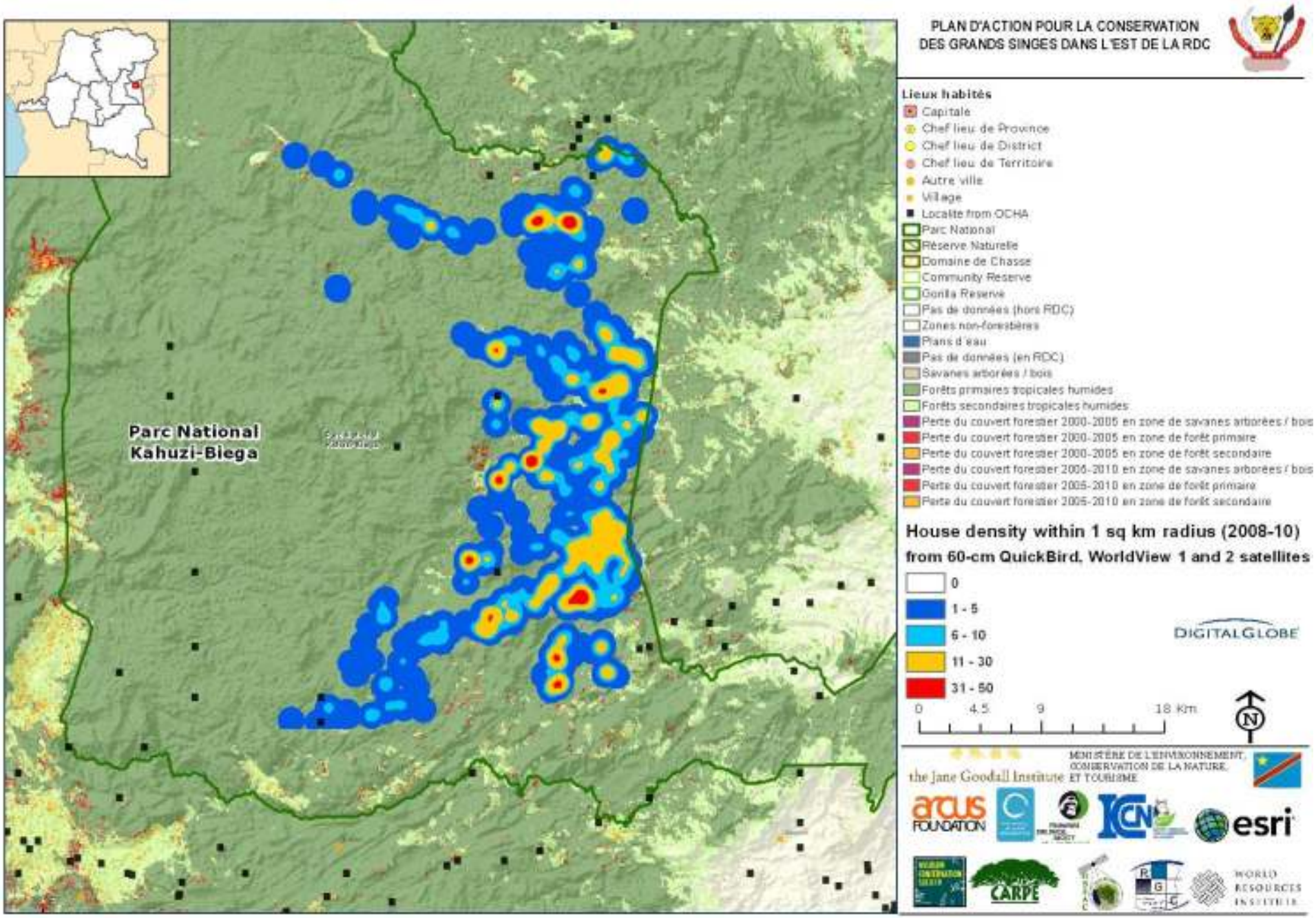
Potential Conflict Map: Areas Suitable for Agriculture and as Chimpanzee Nesting Habitat in the Masito-Ugalla Ecosystem

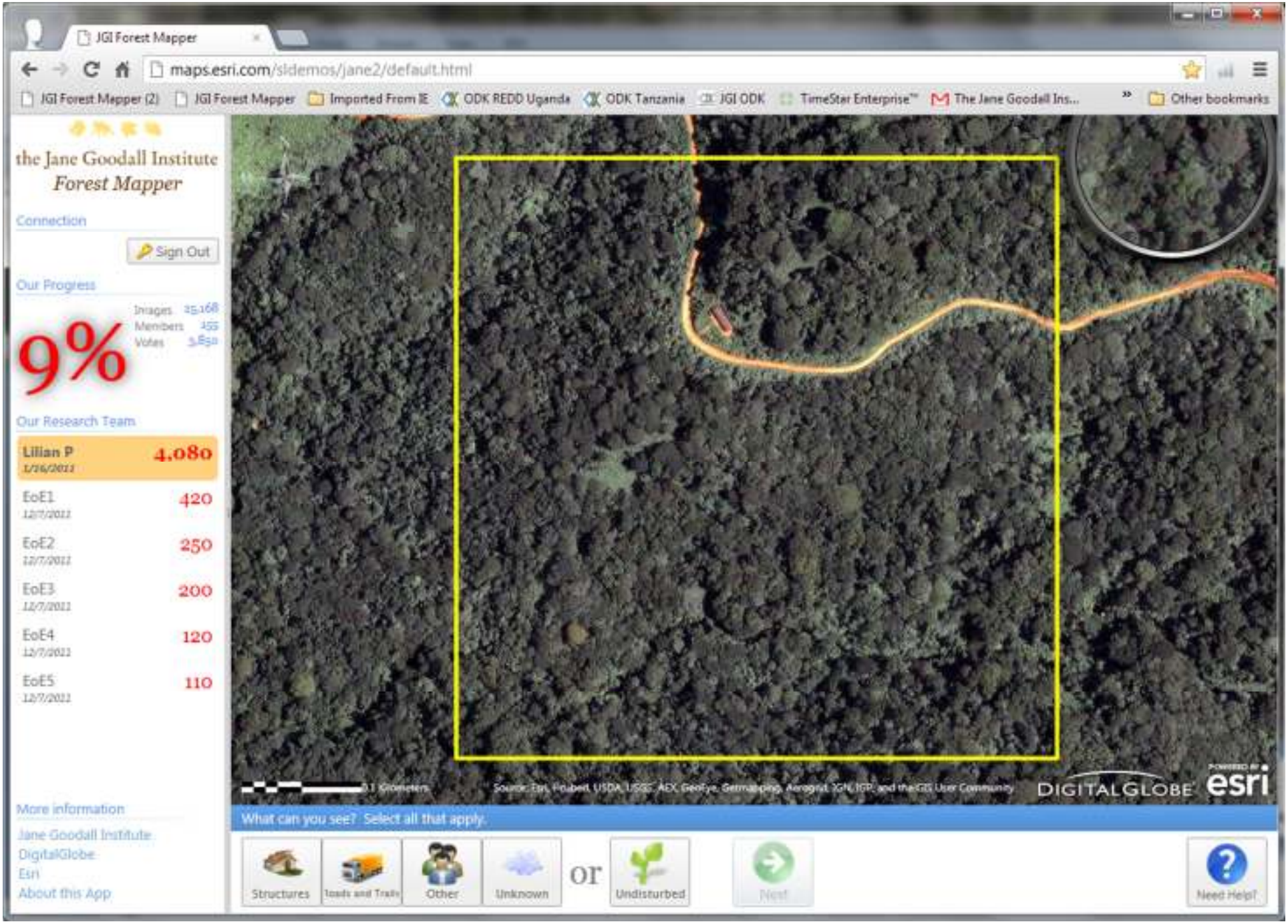


More than 5000 houses inside eastern Kahuzi Biega NP, from 60-cm satellite images (2008-2010)



House density in Kahuzi Biega NP, from 60-cm satellite images from Digital Globe (2008-2010)




