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The International Small Group
& Tree Planting Program

Smallholder Farmers Fight
Climate Change

Tree Planting, Farmers and Carbon

Grassroots Solutions for Forest and Landscape Restoration

3 March 2015

World Resources Institute



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Present Reality: Deforested Land



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Living in Desolation



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**Created to
Connect Subsistence Farmers
with Global Carbon Markets**

**To Create a New
‘Virtual Cash Crop’
And Help Reverse Biodiversity
Loss, Famine,
Deforestation, Degradation, and
Drought**

A photograph of two women standing on a grassy hillside, looking out over a vast, lush green valley. The woman on the left is wearing a dark purple jacket, a white skirt, and a colorful headscarf. The woman on the right is wearing a white shawl and a dark blue skirt. They are both looking towards the left side of the frame, where a river winds through the valley. The background shows rolling hills covered in dense green vegetation under a cloudy sky.

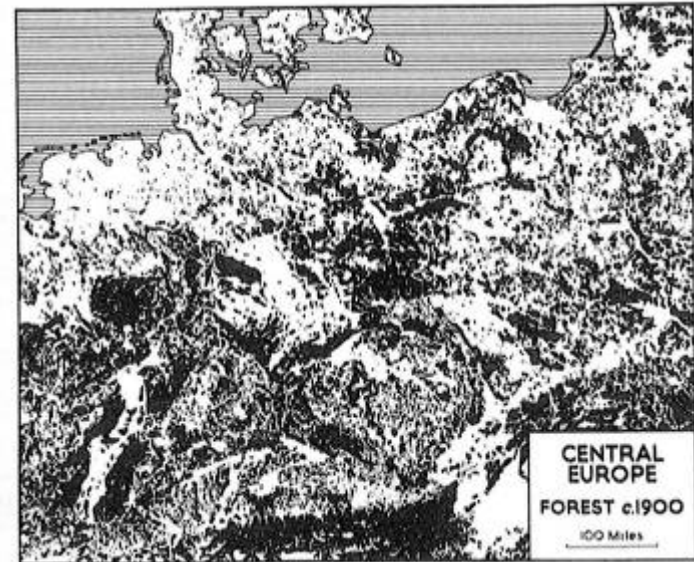
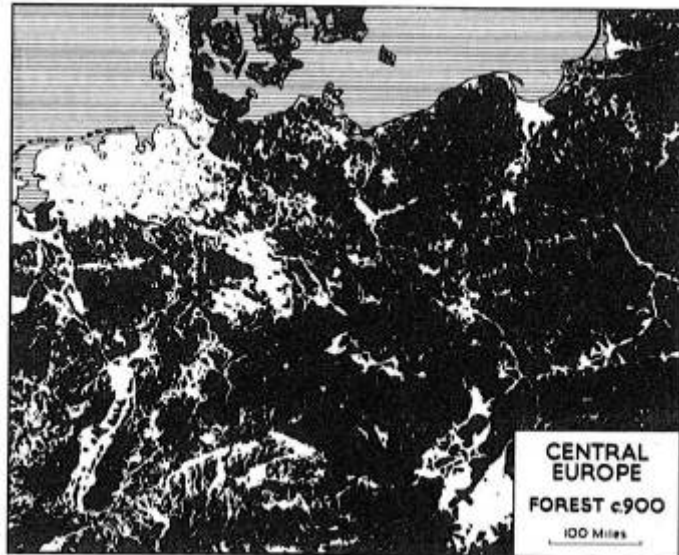
SEEING HOPE