JGI Forest Mapper
maps.esri.com/sidemos/jane2/default.html
JGI Forest Mapper (2)
JGI Forest Mapper
Imported From IE
ODK REDD Uganda
ODK Tanzania
JGI ODK
TimeStar Enterprise™
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Other bookmarks
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Forest Mapper
Connection
Sign Out
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Our Research Team
Lilian P 4,080
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EoE1 420
12/7/2011
EoE2 250
12/7/2011
EoE3 200
12/7/2011
EoE4 120
12/7/2011
EoE5 110
12/7/2011
More information
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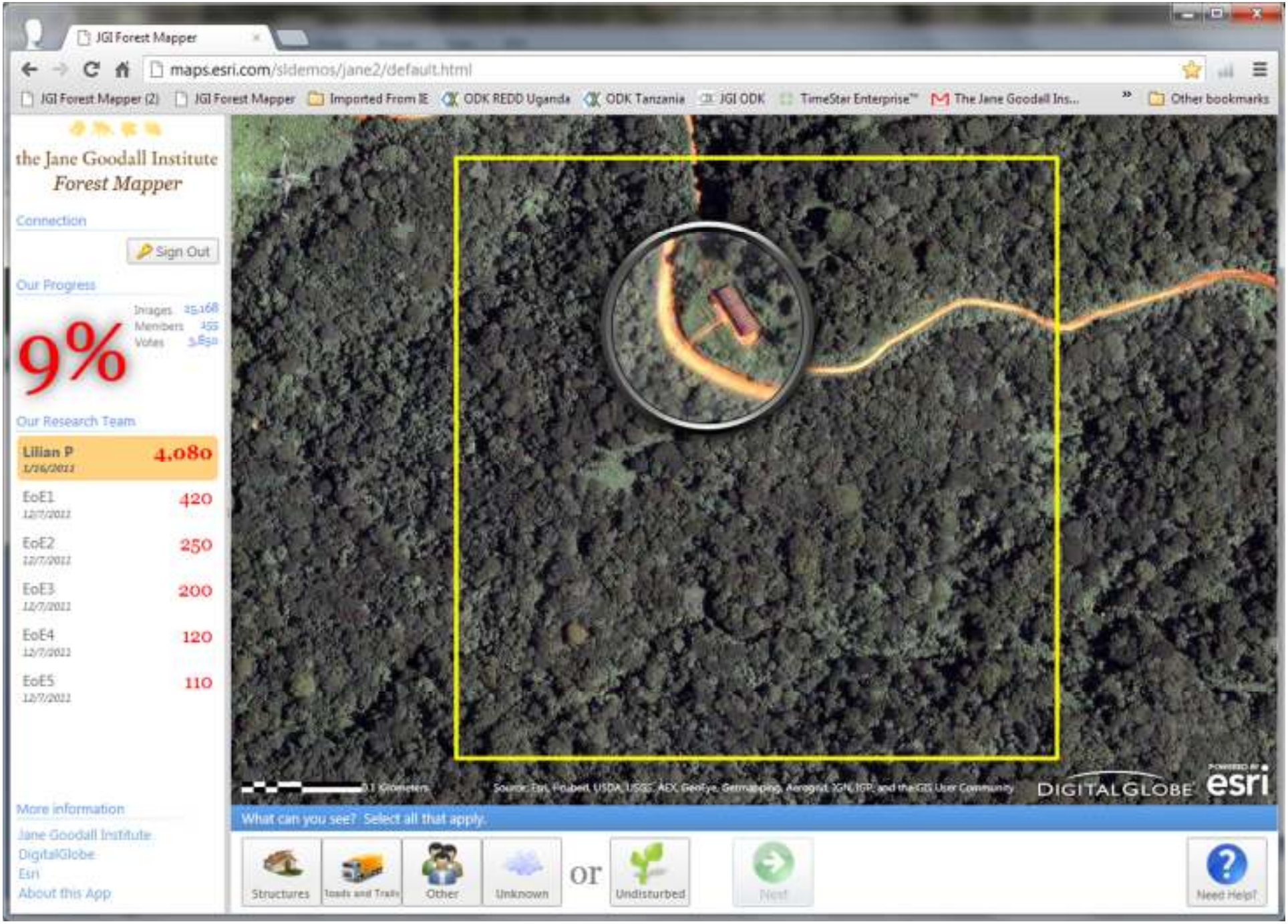
0.1 Kilometers
Source: Esri, Project, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
DIGITALGLOBE
esri
What can you see? Select all that apply.
Structures
Roads and Trails
Other
Unknown
or
Undisturbed
Next
Need Help!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JGI Forest Mapper (2)
JGI Forest Mapper
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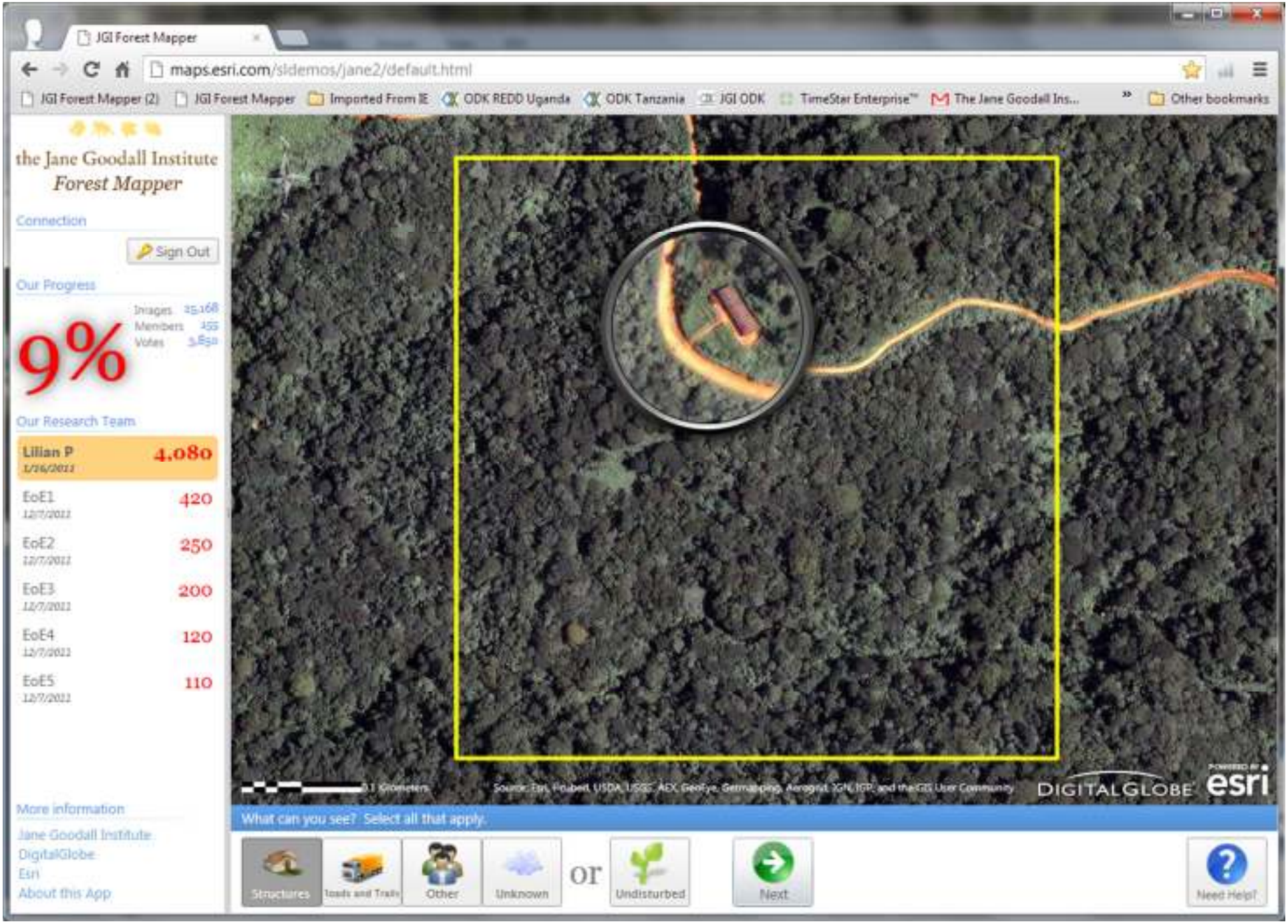
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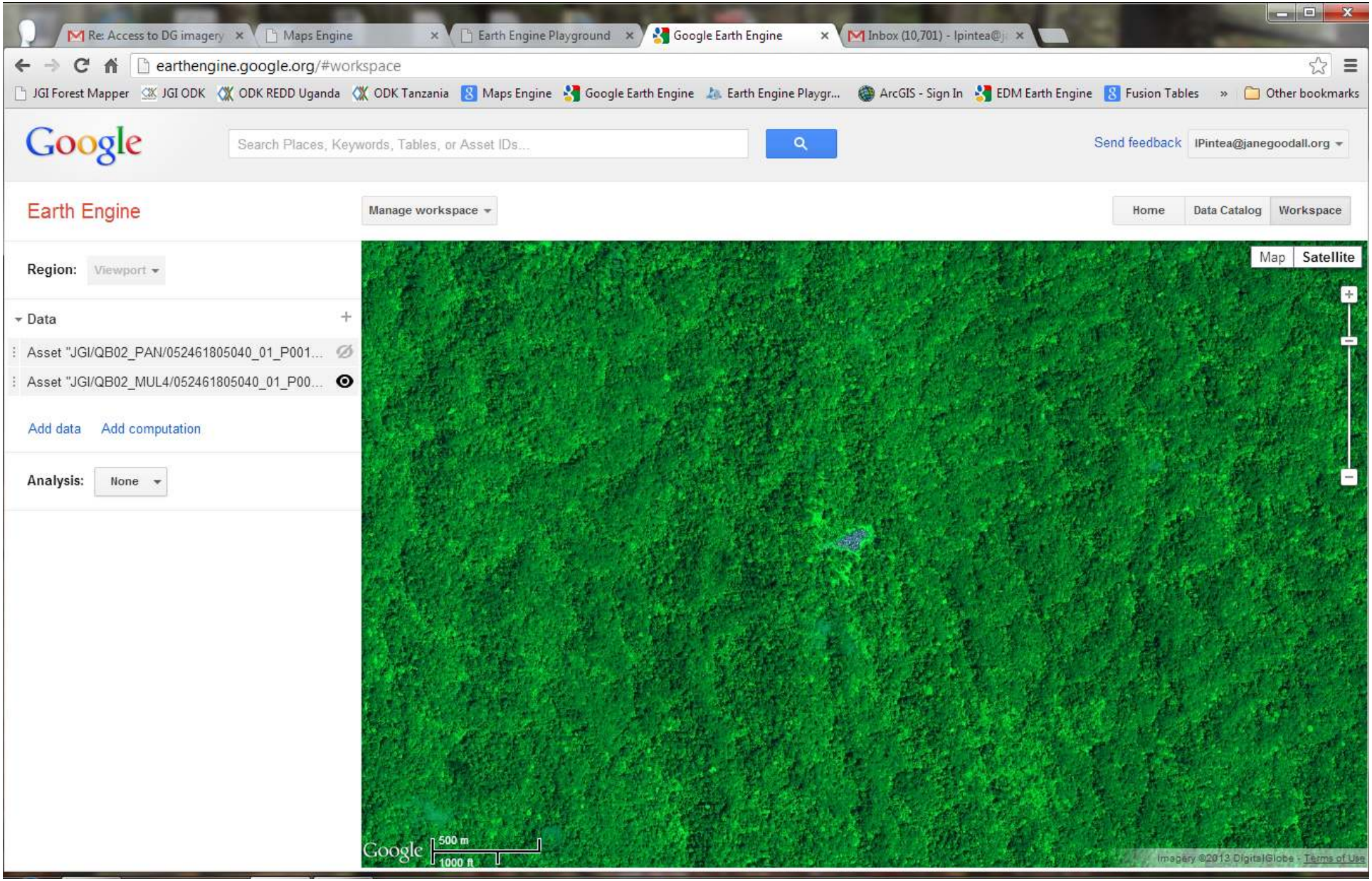
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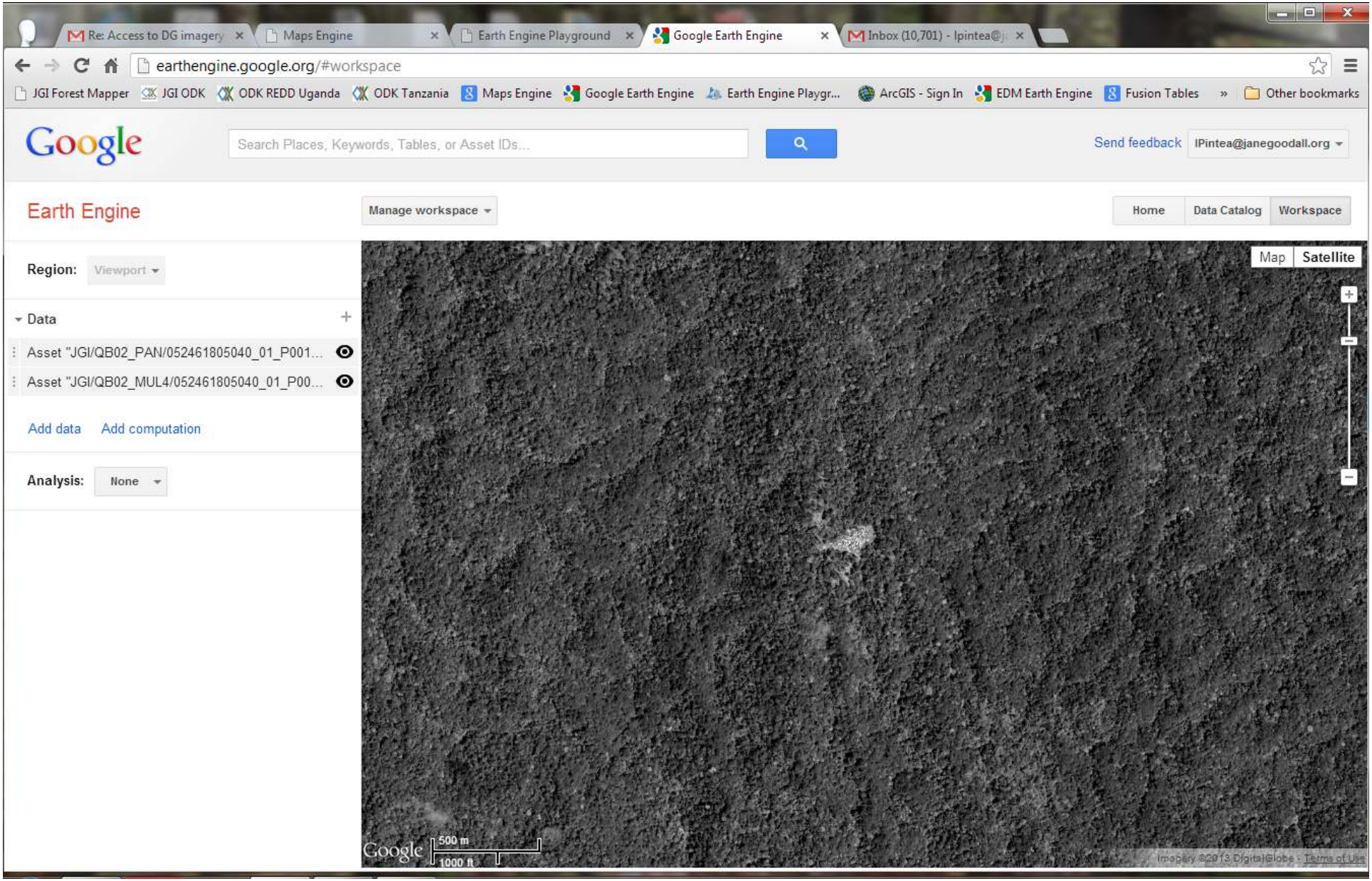
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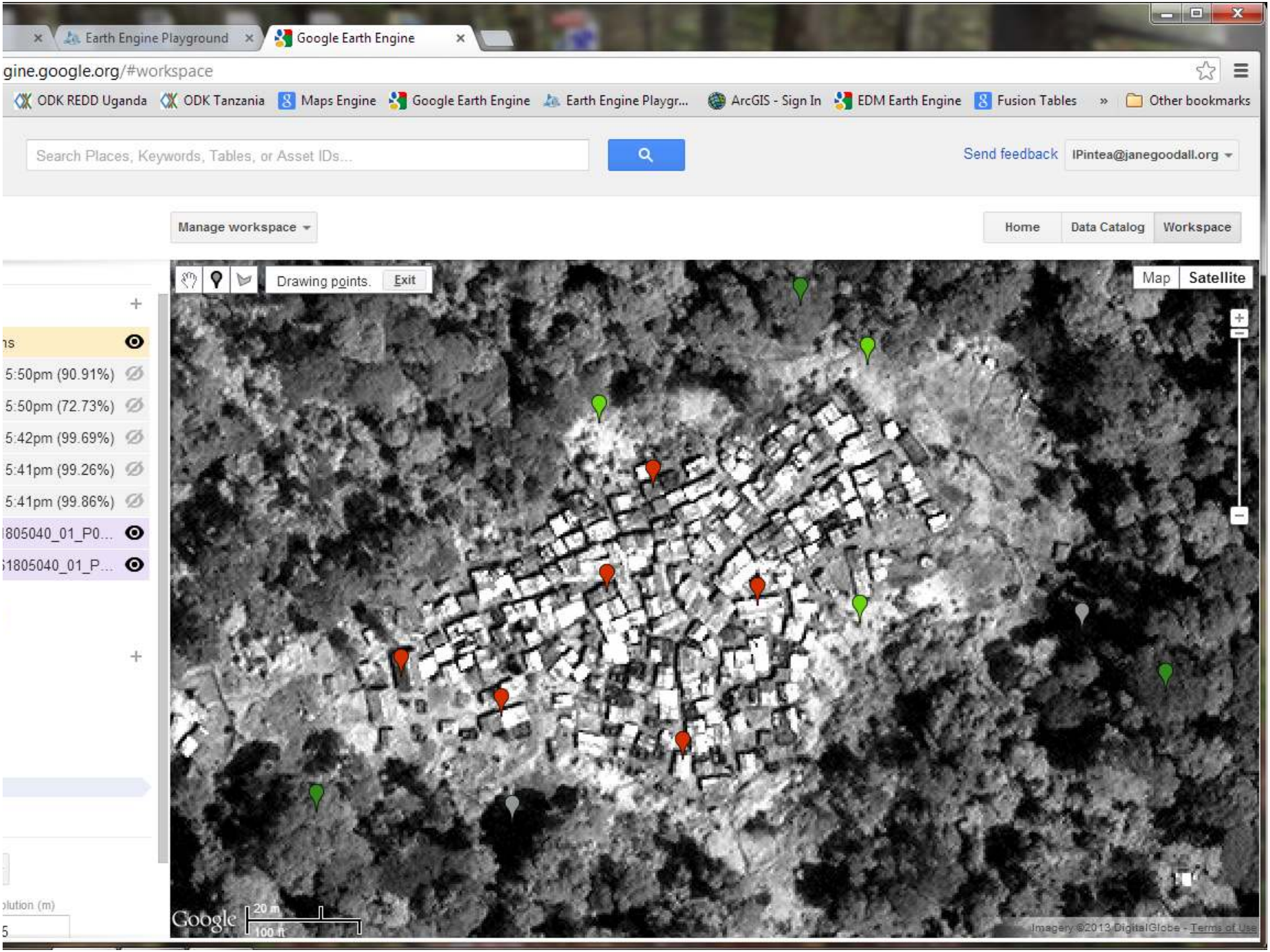
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Map
Satellite
5:50pm (90.91%)
5:50pm (72.73%)
5:42pm (99.69%)
5:41pm (99.26%)
5:41pm (99.86%)
Google
20 m
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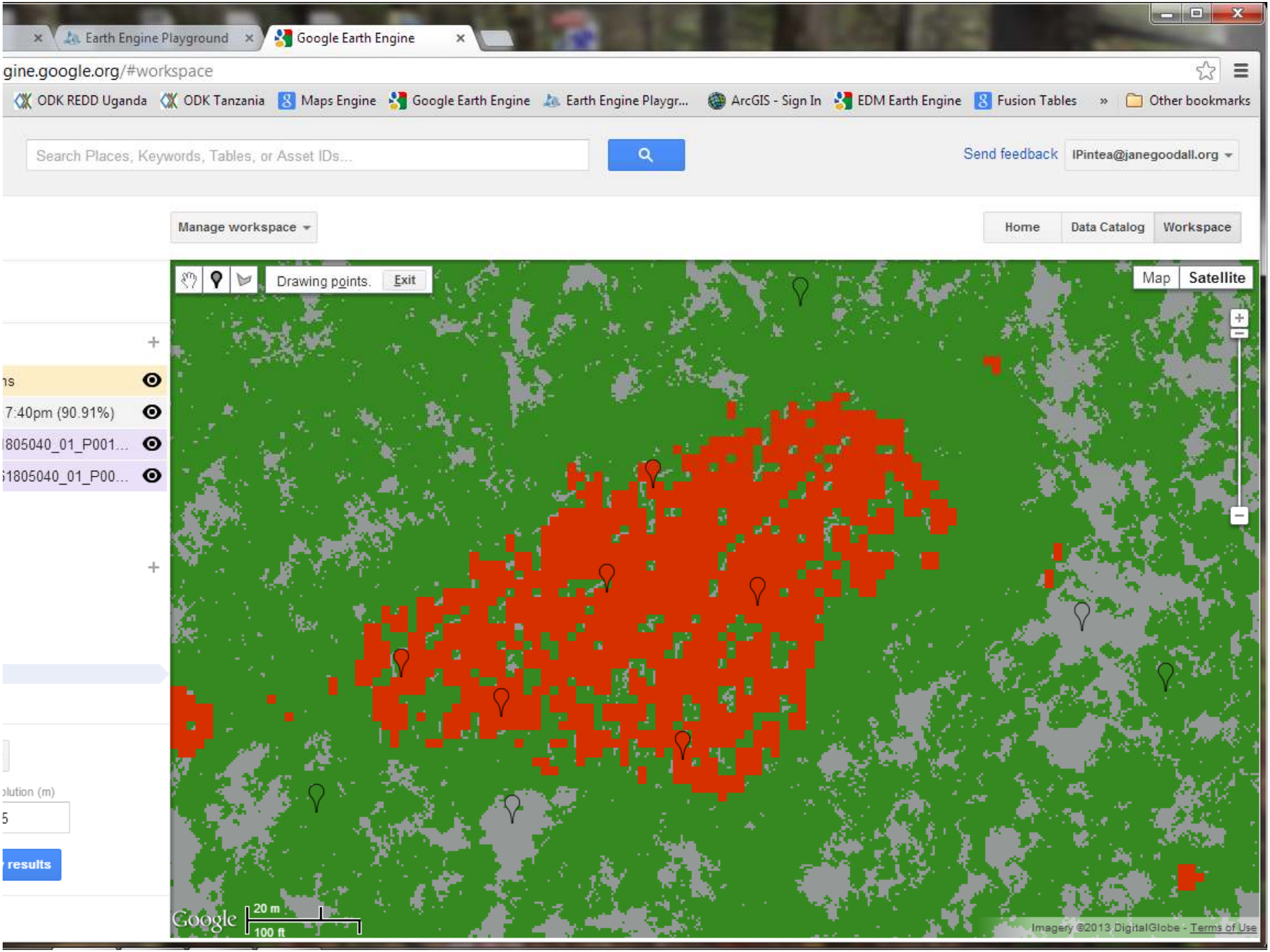
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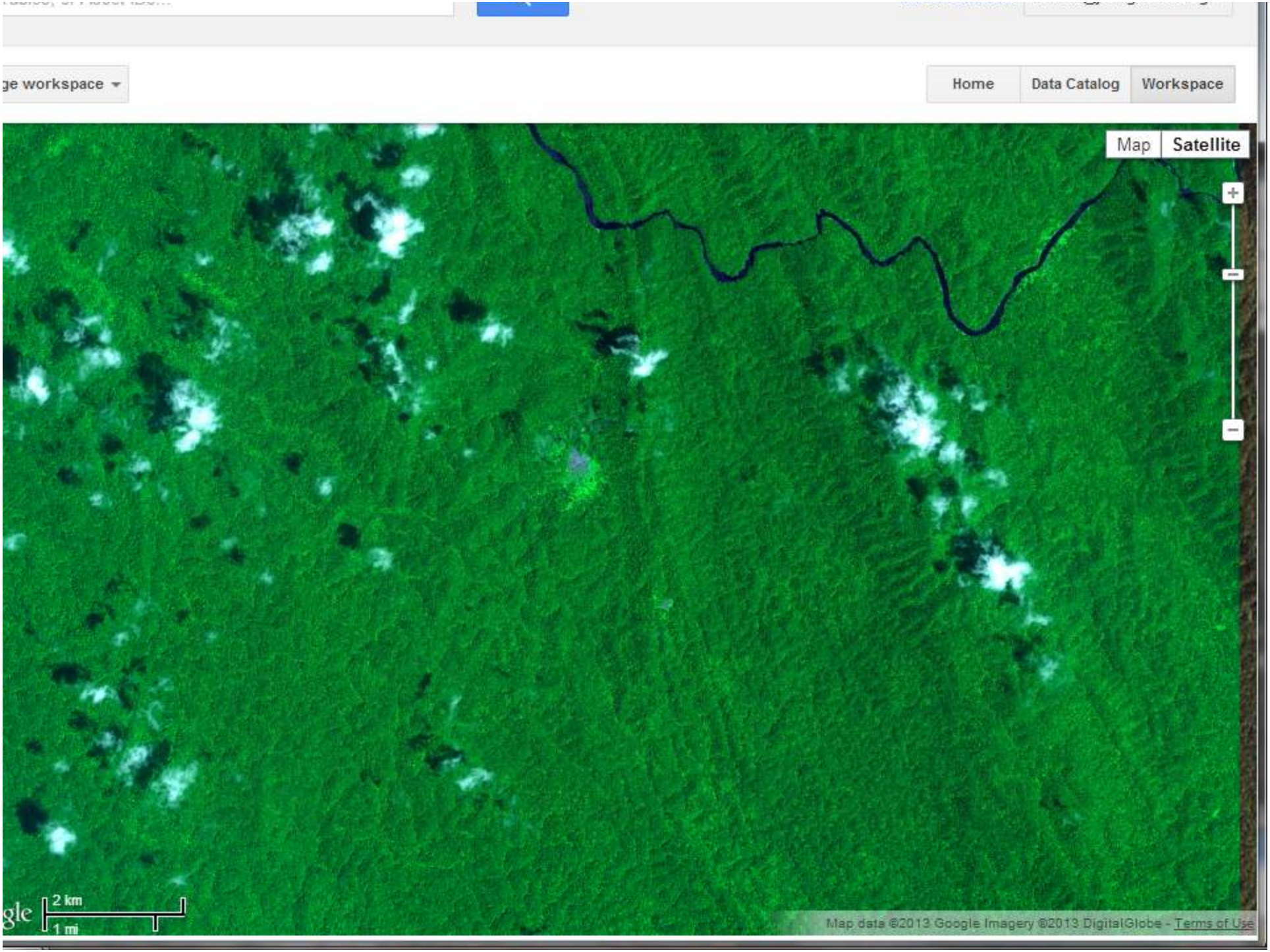
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Data Catalog
Workspace
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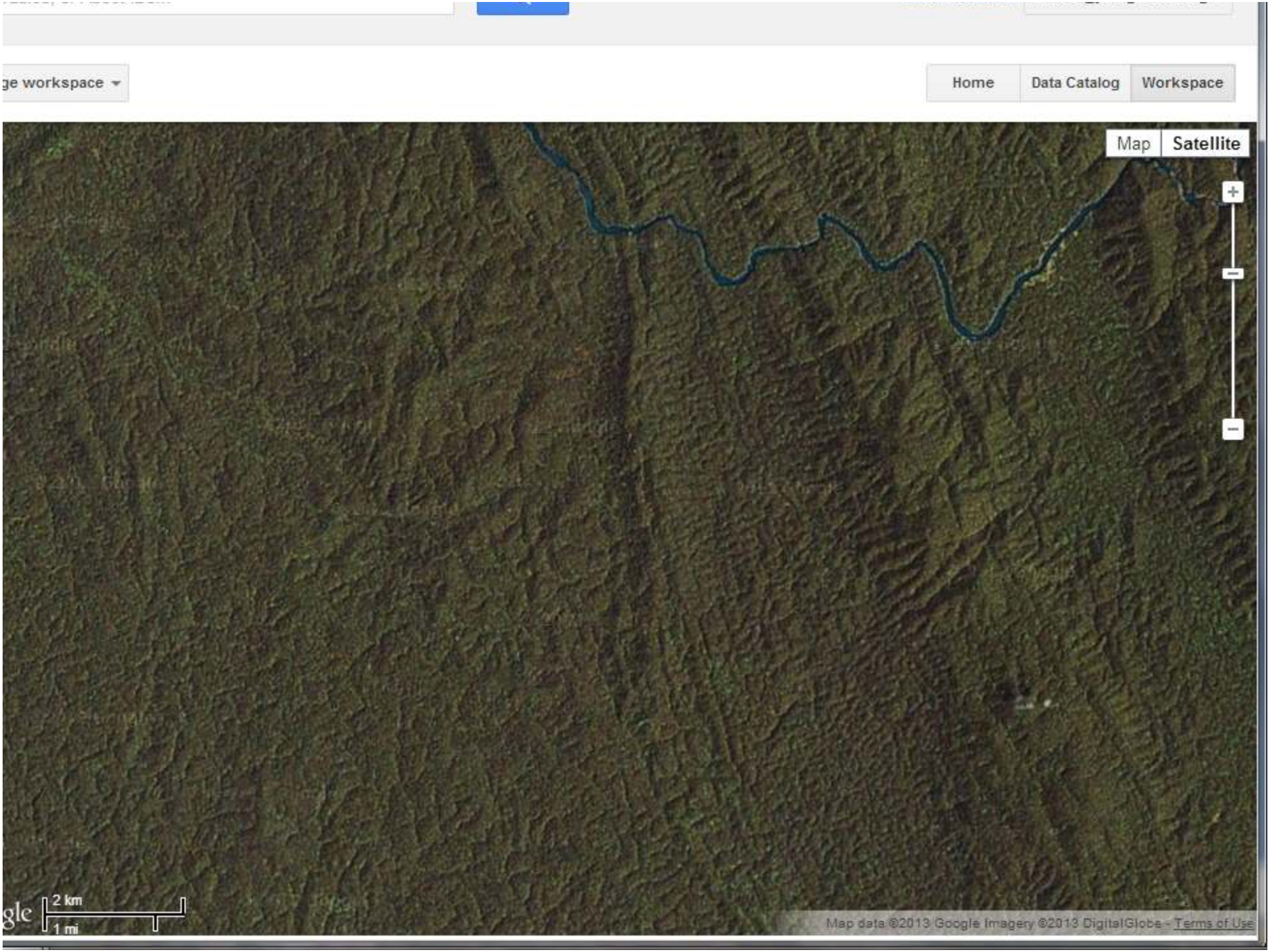
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Data Catalog
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Satellite
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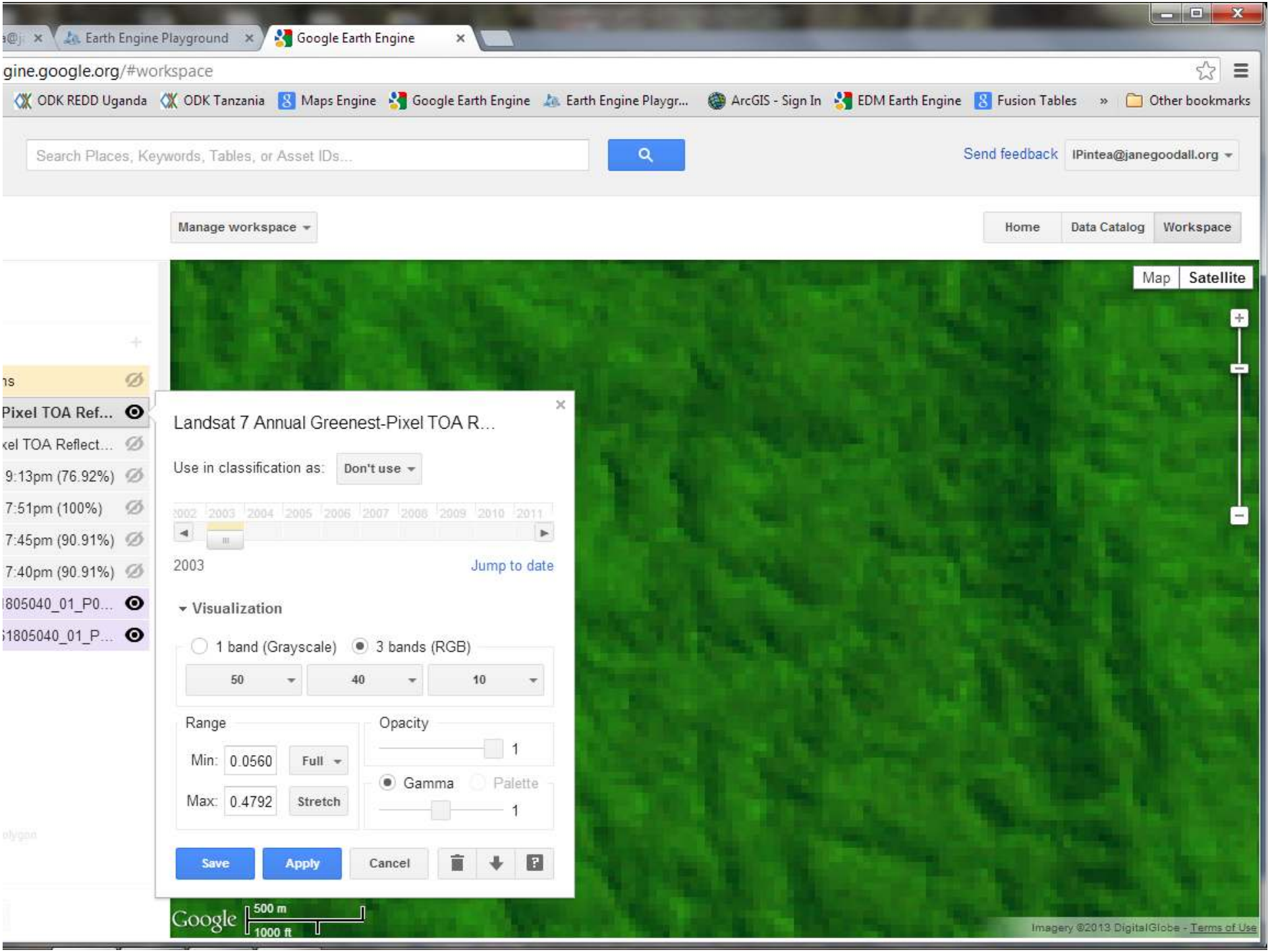
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7:45pm (90.91%)
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Apply
Cancel
Google
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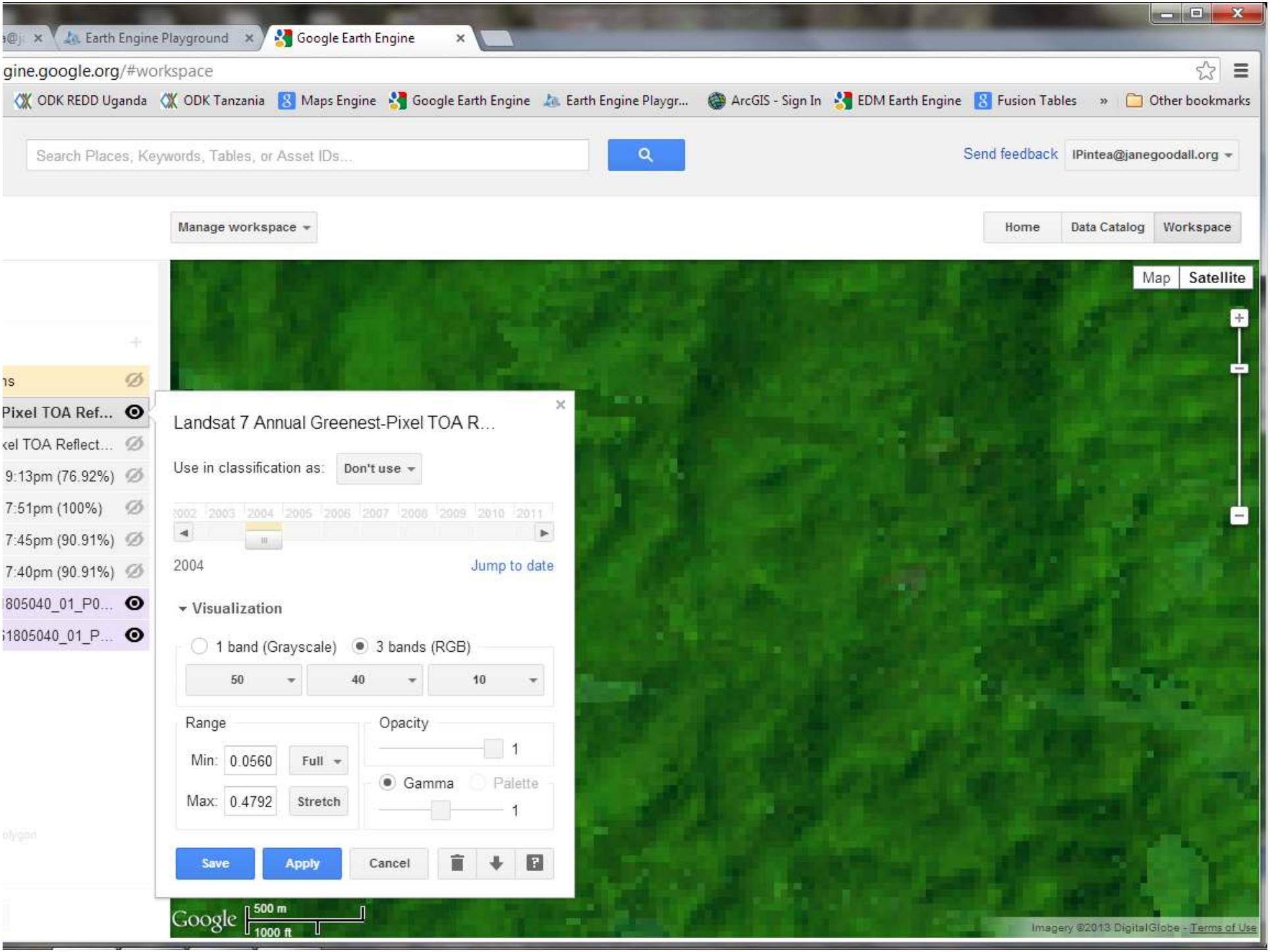
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7:51pm (100%)
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Landsat 7 Annual Greenest-Pixel TOA R...
Use in classification as:
Don't use