The Opportunity To Restore Forests And Landscapes

Lars Laestadius March 3, 2015
World Resources Institute
larsl@wri.org

Today's Forest is Not a Good Benchmark

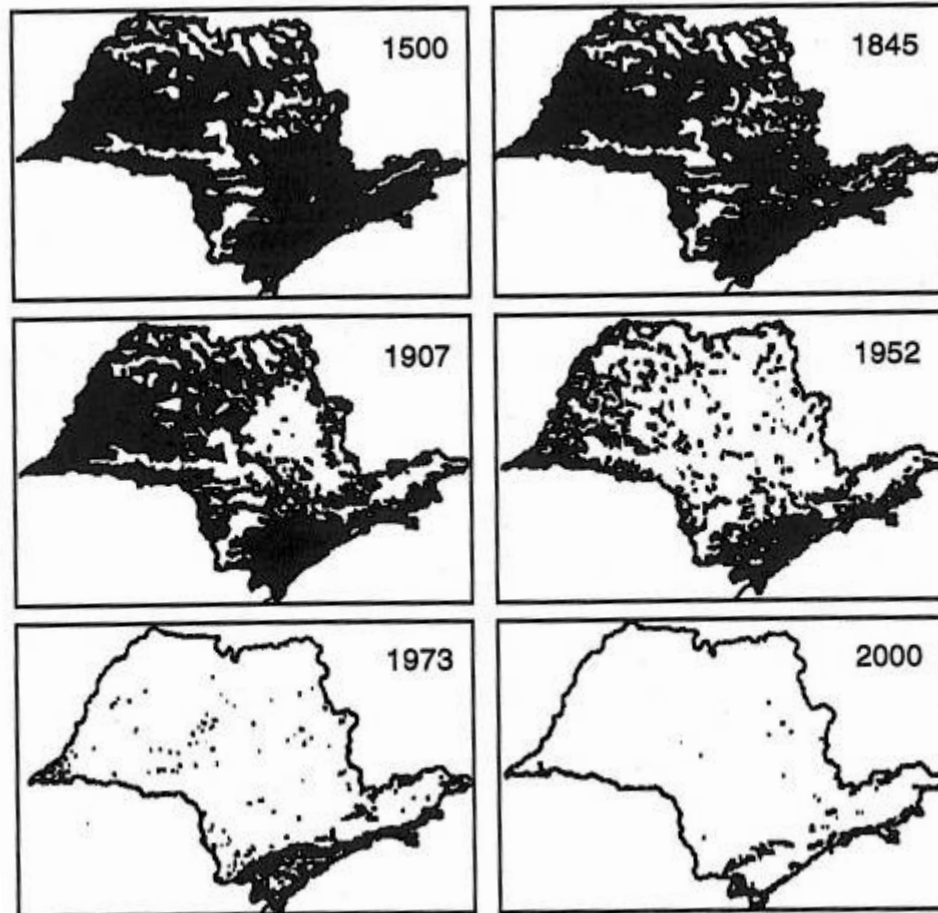
Central Europe, 900-1900



Source: Williams 2006

Today's Forest is Not a Good Benchmark

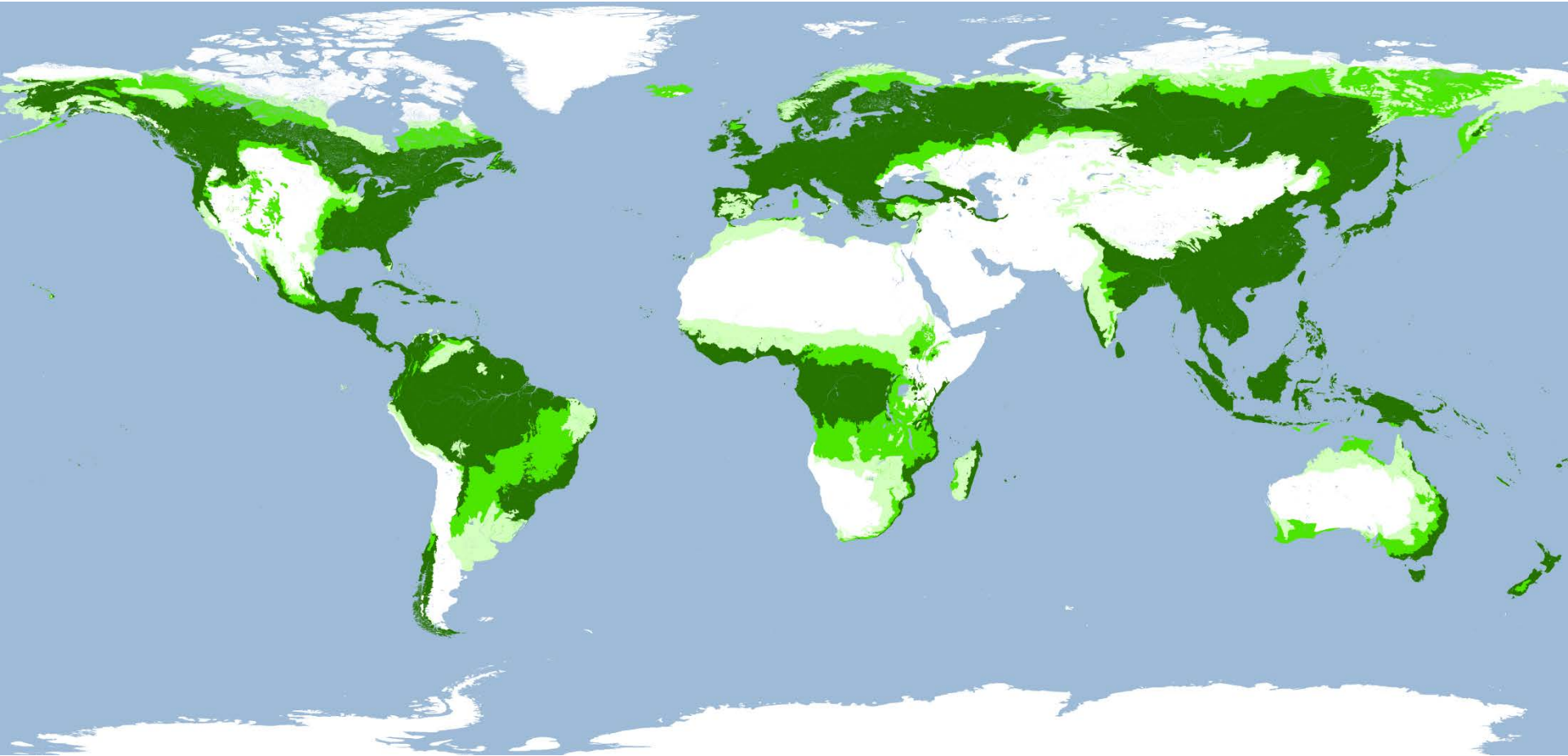
Sau Paulo State, Brazil 1500-2000



Source: Williams 2006

A Better Baseline: Potential Forest

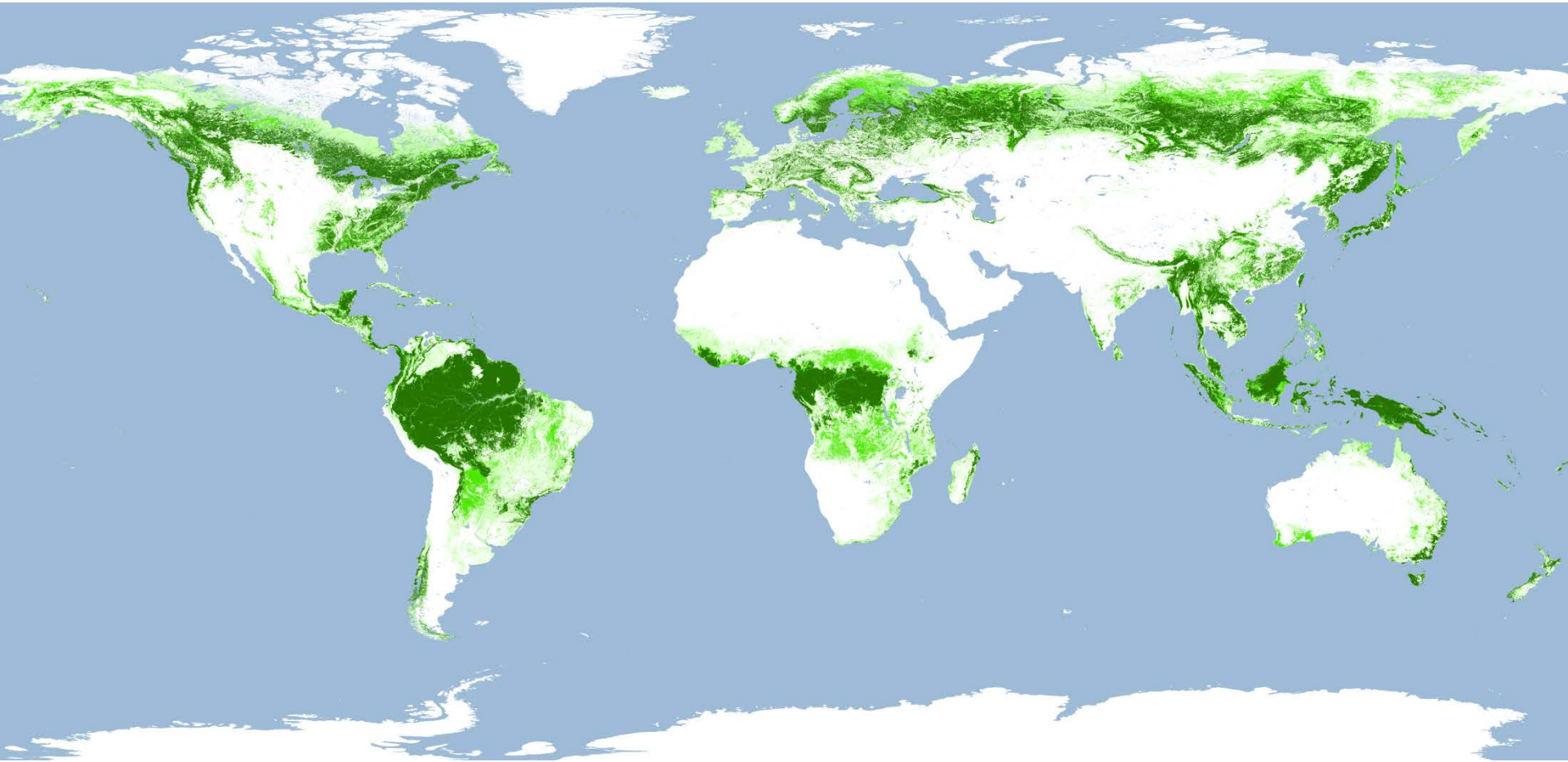
Where forests and woodlands would be if climate and soils decided