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2004
Jump to date
Visualization
1 band (Grayscale)
3 bands (RGB)
50
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Range
Min: 0.0560
Full
Max: 0.4792
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Google
500 m
1000 ft
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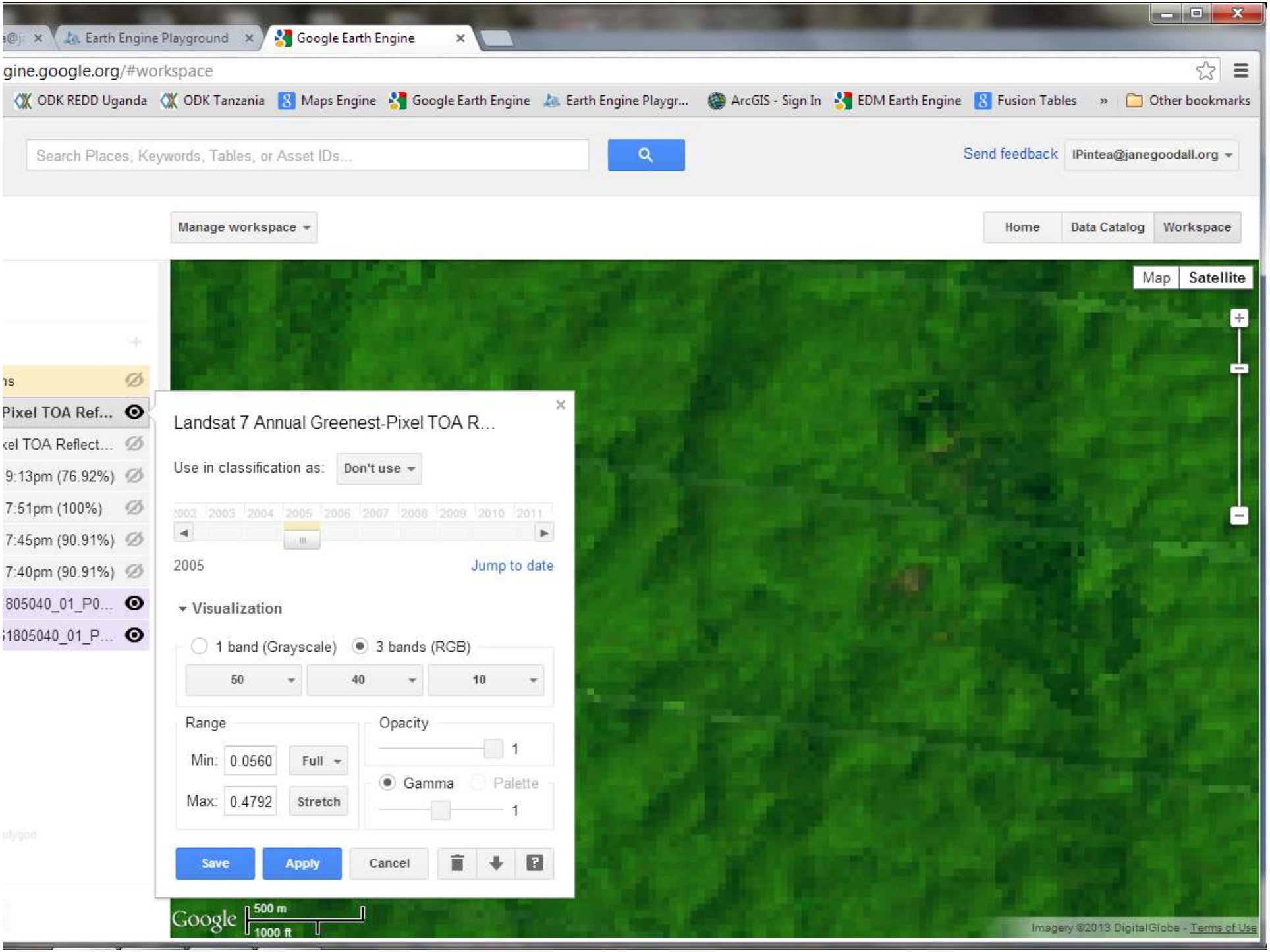
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Landsat 7 Annual Greenest-Pixel TOA R...
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Don't use
2005
Jump to date
Visualization
1 band (Grayscale)
3 bands (RGB)
50
40
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Min: 0.0560
Full
Max: 0.4792
Stretch
Opacity
1
Gamma
Palette
1
Save
Apply
Cancel
Google
500 m
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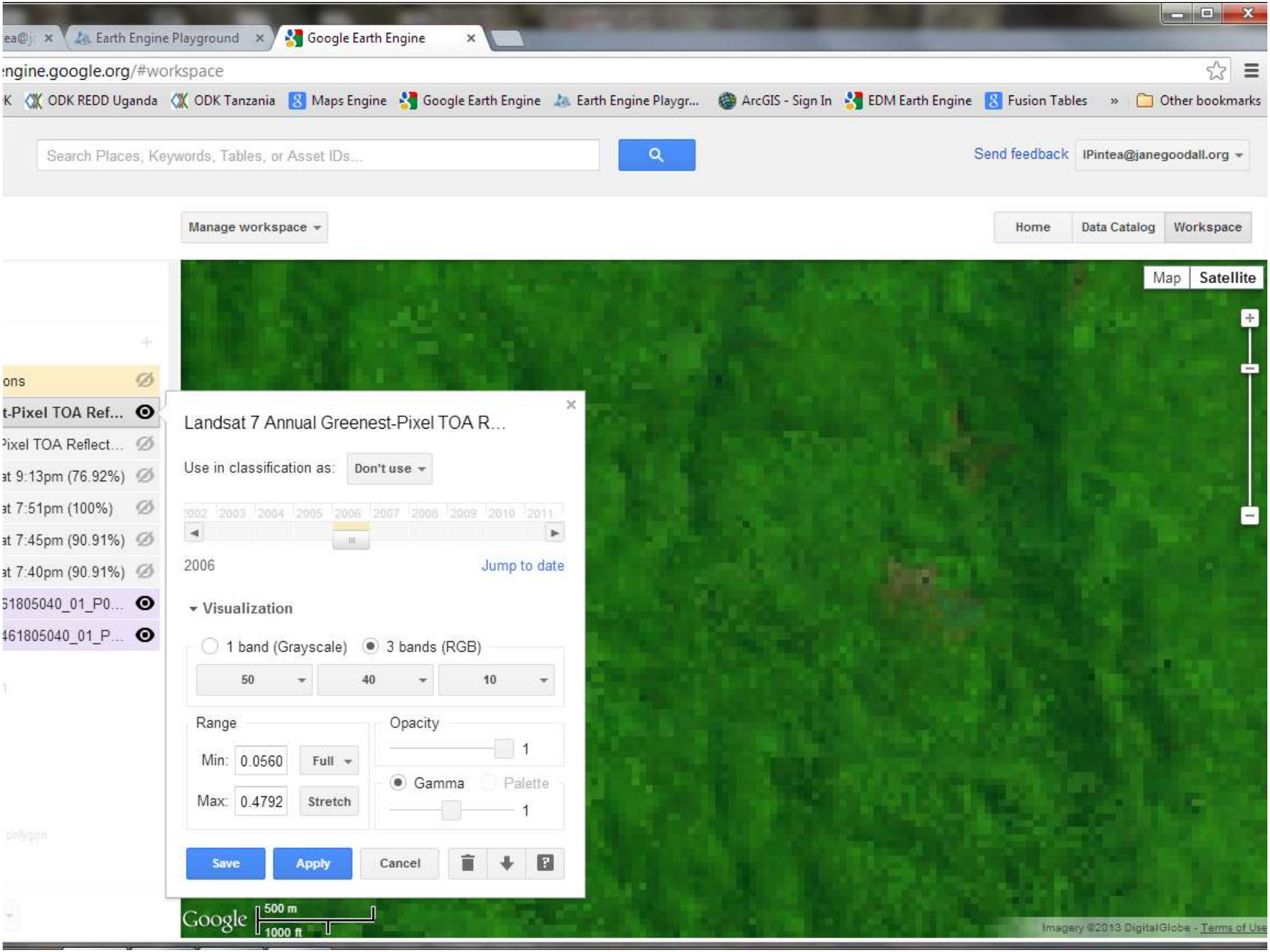
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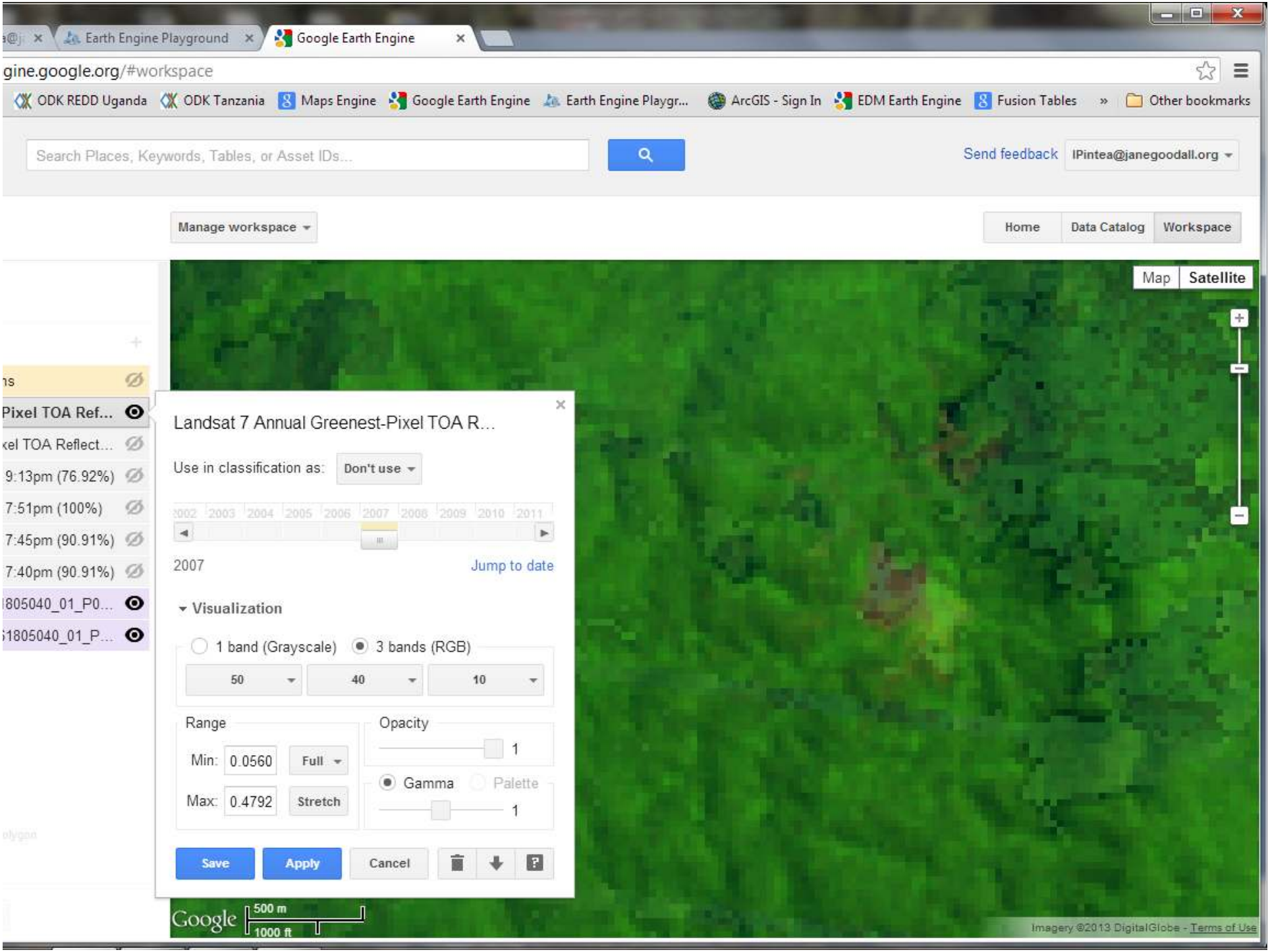
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7:51pm (100%)
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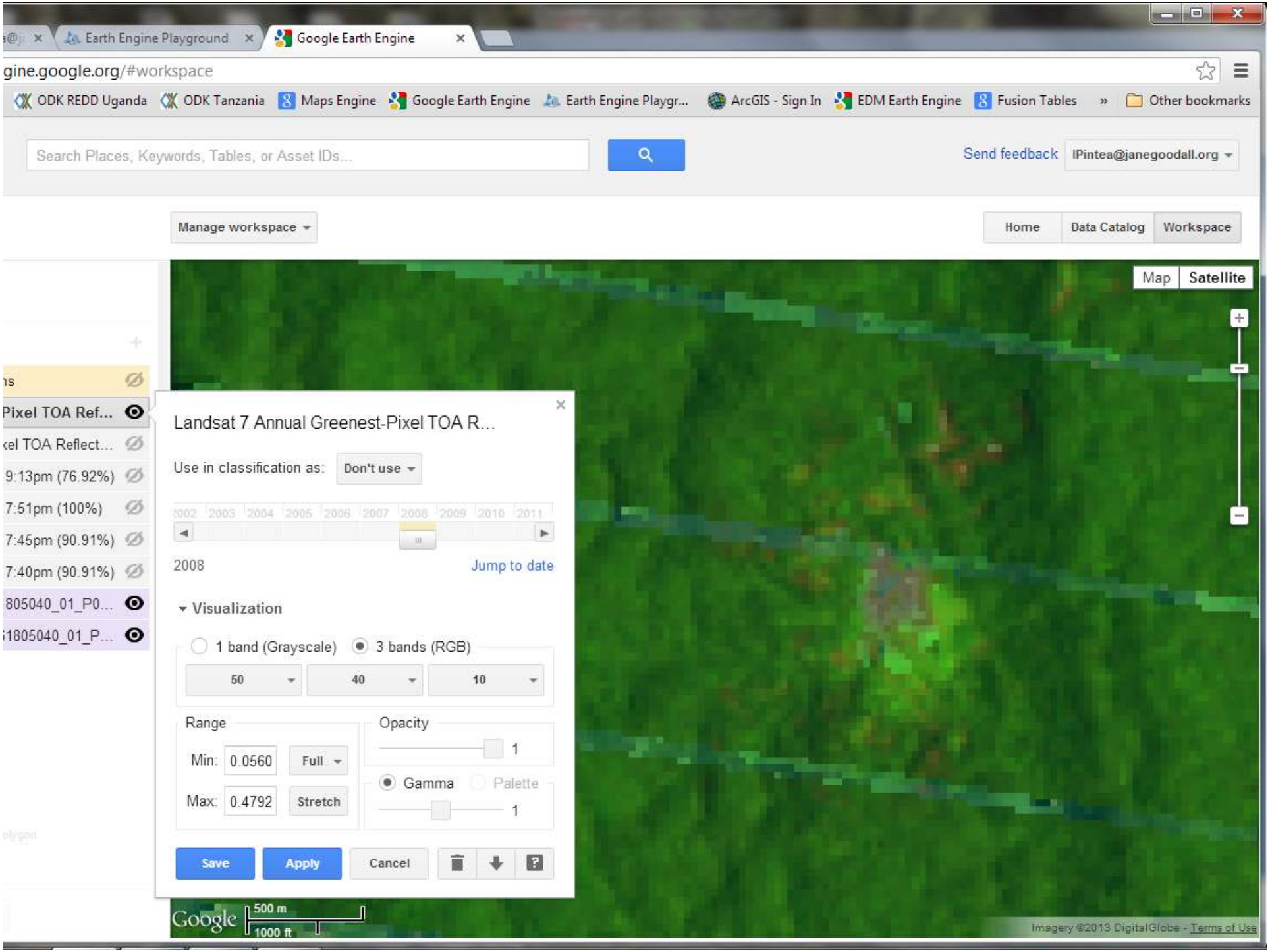
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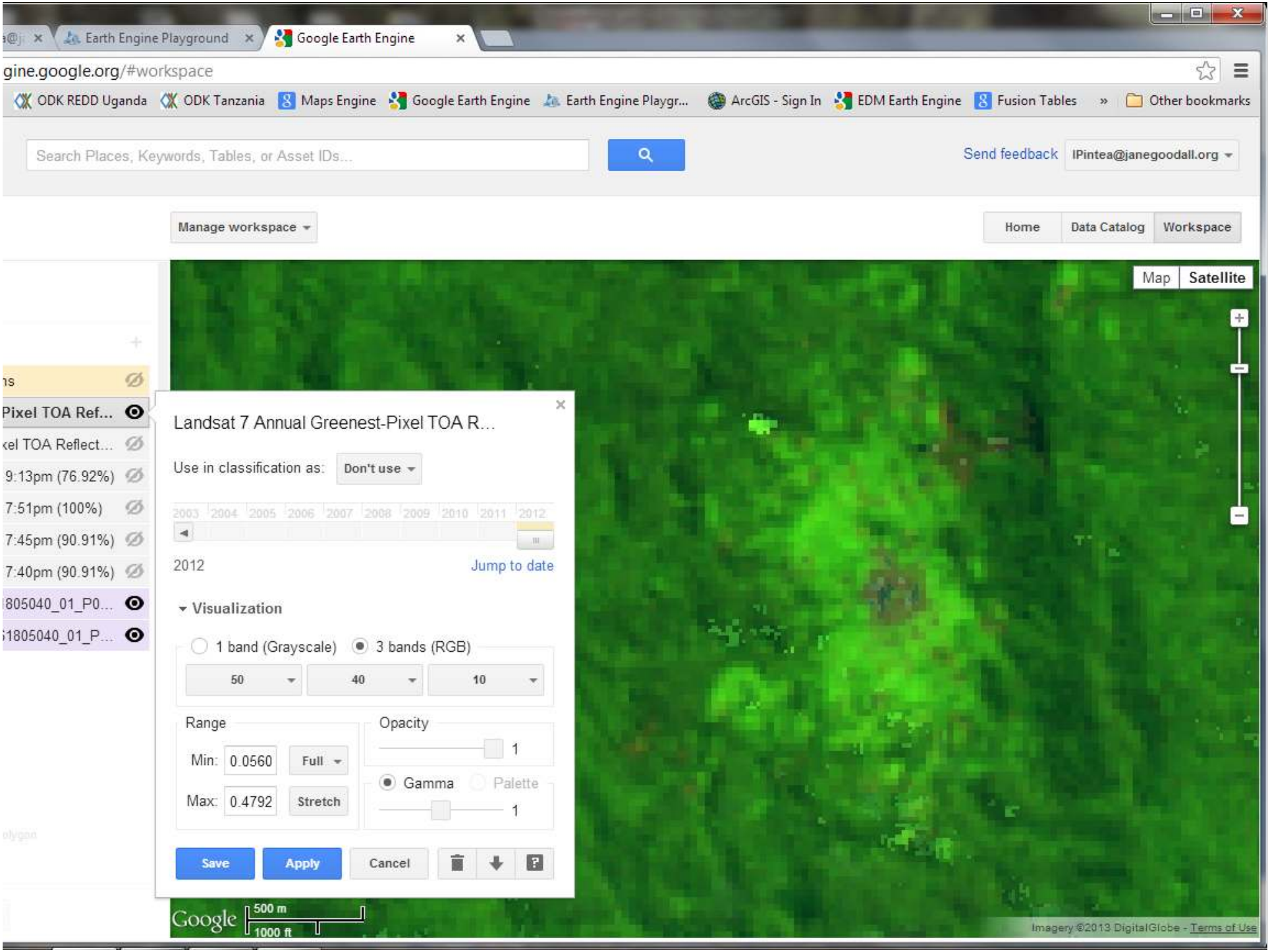
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A.P.E.S. Portal

Status
Interactive information on great ape status, conservation and current threats

Database
Great apes data archive

Report
Current reports on great ape status worldwide

Wiki
Site by site information on great apes – contributions welcome!

Explore the world of wild living apes, find out where they live, which threats they face, and help to protect them

IUCN/SSC - A.P.E.S. - A multi-partner initiative of the ape conservation community

Bonobos, chimpanzees, gibbons, gorillas and orangutans are the closest relatives to humans living on earth today. They arouse intense fascination in humans due to the close genetic, behavioral, cultural and emotional similarities they share with us. Nevertheless, in a world with an ever increasing demand for food, land, timber and mineral resources, wild living apes are put under enormous pressure and their populations are declining rapidly.

A.P.E.S. allows you to explore the geographic areas where apes still occur in the wild using interactive mapping software, to help you better understand the various threats they face and to learn more about their conservation needs by using the various analytical tools provided. Of all the threats faced by apes, humans may be a large part of the problem, but we can also be the solution, use A.P.E.S to help save the apes!

Dashboard

Use the suite of tools provided within the Dashboard to guide conservation actions by exploring the relative pressures impacting species living in important ape sites.

News

Try the new and easy to use data request function to access survey data with one click of the mouse

Did you know...

That there are 280 protected areas in Africa and Asia in which apes occur

A.P.E.S. Portal

about contact language

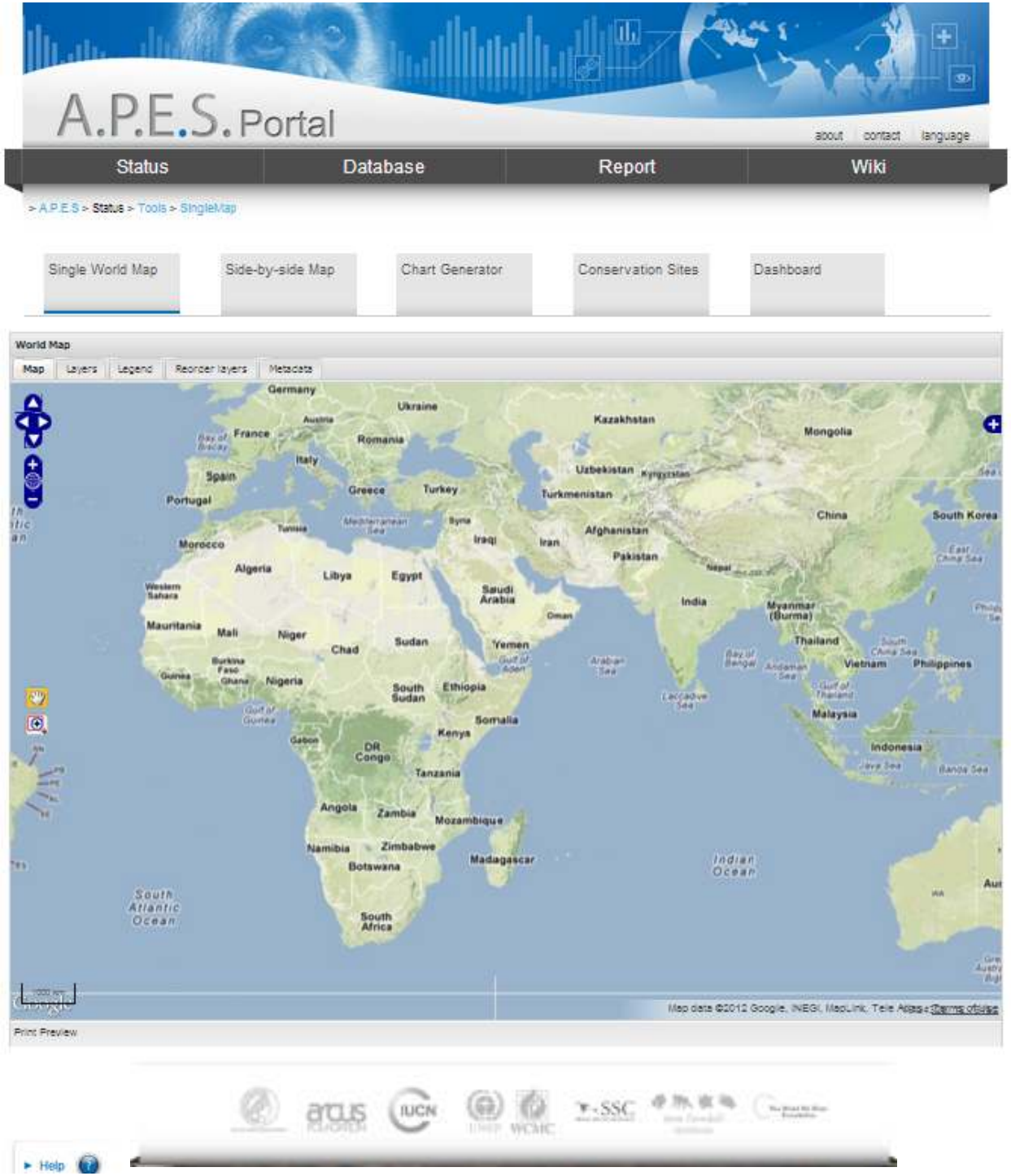
Status | Database | Report | Wiki

> A.P.E.S > Status > Tools > Conservation Sites

Single World Map | Side-by-side Map | Chart Generator | Conservation Sites | Dashboard

Switch to editor mode

Get a free account (required prior to requesting editing privileges) | Join the Jane Goodall Institute Spatial group to gain editing privileges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> A.P.E.S > Status > Tools > SingleMap
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Side-by-side Map
Chart Generator
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Portugal
Greece
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South Korea
Morocco
Algeria
Libya
Egypt
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Philippines
Nigeria
South Sudan
Ethiopia
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Apes Surveys – Eastern DRC

Faceb

Great Ape Surveys in the Eastern DRC

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Title ▲ | Owner | Rating | Views | Date

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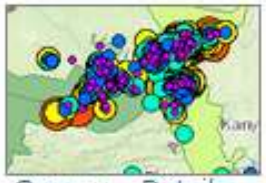

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Gorilla nest map for survey planning

Gorilla nest map for survey planning
Web Map by lpintea_admin
Last Modified: March 29, 2013
☆☆☆☆☆ (0 ratings, 0 comments, 0 views)

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Gorilla nests

Web Map by lpintea_admin
Last Modified: March 26, 2013
☆☆☆☆☆ (0 ratings, 0 comments, 0 views)

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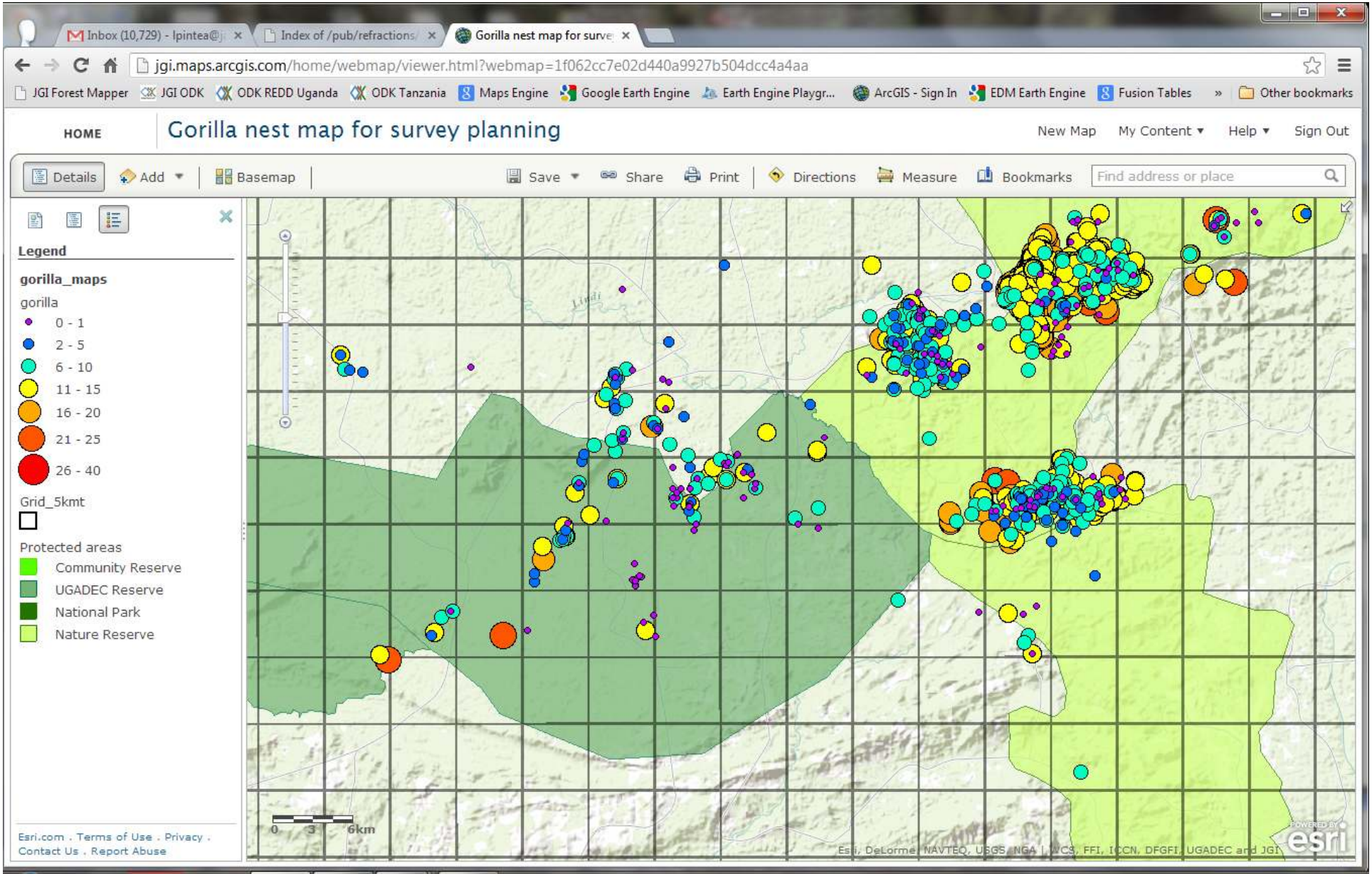
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JGI ODK
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Help
Sign Out
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Community Reserve
UGADEC Reserve
National Park
Nature Reserve
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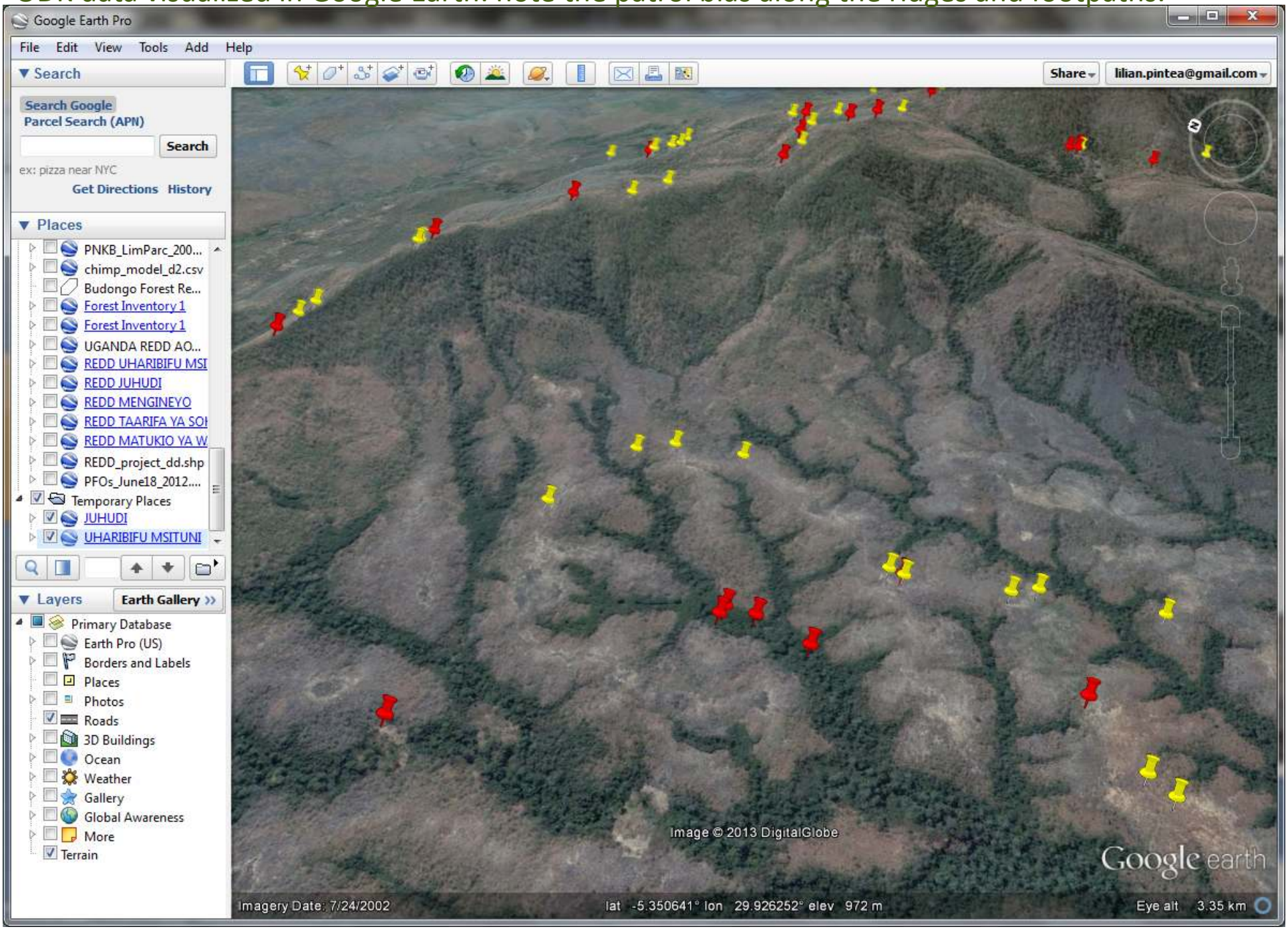
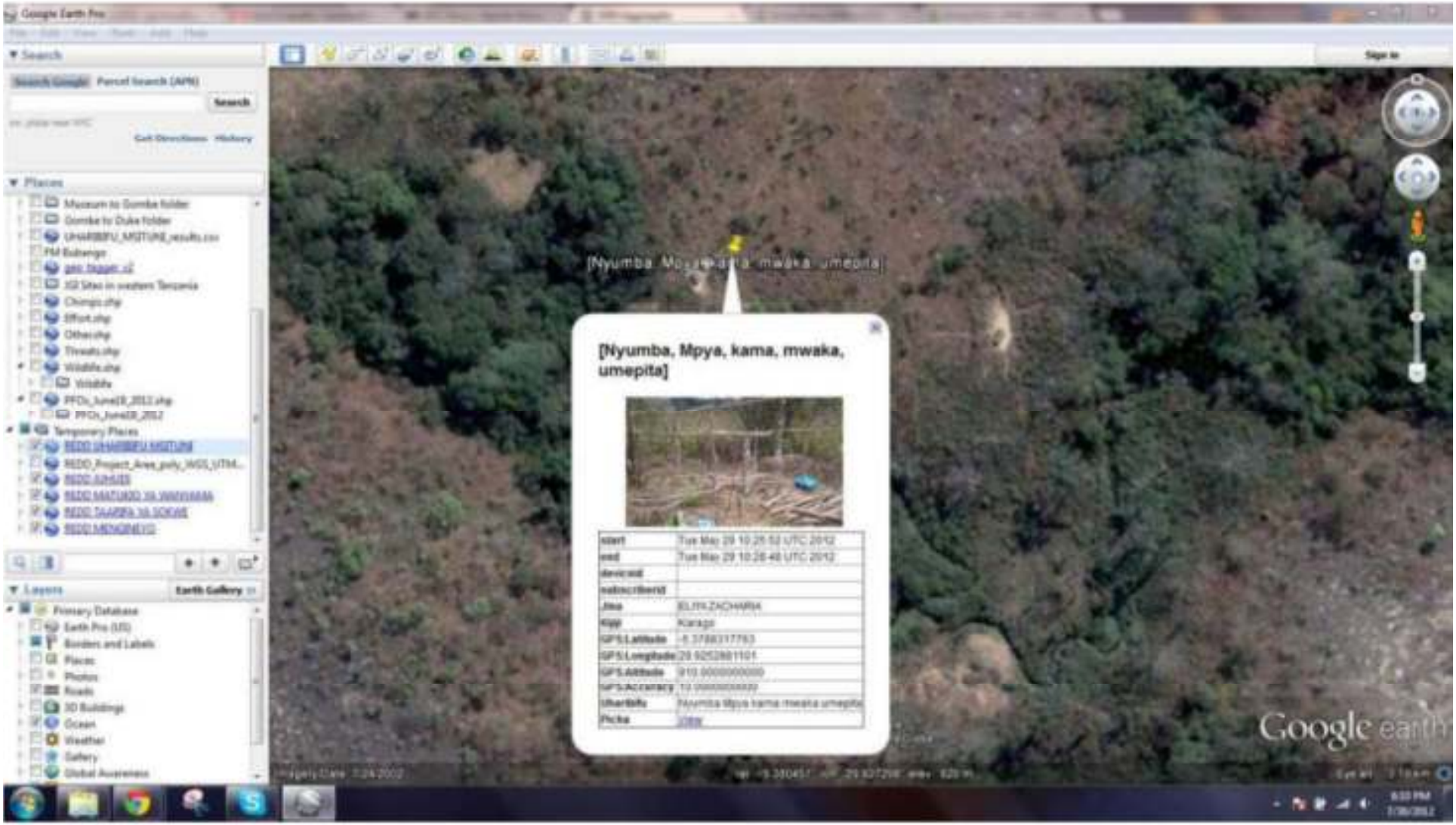
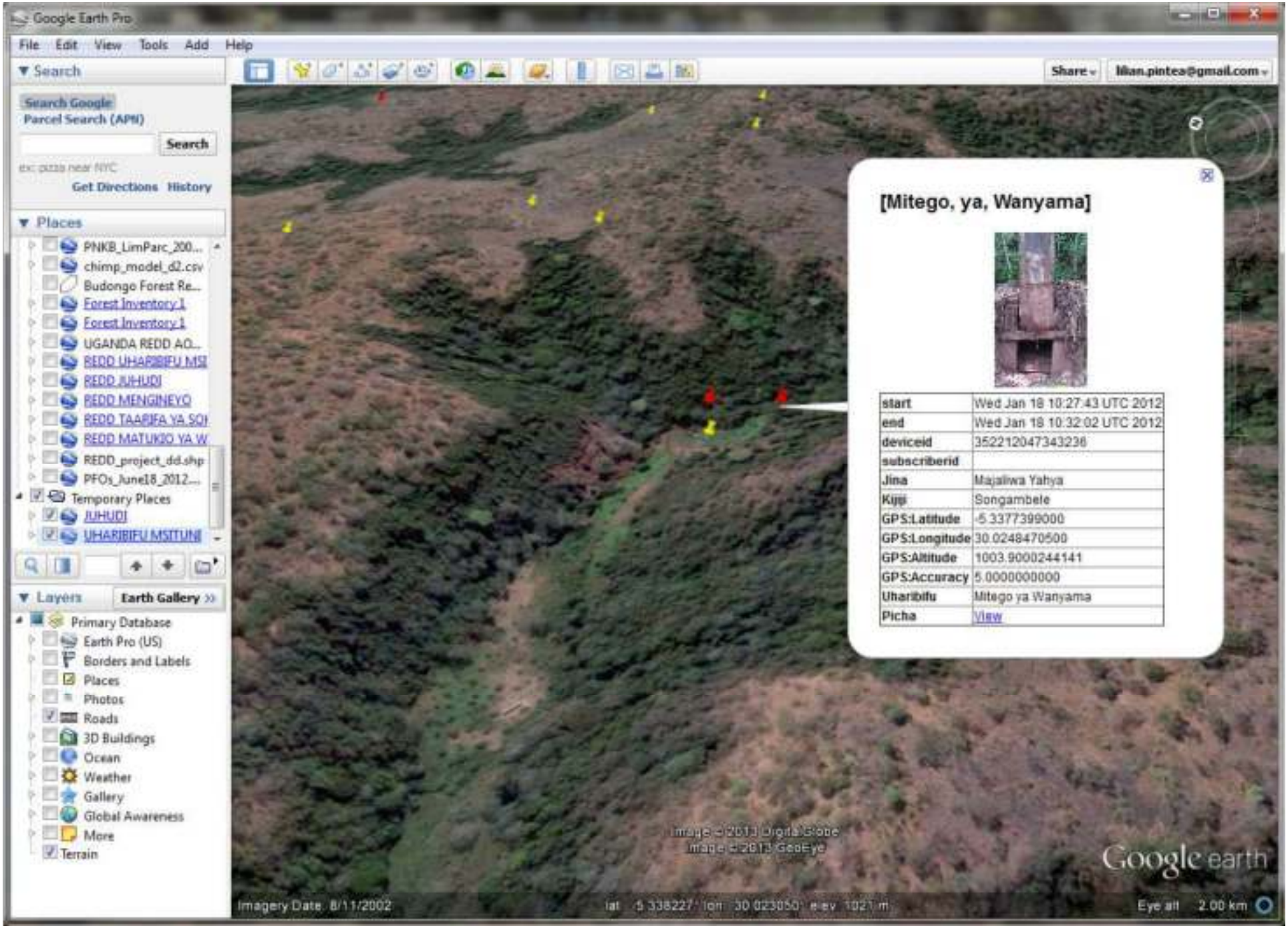
ODK data visualized in Google Earth: note the patrol bias along the ridges and footpaths.