green – canopy cover >45%; Medium green – 25-45%; Light green – 10-25%

Today's Forest

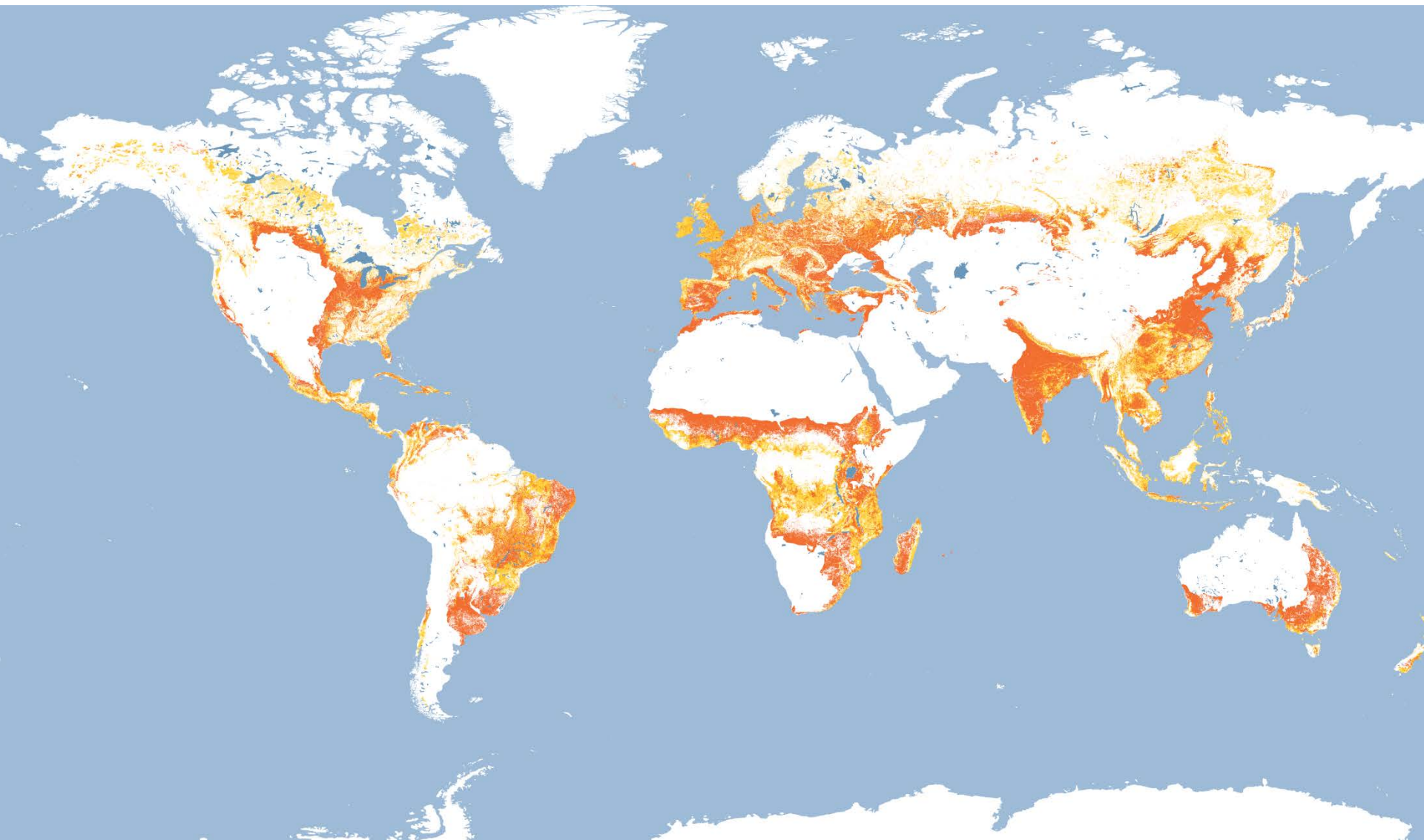
Where forests and woodlands are today



Dark green – canopy cover >45%; Medium green – 25-45%; Light green – 10-25%

Lands That Have Been Degraded or Deforested

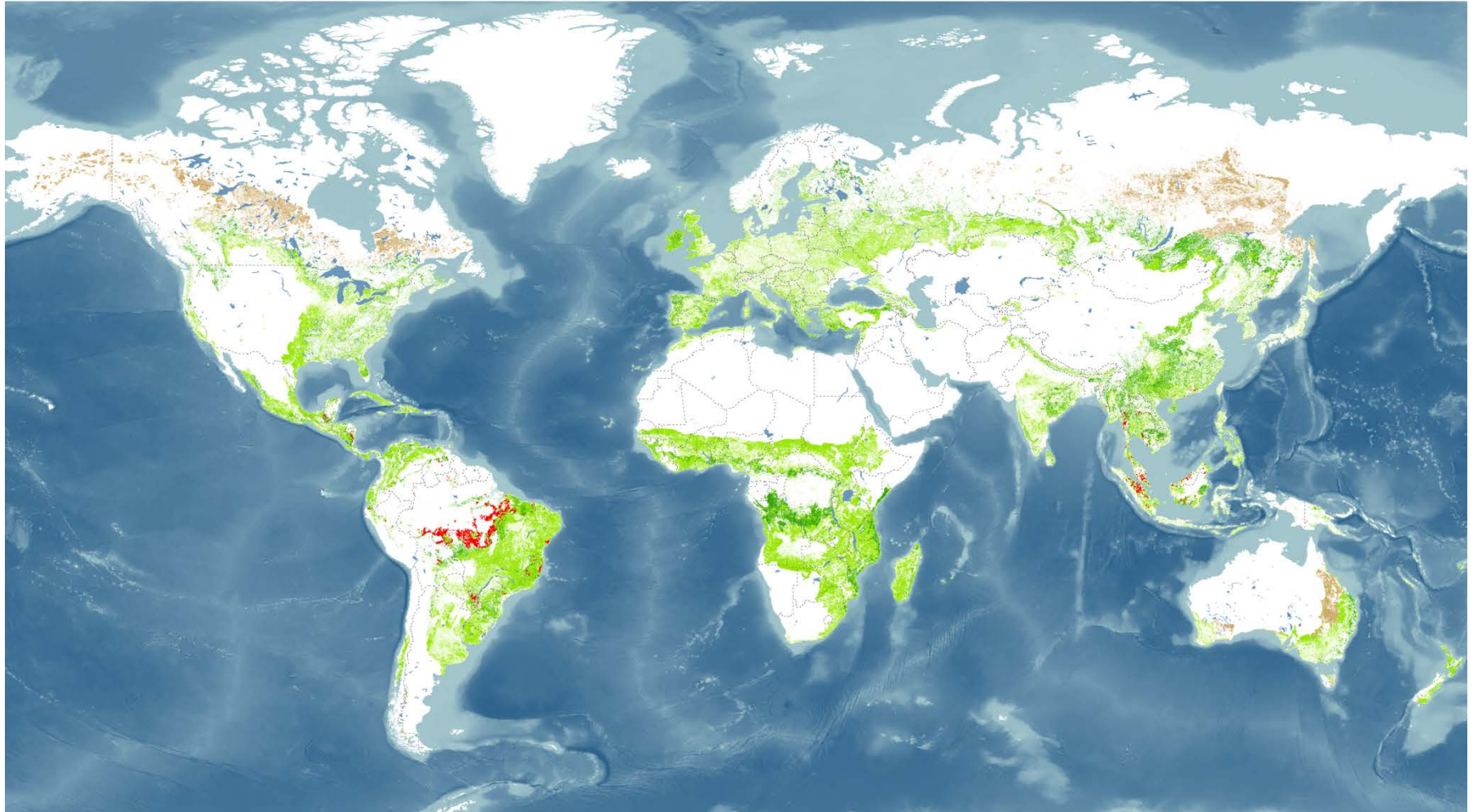
Some of these lands can be restored



 Degraded  Deforested

Lands of Opportunity

for Forest and Landscape Restoration



FOREST AND LANDSCAPE RESTORATION OPPORTUNITIES

- Wide-scale restoration
- Mosaic restoration
- Remote restoration

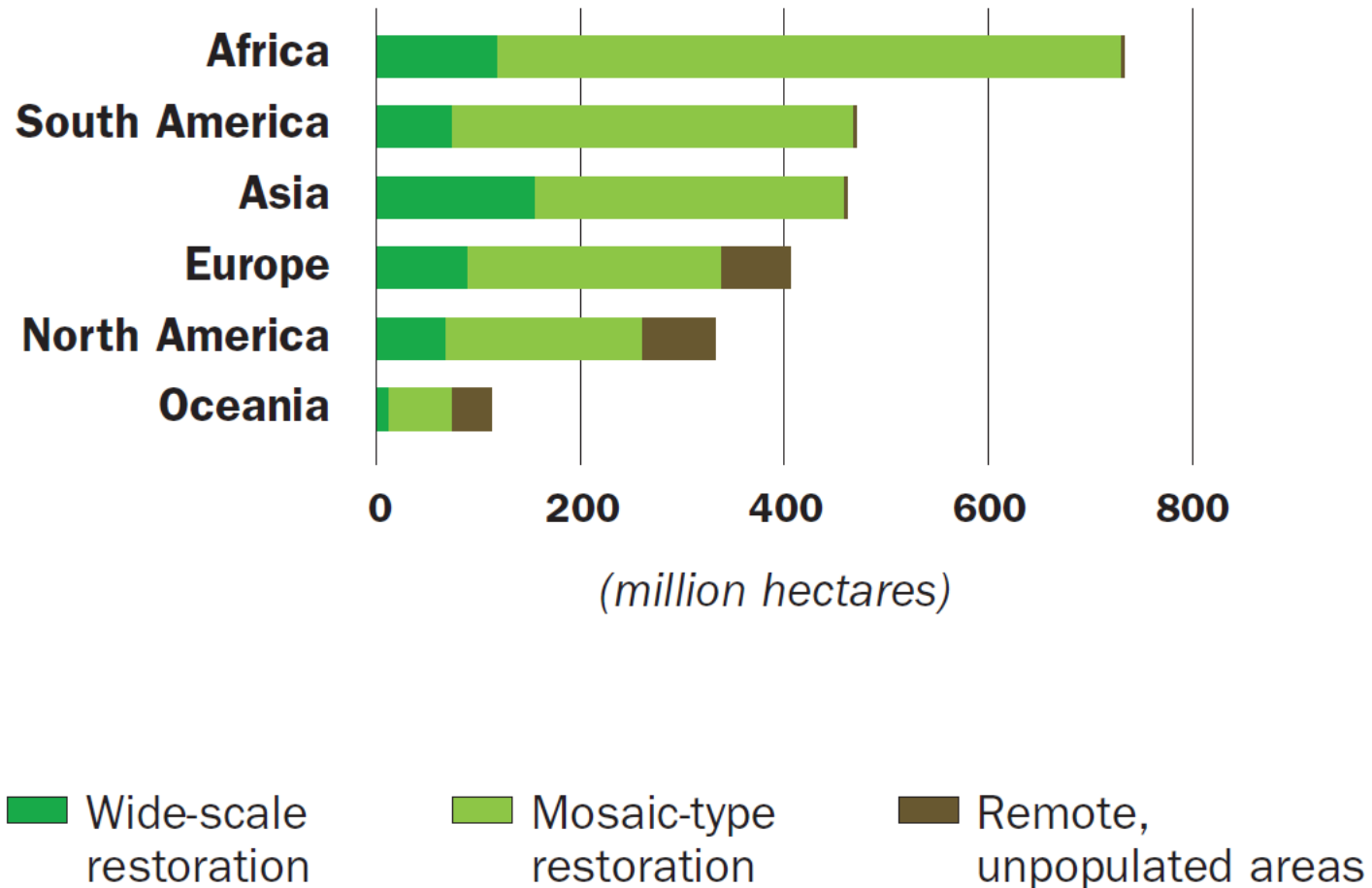
OTHER AREAS

- Recent tropical deforestation

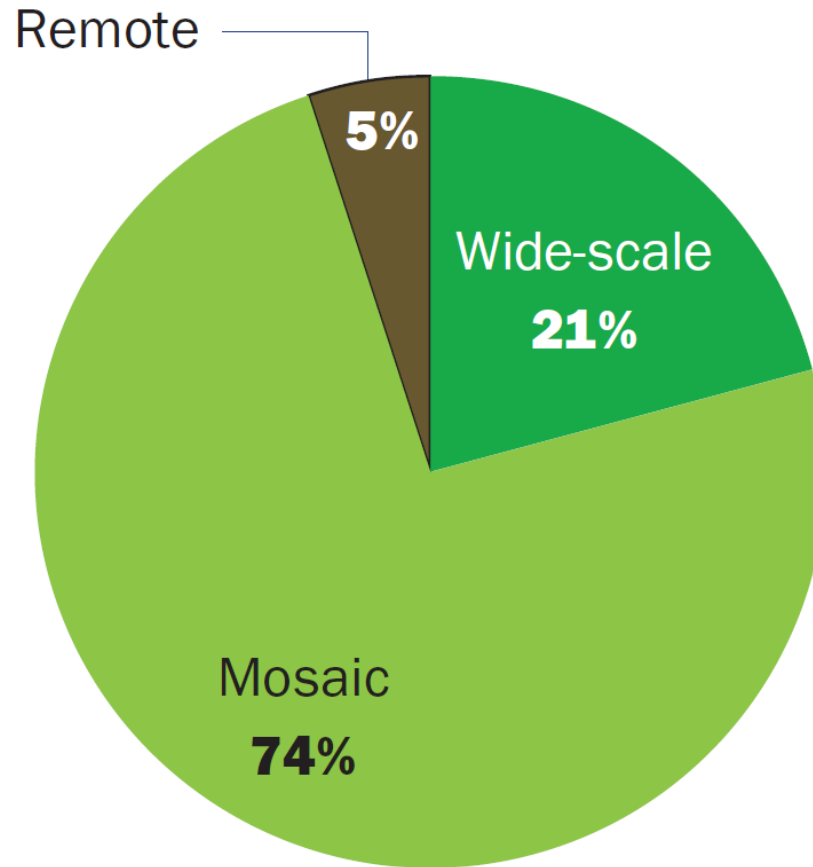


There are Opportunities Everywhere

The total opportunity area is 2 billion hectares



The Greatest Opportunities are in the Mosaic Landscape



A world map with a satellite-like background. The landmasses are overlaid with a semi-transparent grid. Green areas indicate regions with restoration opportunities, while grey areas indicate regions without. The green areas are concentrated in North America, Europe, and parts of South America and Africa. The grey areas cover large parts of Africa, South America, and Asia. The oceans are a deep blue color.