FM data in Google Earth: house and farms in Riverine Forest Masito, Tanzania

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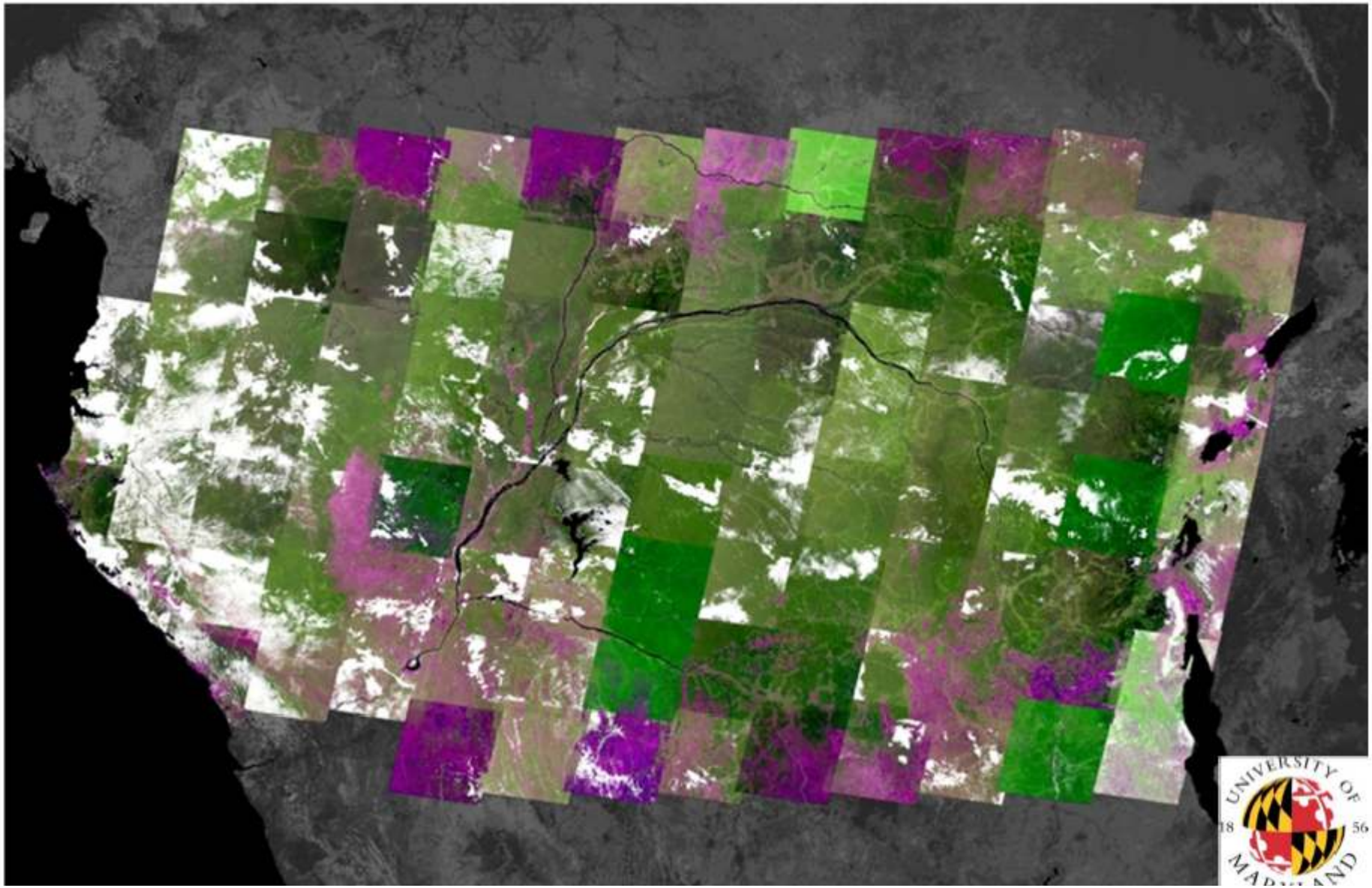
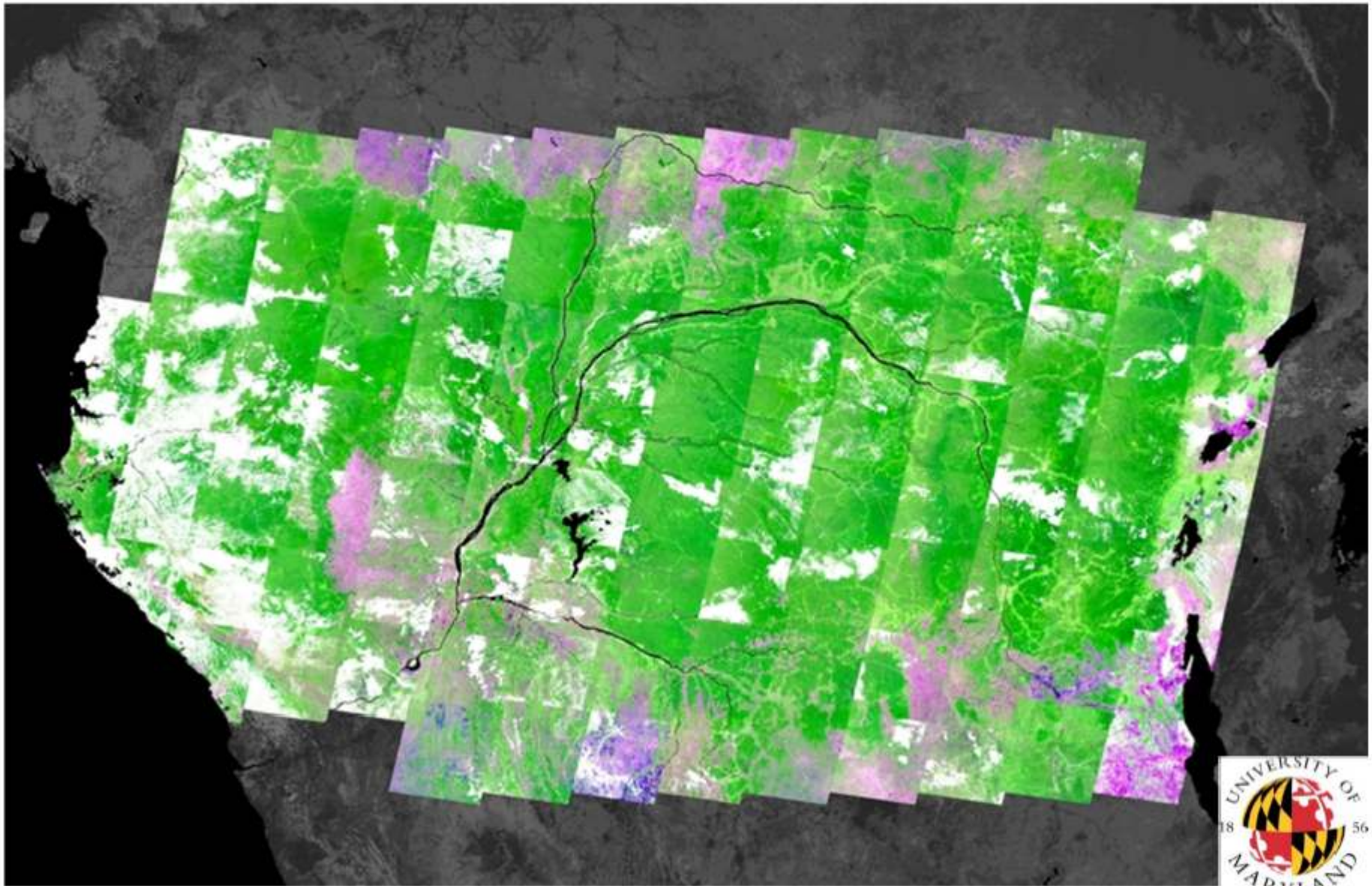
Uncorrected imagery



Bias-adjusted TOA



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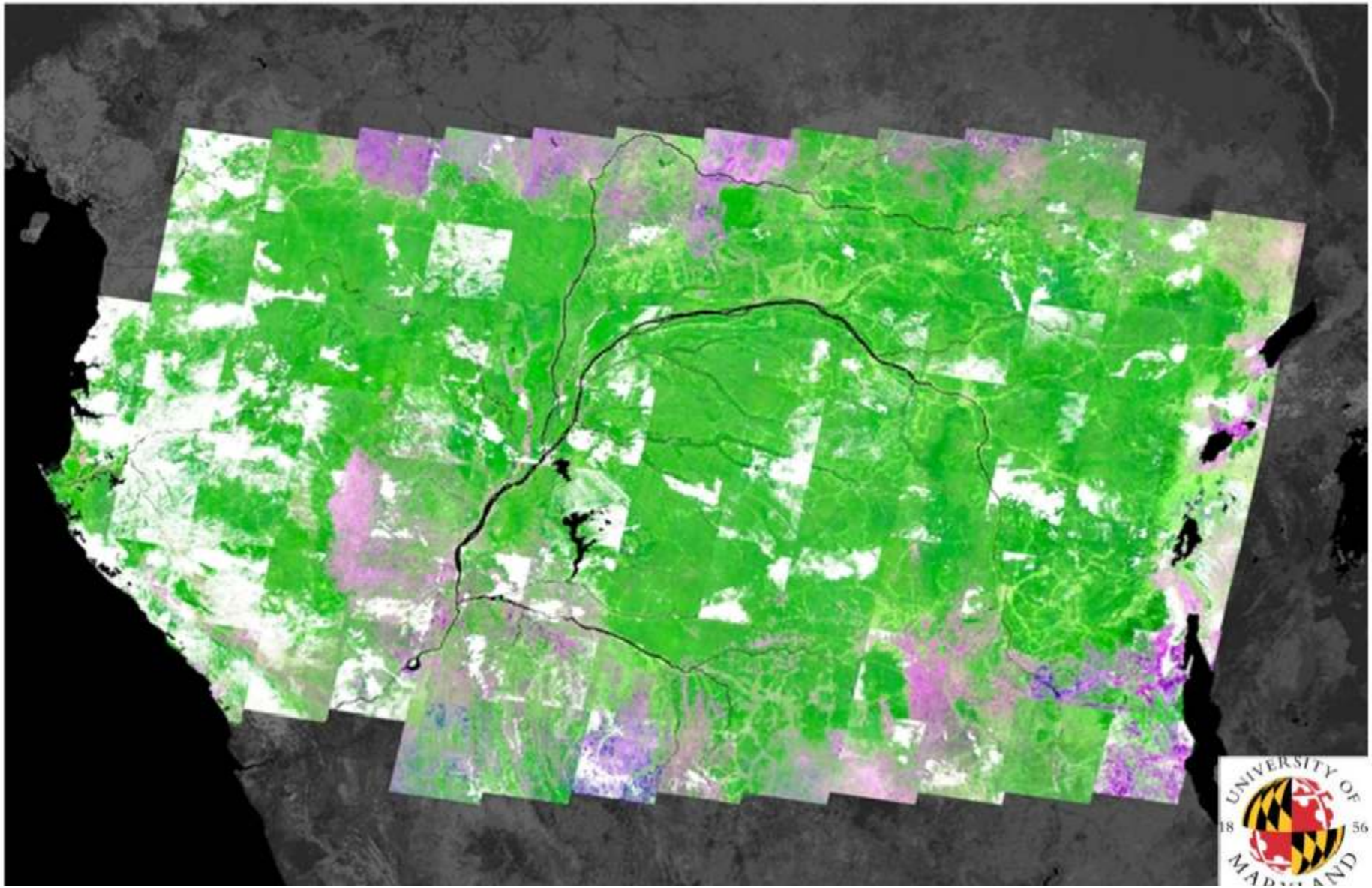
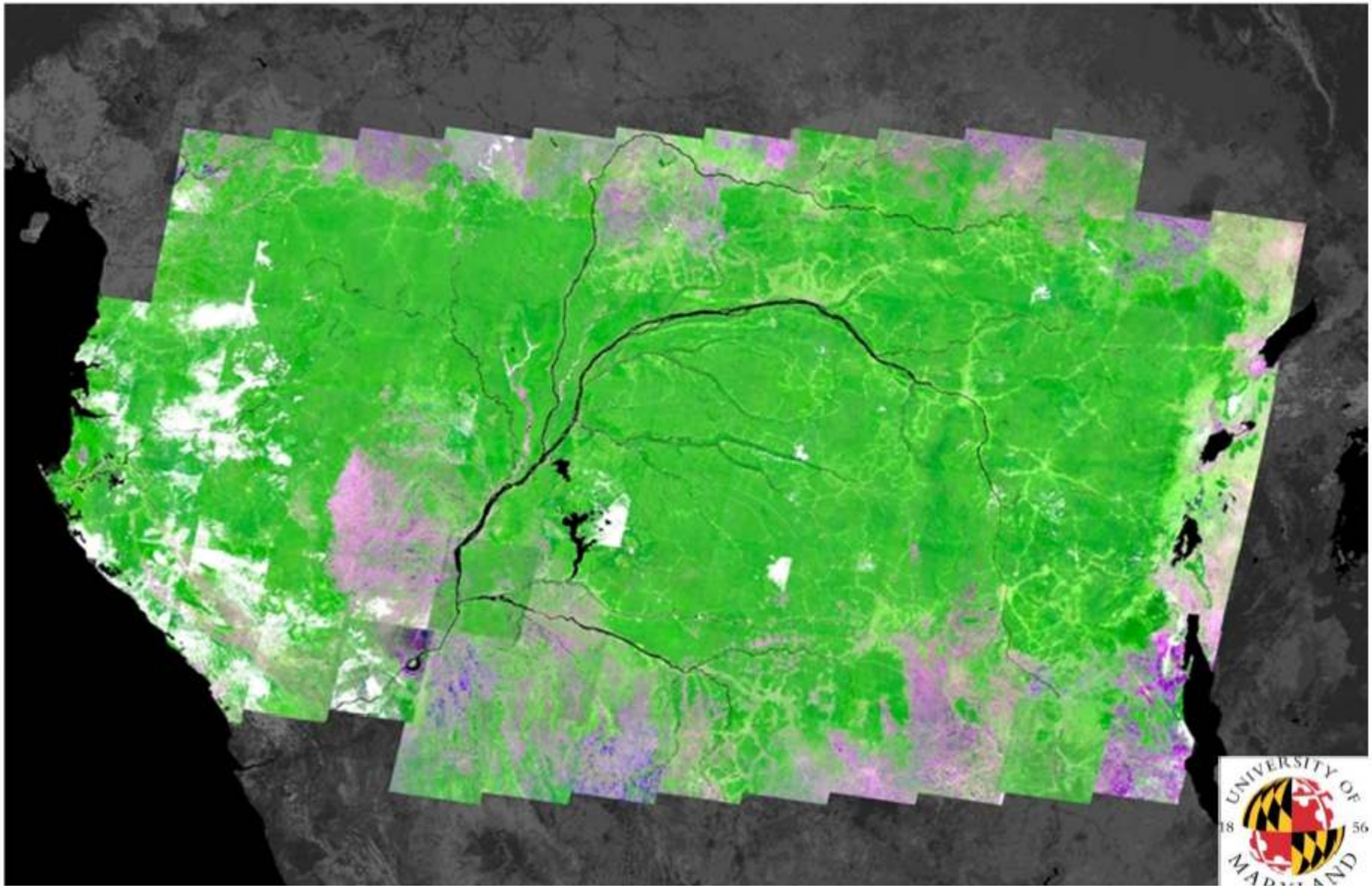