THERE IS HOPE

2bn

hectares with
opportunities for
restoration

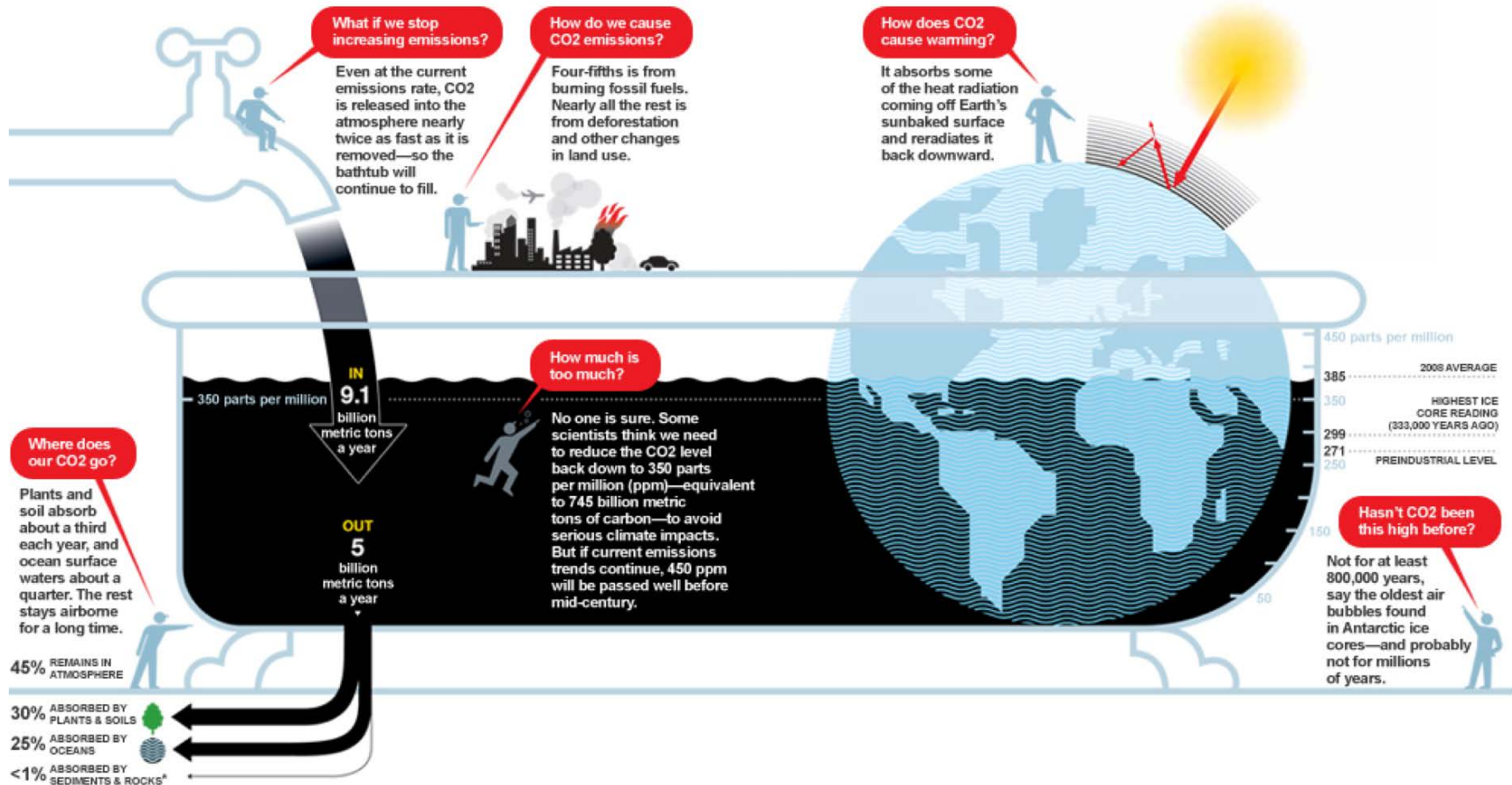


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Participants: 70,000 +
Trees: 14 million +

Basic Climate Change Situation – National Geographic 2009



* PERCENTAGES DO NOT ADD UP TO 100 BECAUSE OF ROUNDING.

What if we stop emissions completely?

It will take centuries for plants and the ocean to soak up most of the human-made CO₂. It will take hundreds of millennia for the rest to be removed by rock weathering, which converts CO₂ to carbonate sediments and rocks.



DRAINS FROM TUB

Why would the level stay high for so long?

Plants and soil absorb CO₂ quickly, but that reservoir fills up fast.

The deep ocean is bigger, but access is slow; CO₂-laden surface water sinks at only two places near the Poles.

Carbonate sediments and rocks are far bigger and slower still; they form at sea from elements weathered off rocks on land.

PLANTS & SOIL

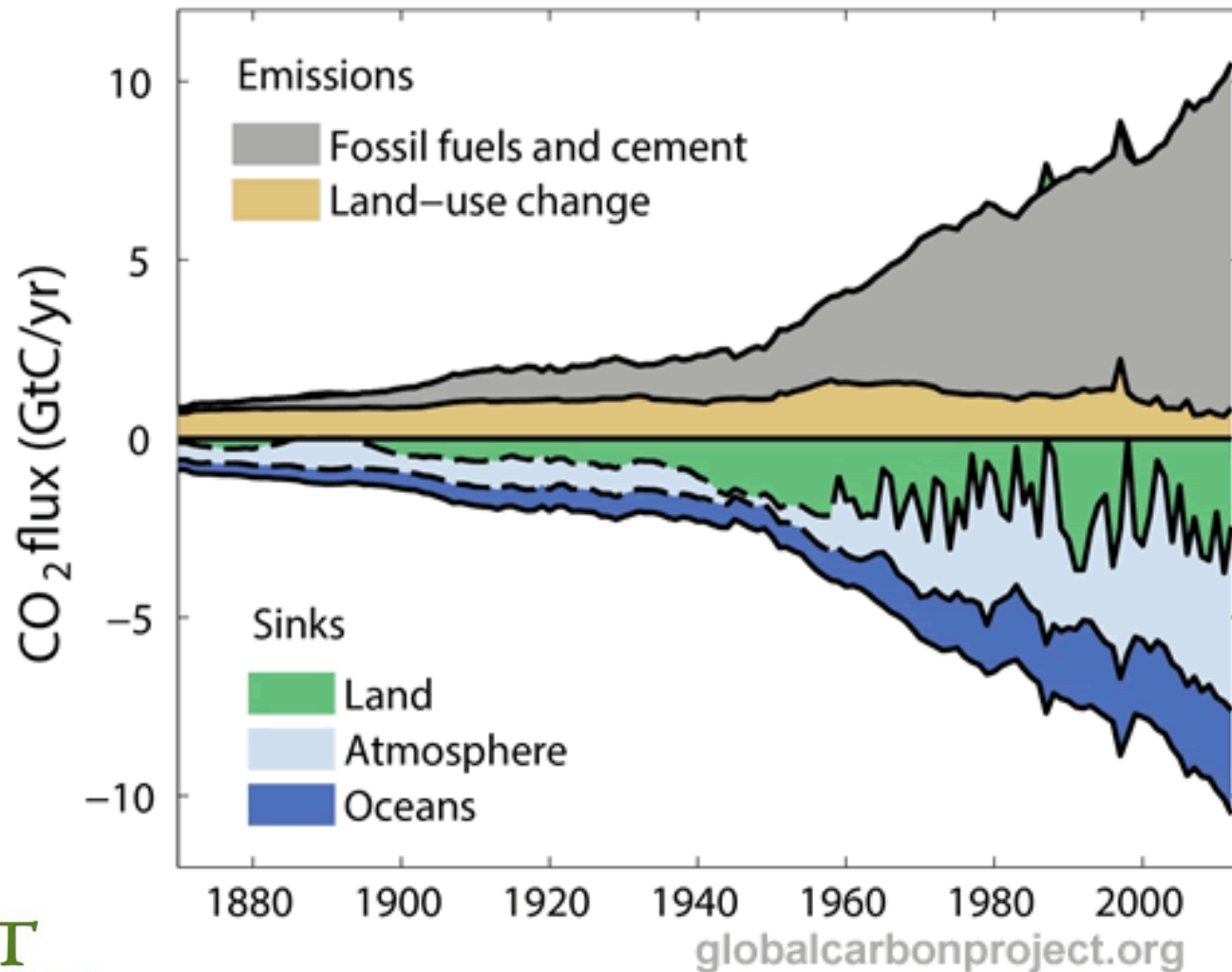
DEEP OCEAN

SEDIMENTS & ROCKS



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The Global Carbon Budget 1870-2012



Restoration

- Will allow degraded areas to absorb CO2
- Will restore biodiversity in lifeless areas
- Creates wood for fuel, timber, buildings
- Provides fodder
- Improves water quality and quantity
- Improves livelihoods



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TIST Values

We are Honest

We are Accurate

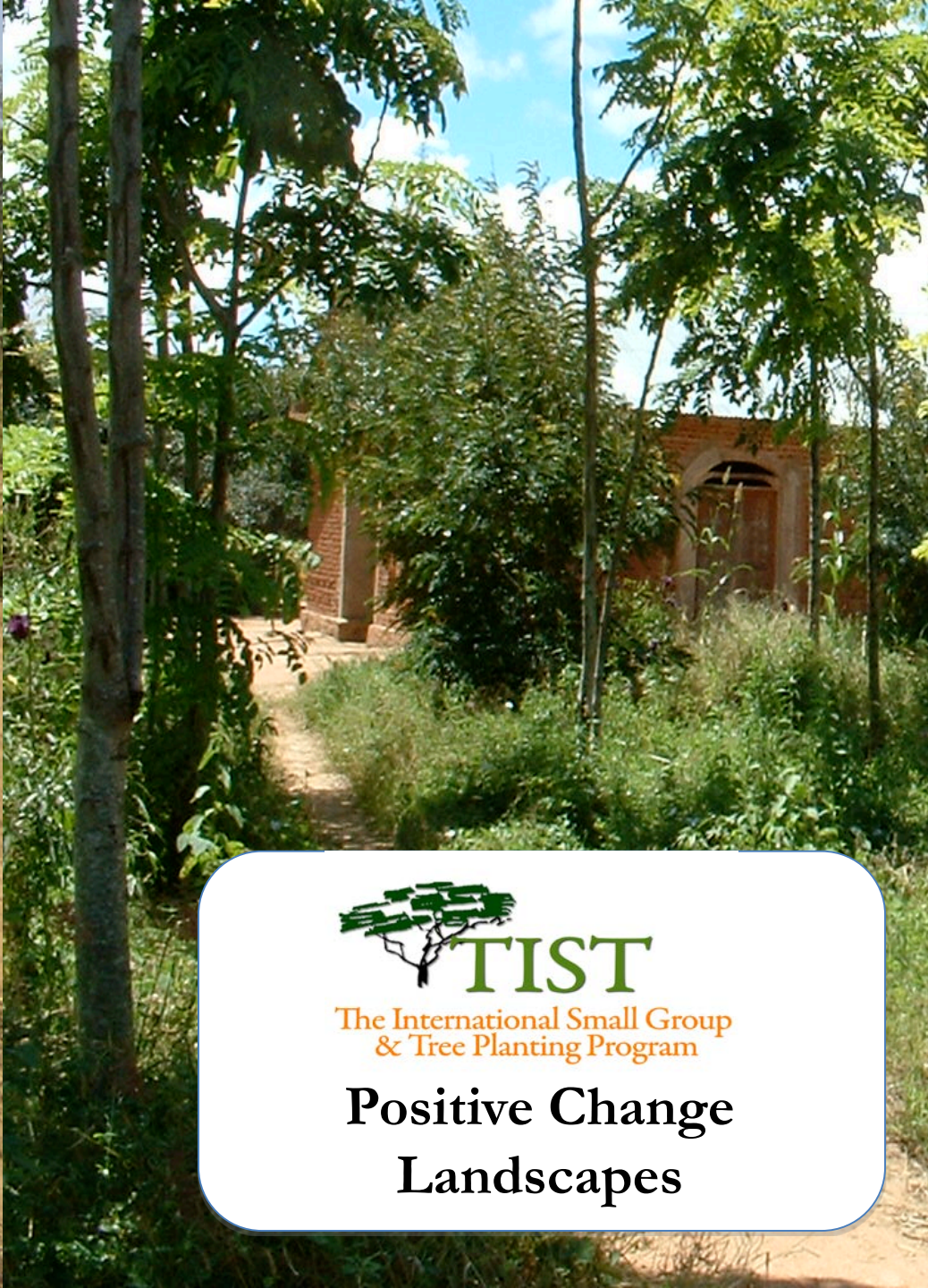
We are Transparent

We are Mutually Accountable

We are Servants to Each Other

We Are Volunteers

**We Create Big Results
with Low Budget**



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**Positive Change
Landscapes**

Data Collection



Phones used for data collection

1

New Area Form

I. PROPOSED LOCATION FOR

Name of Location (e.g. Country, District(s), Cit(ies), Village(s)):

GPS location:
41° 51.504 N
087° 36.499 W
4/14/03 at 18:10:16 (UTC)

Fix Cancel

End Previous Next

2

New Area Form

Take a photo of location:

Capture

Capture Time

Set Date

Preview image

Image/Object

Accept Image

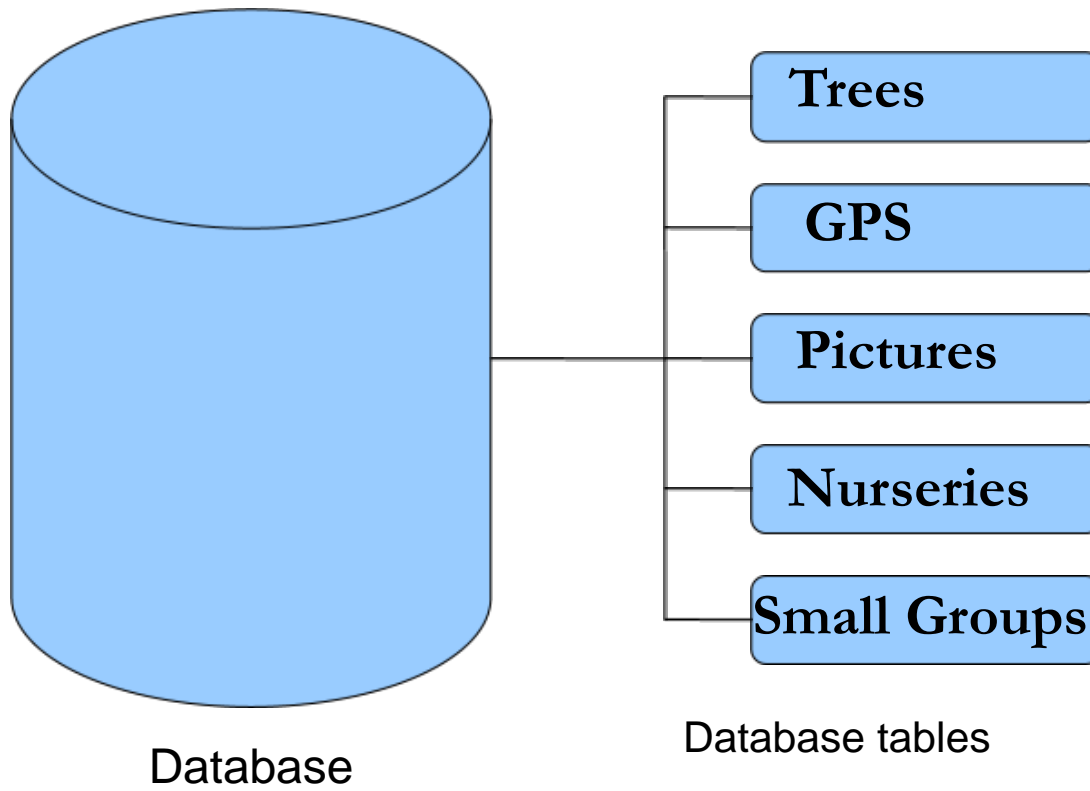
Yes No

End Previous Next

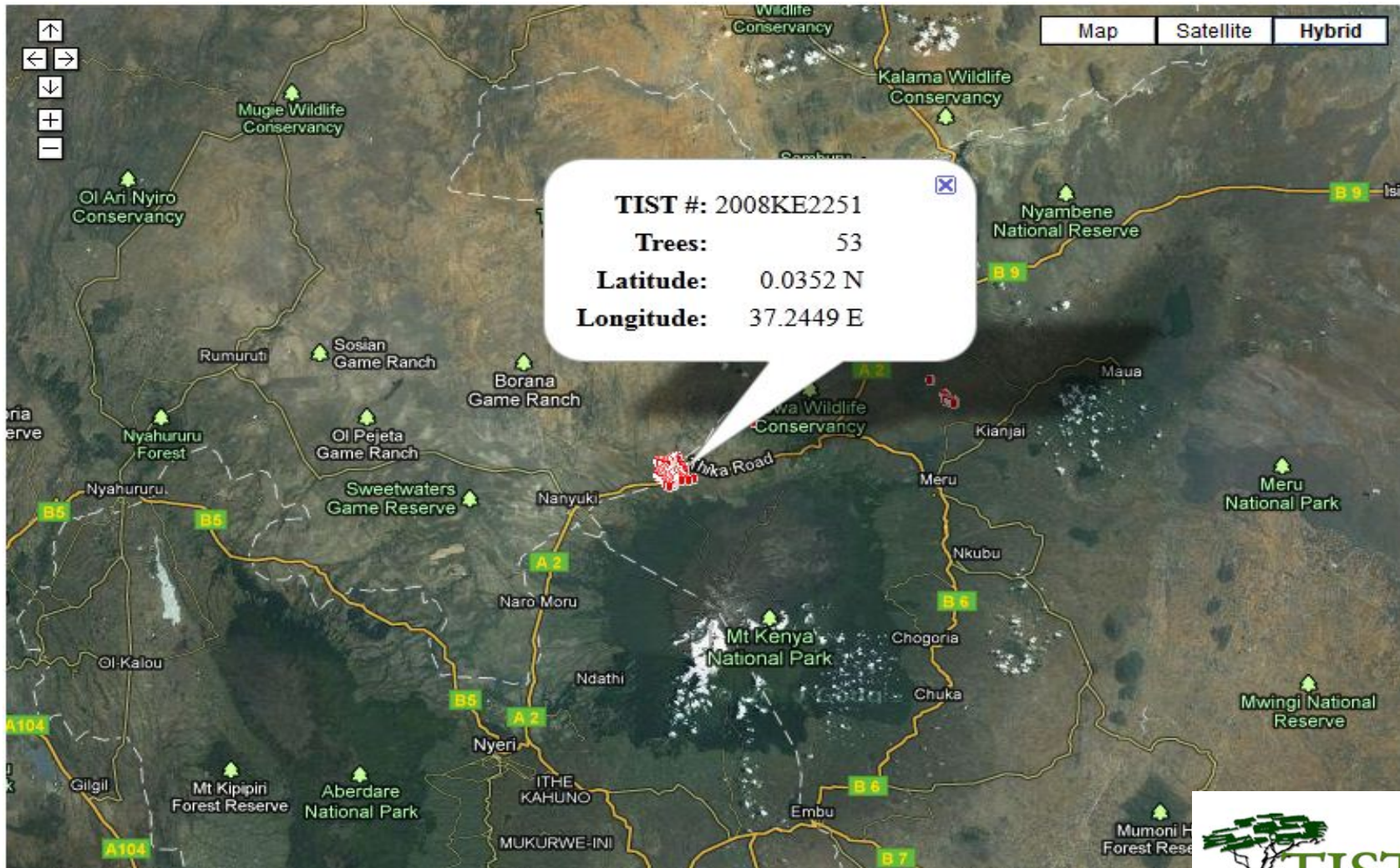
Various Forms



Data Storage



Data Visualization



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Desk Audits



Group Center	Group Name	Date Reviewed	Status	Additional Info
Timau	MUGUNA (2008KE601)	25 October 2011	Complete	Update
Kirimaara	Kiandogo (2008KE2299)	24 October 2011	Complete	Update
Naro Moru	Upper Kienjera Grp B (2011KE186)	23 October 2011	Ungraded	Update
Kirimaara	Kigumoni (2006KE1151)	23 October 2011	Complete	Update
Naro Moru	Upper Kienjera Grp A (2011KE185)	23 October 2011	Ungraded	Update
Imenti North	MUGUNA 15 (2008KE1693)	22 October 2011	Incomplete (Tech Issue)	Update
Imenti North	MUGUNA 24 (2008KE1853)	22 October 2011	Incomplete (Tech Issue)	Update
Kirimaara	Mwitethia (2006KE251)	22 October 2011	Ungraded	Update
Imenti North	MUGUNA 13 (2008KE1692)	22 October 2011	Incomplete (Tech Issue)	Update
Imenti North	MUGUNA 11 (2008KE1691)	22 October 2011	Ungraded	Update
Kabal2	Munyere Tree Planting (2010UG103)	22 October 2011	Ungraded	Update
Kinyaritha	Mwicwiri S.H.G. (2006KE161)	22 October 2011	Ungraded	Update
Imenti North	MUGUNA 16 (2008KE1848)	22 October 2011	Incomplete (Tech Issue)	Update
Timau	MUGUMO (2008KE2151)	22 October 2011	Ungraded	Update
Timau	NKIROTE;A (2008KE1076)	22 October 2011	Ungraded	Update
Imenti North	MUGUNA 29 (2008KE1857)	22 October 2011	Ungraded	Update
Laikipia West	Green tree four (2011KE180)	22 October 2011	Ungraded	Update
Naro Moru	Tigithi conservation Group (2005KE507)	22 October 2011	Ungraded	Update
Kirimaara	Kithigirani (2011KE146)	21 October 2011	Complete	Update
Lamuria	Matanya T N 'B' (2006KE371)	21 October 2011	Complete	Update
Kinyaritha	Runju Tree planters (2007KE87)	21 October 2011	Ungraded	Update
Kirimaara	M.rongoria (2007KE574)	21 October 2011	Complete	Update
Timau	MWAWAKIMA (2008KE1075)	21 October 2011	Complete	Update
Tharaka	Marebe catholic church (2008KE1534)	21 October 2011	Ungraded	Update