Composite of multiple observations



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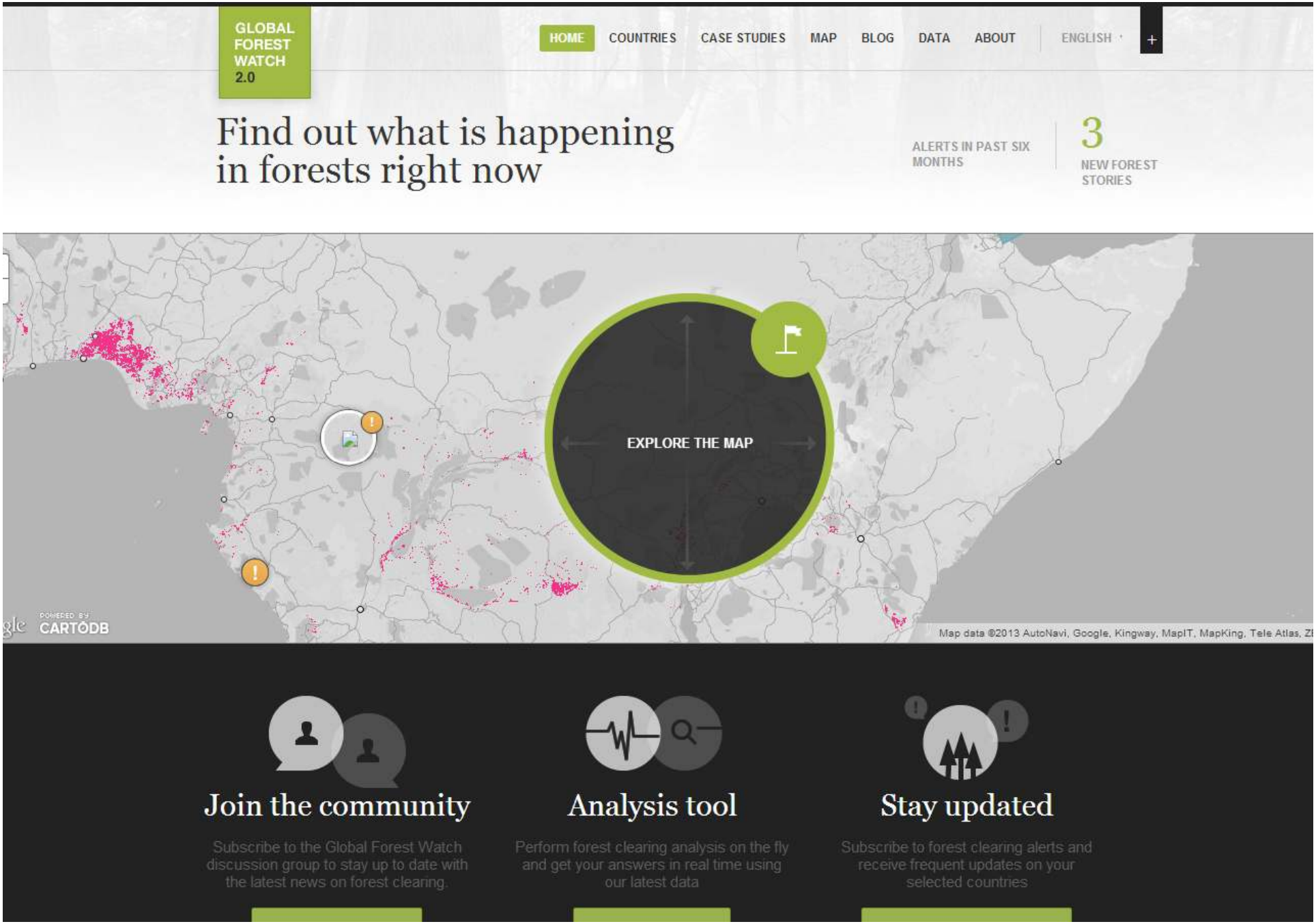
Illegal logging
threatens their
community.
Now we have the
power to stop it.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BLOG
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Find out what is happening in forests right now
ALERTS IN PAST SIX MONTHS
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NEW FOREST STORIES
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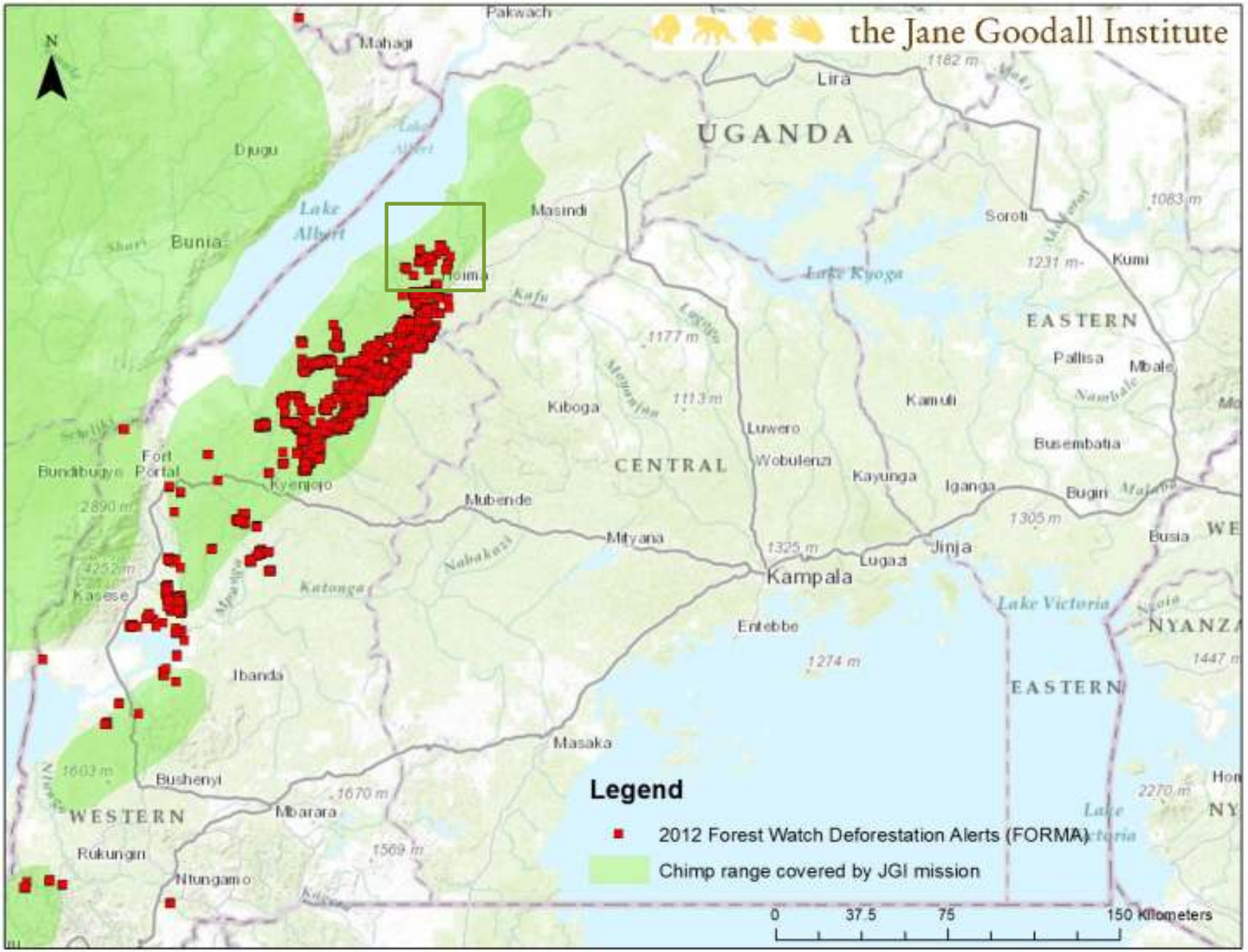
Join the community
Subscribe to the Global Forest Watch discussion group to stay up to date with the latest news on forest clearing.
Analysis tool
Perform forest clearing analysis on the fly and get your answers in real time using our latest data
Stay updated
Subscribe to forest clearing alerts and receive frequent updates on your selected countries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2012 Forest Watch Deforestation Alerts (FORMA)
Chimp range covered by JGI mission
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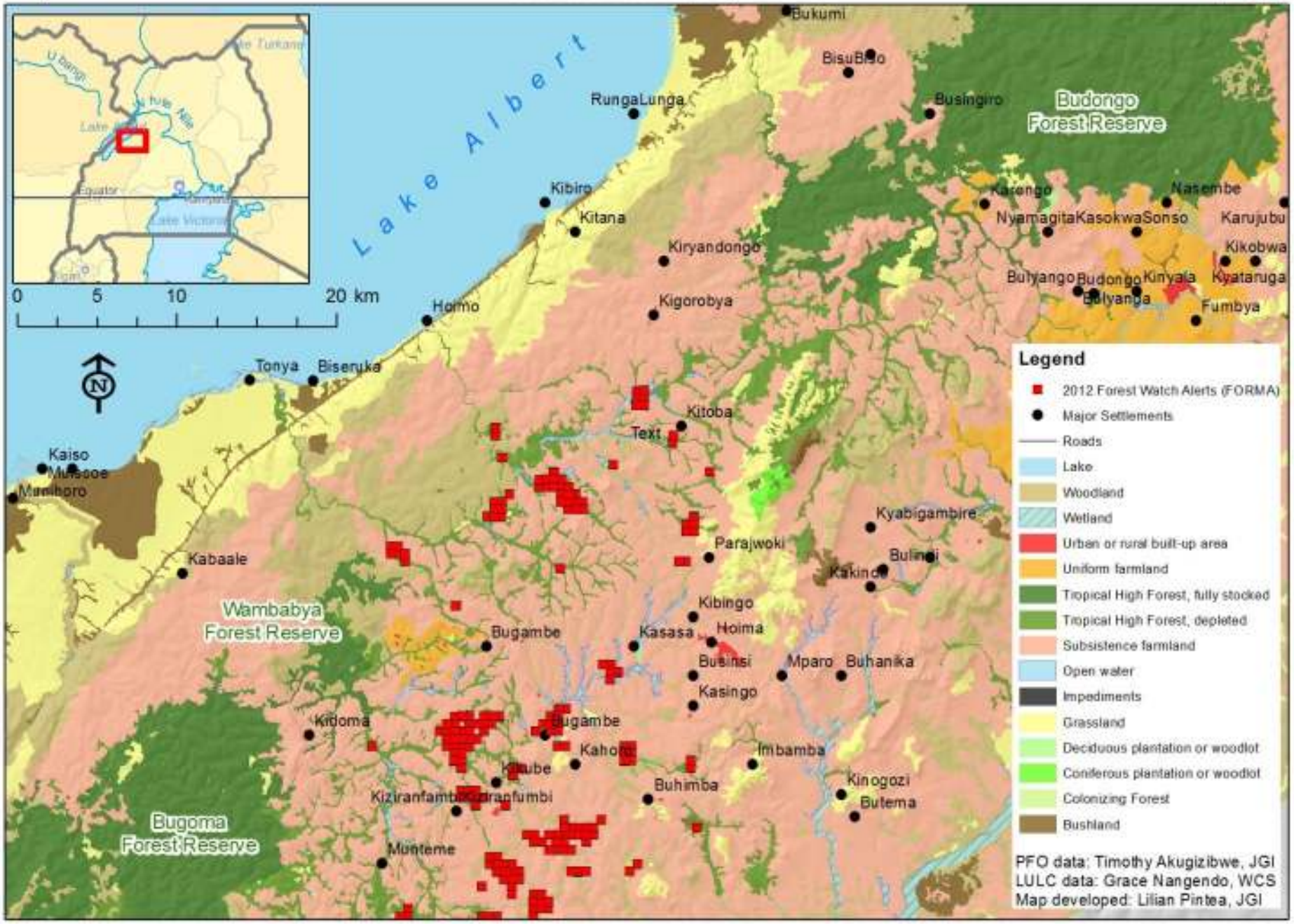
2012 Forest Watch Deforestation Alerts in the Bugoma-Budongo Corridor REDD project area



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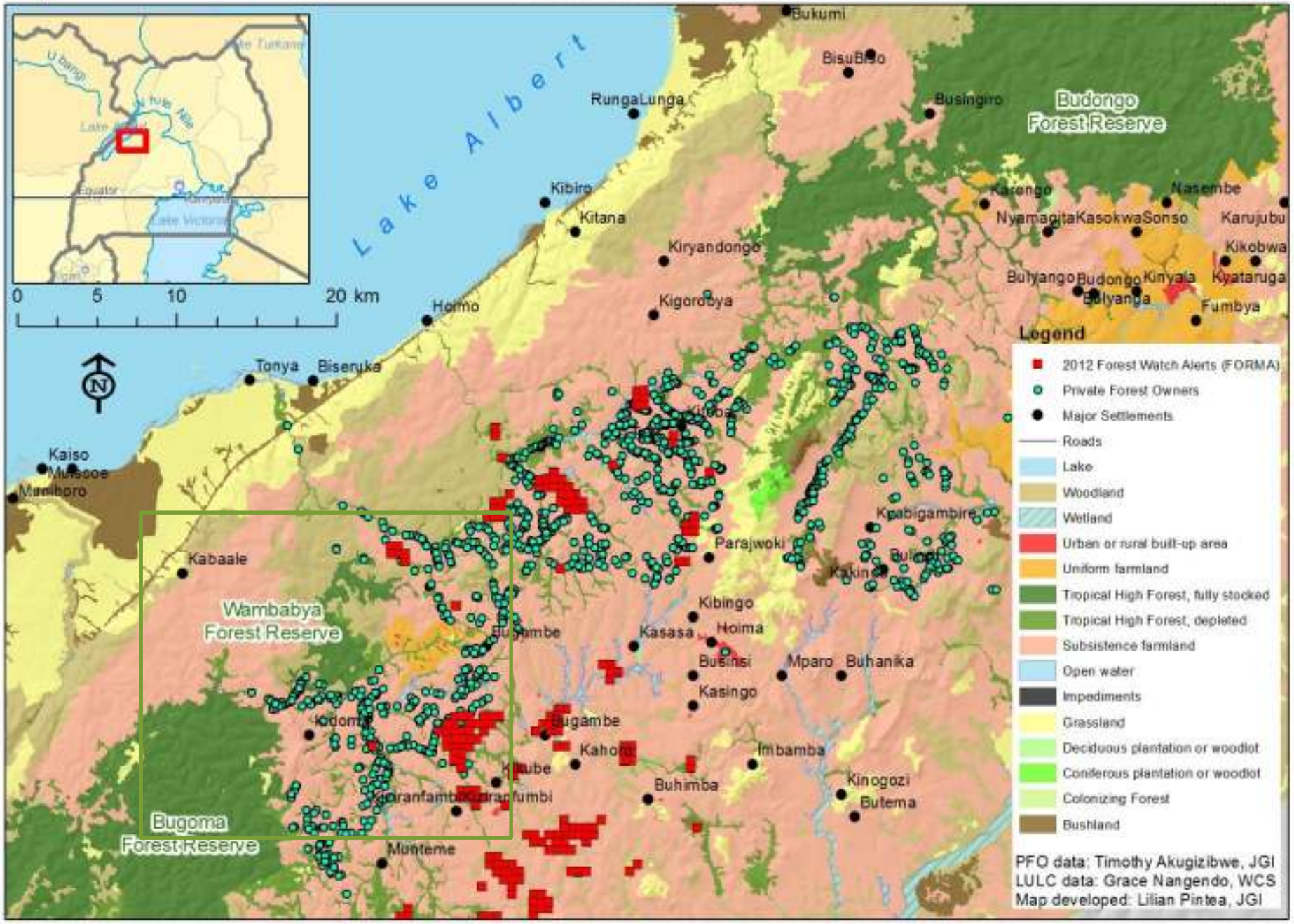