- About TIST
- Project Areas
- More Information
- Where's My Forest
- How Can I Help & Contact Us
- Documents to Download
- Search
- Investor Information

NKIROTE;A - Tree Audit
TIST Number: 2008KE1076
Group Name: NKIROTE;A
Village: Kithithina
Group Center: Timau
Group Number: 54
Area: Meru
GHG: Yes
Registration Date: 21 February 2008
Date of Audit: 22 October 2011
Quantifiers: -Josphine Mwangi and Lucy Rigiri

GHG offsets created by TIST Small Groups can now be purchased on ebay

Stores

TIST Forum
 TIST Webmail
 Coordinator Login

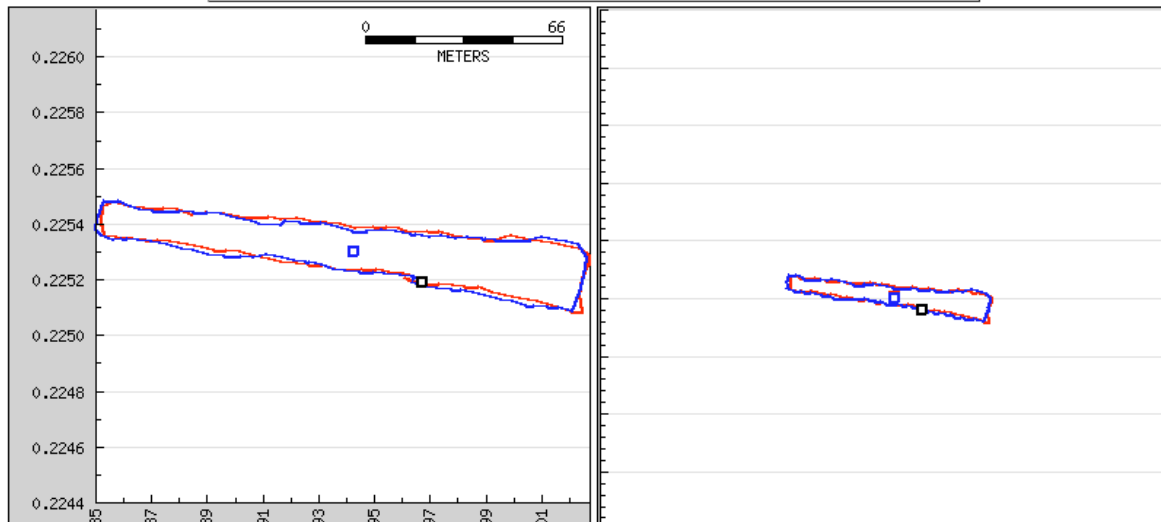
Groves Present
Click on the grove name to see maps of the grove

Name	Longitude	Latitude	Visual Description	Grove Area in Ha	Trees
Francis Kamunia	037 13.7307 E	00 04.3223 N	On a Farm	N/A	35
			<input type="checkbox"/> 2011-10-22 <input type="checkbox"/> 2011-10-22 <input type="checkbox"/> 2011-10-22 <input type="checkbox"/> 2011-10-21	N/A	2011-10-21
			Circumference Baseline Sup Baseline Track Sec Track Picture		



Quality Assurance of Each Grove Track

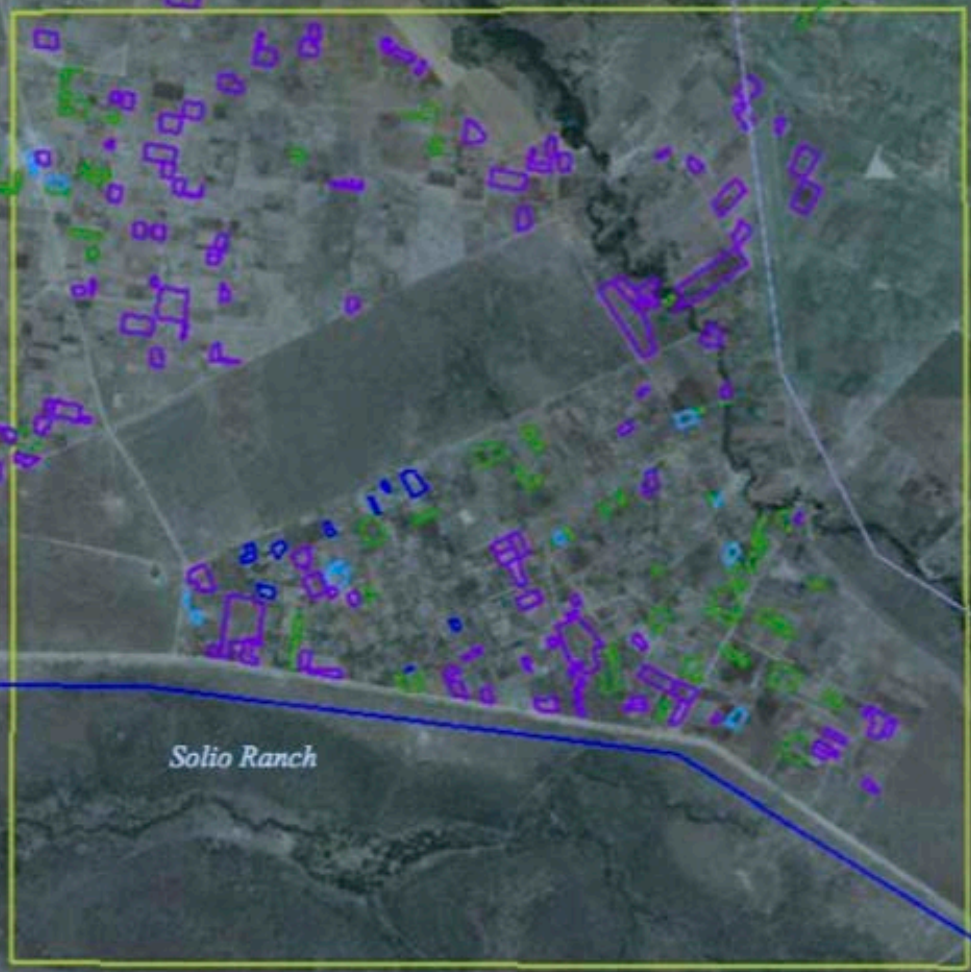
Group Center:	Imenti North	Group Number:	199
TIST Number:	2008KE1862	Quantifier 1:	-Mary Kawira
Grove Name:	CHARITY NCULUBI	Quantifier 2:	None
Cluster Name:	Limoro	Reviewed:	No Yes <input type="button" value="Change"/>
Tract Date:	2011-10-24	Area:	N/A Ha
Best Tract:		Status:	0 1 2 3 Final <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>



Field Audits



Solio Ranch 5 km x 5 km



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Groups	Groves	Total Trees	Indigenous Trees	Fruit/Nut Trees	Hectares
34	193	19,651	3,794	389	94

Google earth



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TIST Farmers: First in the World!