One of the dozens of Private Forest Owners Associations organized by JGI-Uganda and mapped using Google Android tablets, ODK and ArcGIS/Esri technologies

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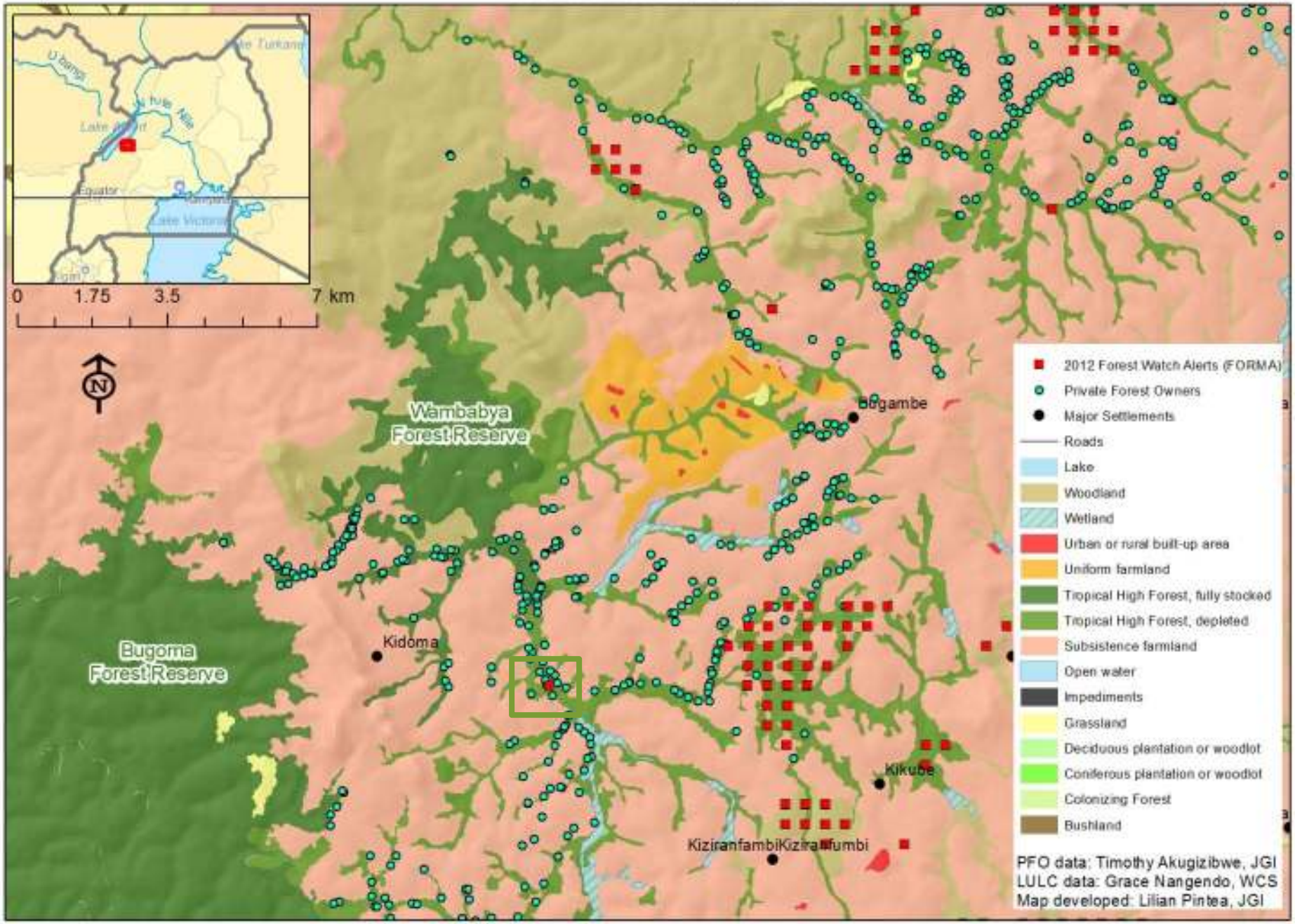
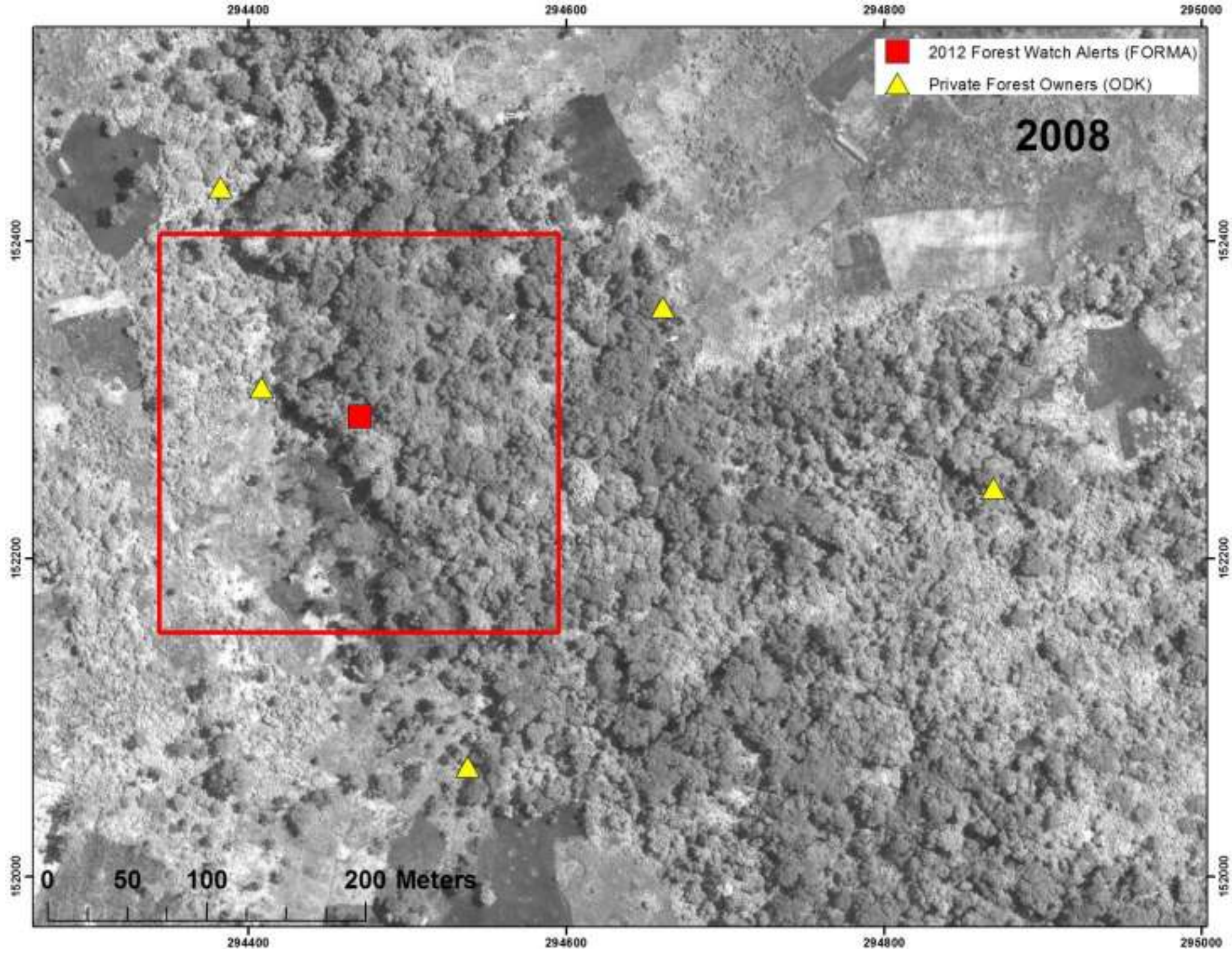
2012 Forest Watch Deforestation Alerts in the Bugoma-Budongo Corridor REDD project area

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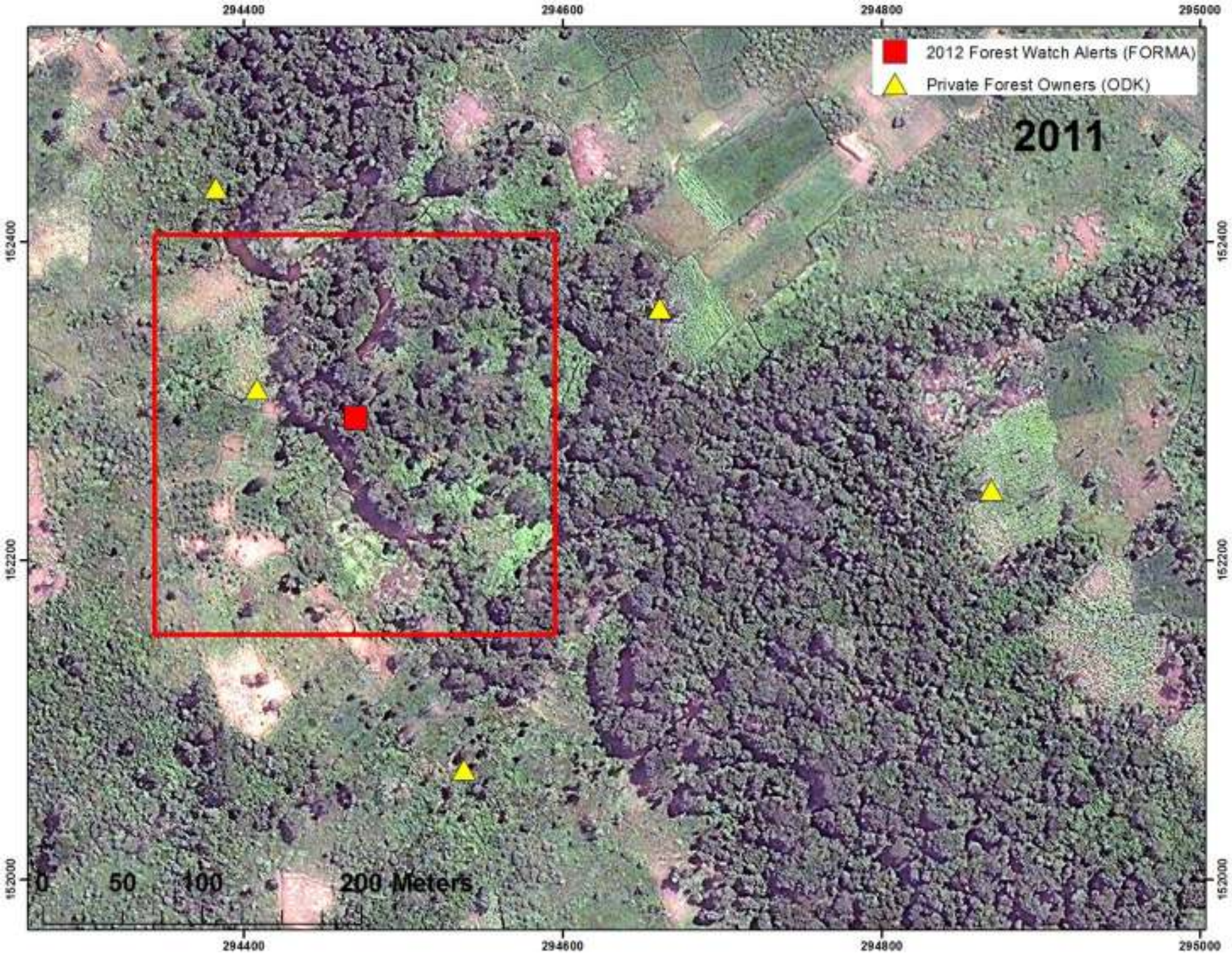
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2012 Forest Watch Alerts (FORMA)
Private Forest Owners (ODK)
2011
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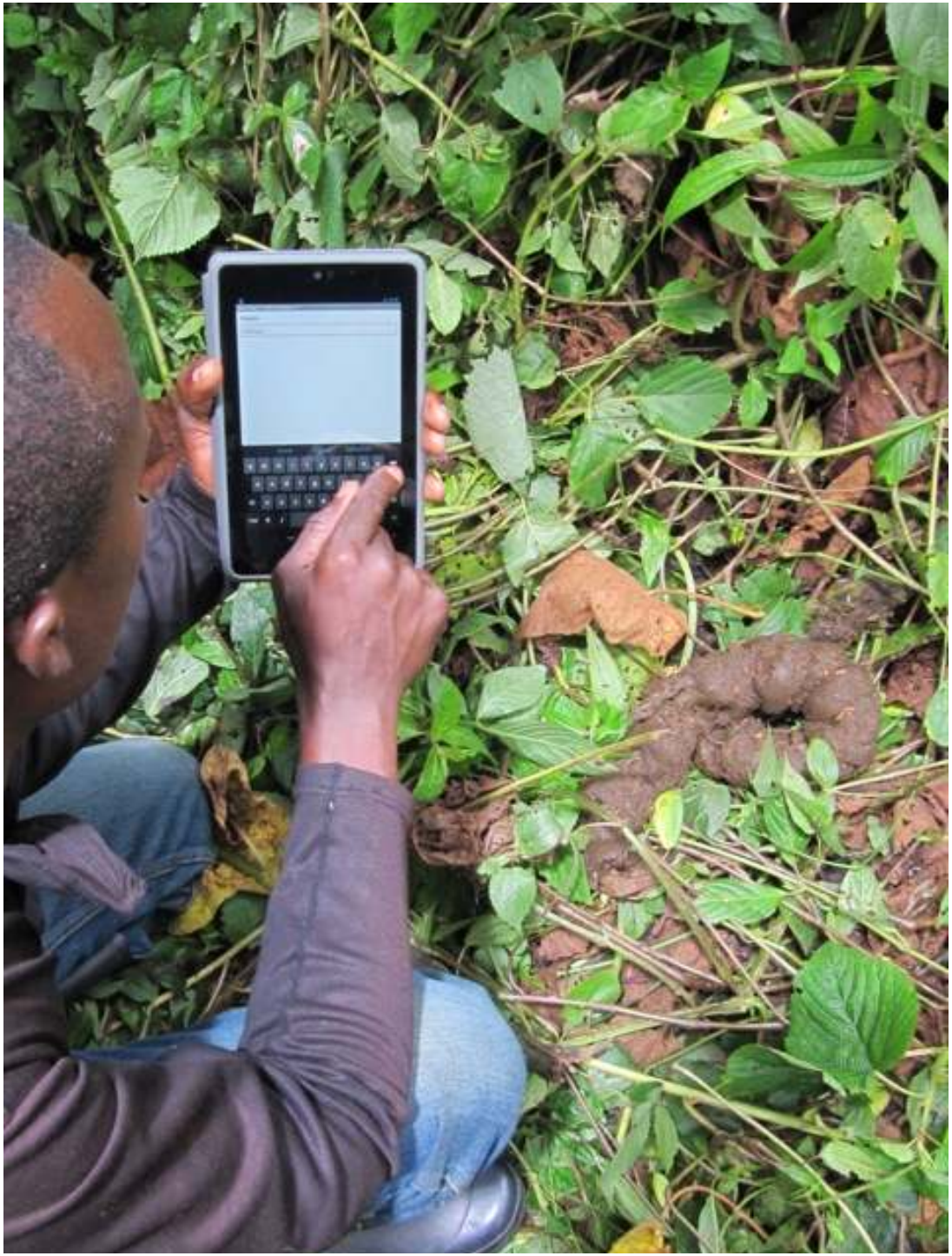
Key Successes & Lessons Learned

- Community generated data key
  - Informed, objective and transparent communication
- New threats identified and addressed
- Community generated data useful for modeling chimpanzee distribution and monitoring threats
- Baseline data to monitor and measure success at the community and regional level
- Great potential to integrate community generated data in the cloud with other applications and efforts:
  - Chimp distribution modeling
  - Using and validating global mapping and monitoring data from satellite images
- Even if technology is straightforward there is a need for technical personnel in the field to address ongoing technology issues (e.g. system updates)
- Need for a local sustainable business solution to battery/power challenge
- Need to access internet by the communities directly
- Understanding local cultures, decision-making processes and policies key to technology adoption



Testing ODK for Chimpanzee and Gorilla Surveys in Eastern DR Congo

Chryso Kaghoma, Field Research Assistant (FFI), Eve Cizi Andagamo , ICCN Researcher and Kahuzi Biega National Park rangers

Chryso Kaghoma
Field Research Assistant (FFI)
testing the use of Google Nexus 7 tablet to collect gorilla dung data in Kahuzi Biega National Park (March 14, 2013)

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