USAID
FROM THE AMERICAN PEOPLE



Institute for
Environmental
Innovation

CLEAN AIR
ACTION
CORPORATION

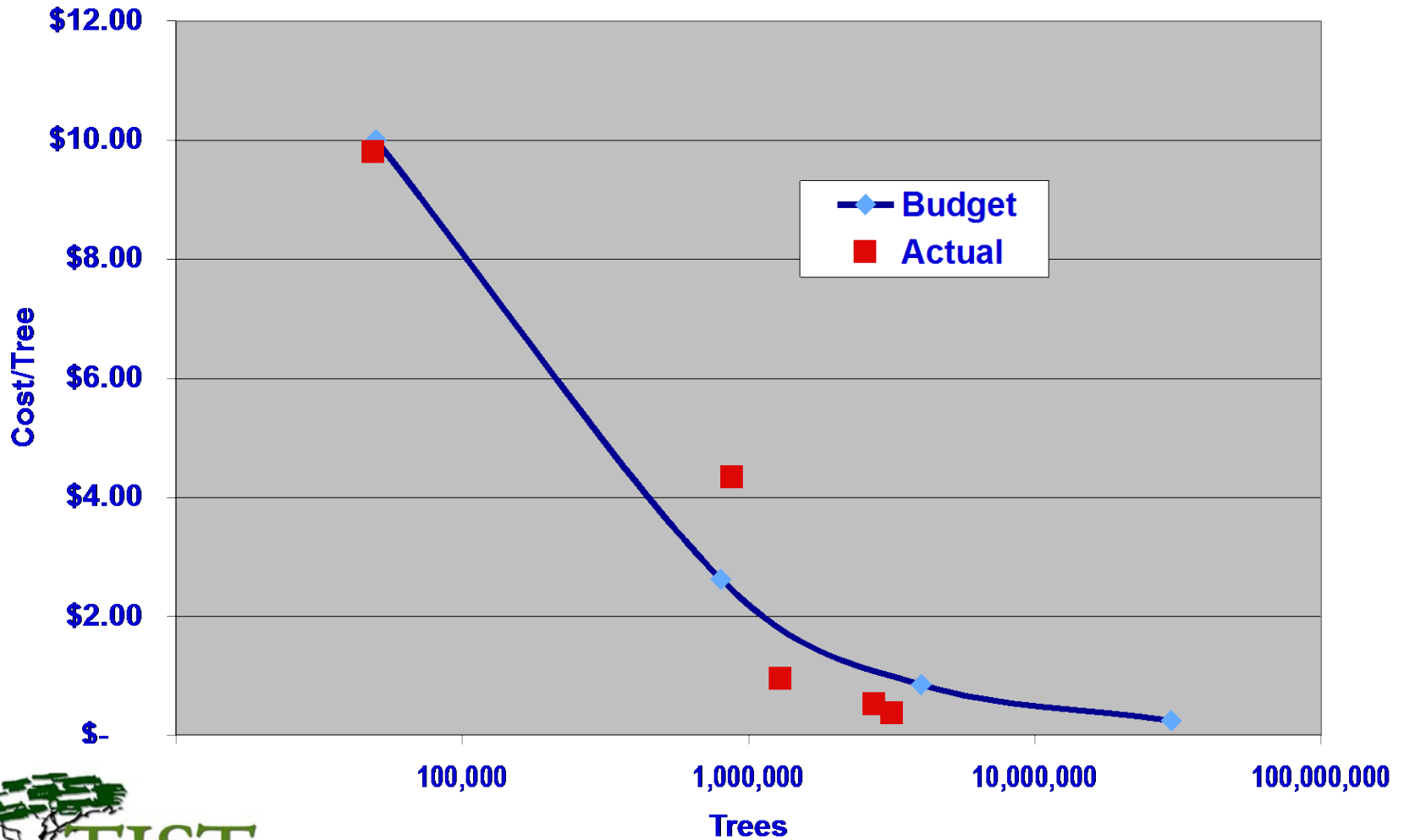
Verification Results to Date

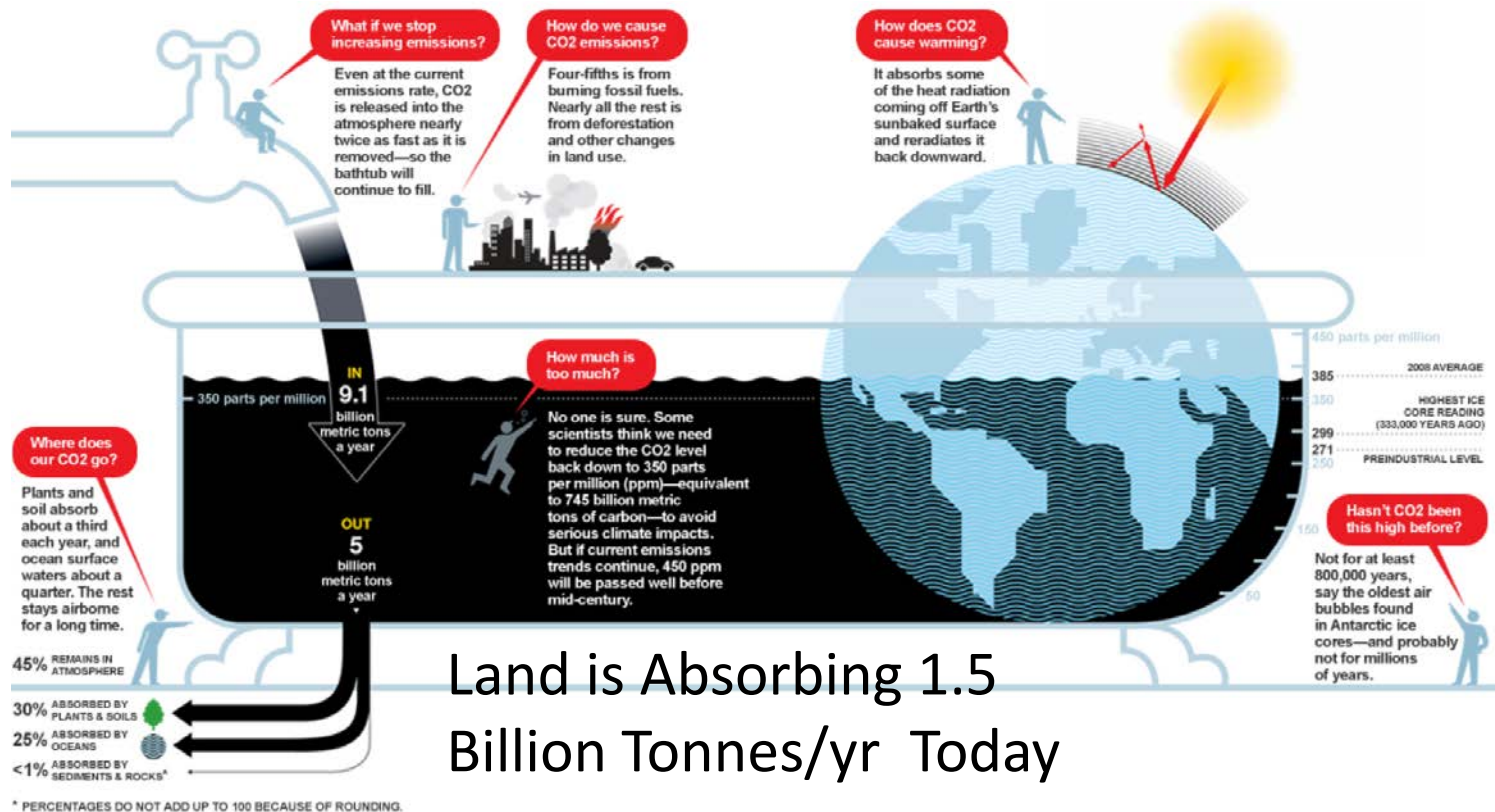
	A	B	C	D	E	F	G	H
1	Standard	Verified Trees	Verified Hectares	Verified Tonnes	Tonne/ Hectare	Begin Verific Period	Ending Verific Period	Max Years Growth
2	VCS							
3	Kenya							
4	KE PD-VCS-001	382,587	353.9	39,094	110	01-Jan-04	26-Aug-10	6
5	KE PD-VCS-002	125,107	398.1	9,944	25	01-Jan-04	26-Aug-10	6
6	KE PD-VCS-003	195,418	421.5	23,558	56	01-Jan-04	26-Aug-10	6
7	KE PD-VCS-004	214,663	391.6	8,031	21	01-Jan-04	26-Aug-10	6
8	KE PD-VCS-005	959,729	2,556.1	68,636	27	01-Jan-04	08-Jun-11	7
9	KE PD-VCS-006	2,389,105	7,419.2	188,649	25	01-Jan-04	29-Jun-12	8
10	KE PD-VCS-009	756,662	2,724.0	72,135	26	01-Jan-04	12-Nov-12	8
11								
12								
13	Total Kenya VCS	5,023,271	14,264.5	410,046	29			
14								
15	Uganda							
16	UG PD-VCS-001	1,051,891	777.1	62,294	80	01-Jan-03	06-Oct-11	8
17	UG PD-VCS-002	184,569	164.9	16,655	101	01-Jan-03	06-Oct-11	8
18	UG PD-VCS-003	503,792	443.3	38,941	88	01-Jan-03	06-Oct-11	8
19	UG PD-VCS-004	110,456	102.2	10,229	100	01-Jan-03	06-Oct-11	8
20	UG PD-VCS-005	830,053	722.6	56,329	78	01-Jan-03	12-Nov-12	9
21	UG PD-VCS-006	341,007	283.1	31,754	112	01-Jan-06	12-Nov-12	6
22								
23								
24	Total Uganda VCS	3,021,768	2,493.2	216,201	87			
25								



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TIST Operational Cost Progress to Date





BASIC, BUT IMPORTANT MATH!

A TIST Farmer's Woodlot Absorbs 7.6 T/Ha/Yr
To Double the 1.5 Billion Tonnes/yr Absorbed
= 200 Million Ha = 10% of WRI's 2 Bn Ha!



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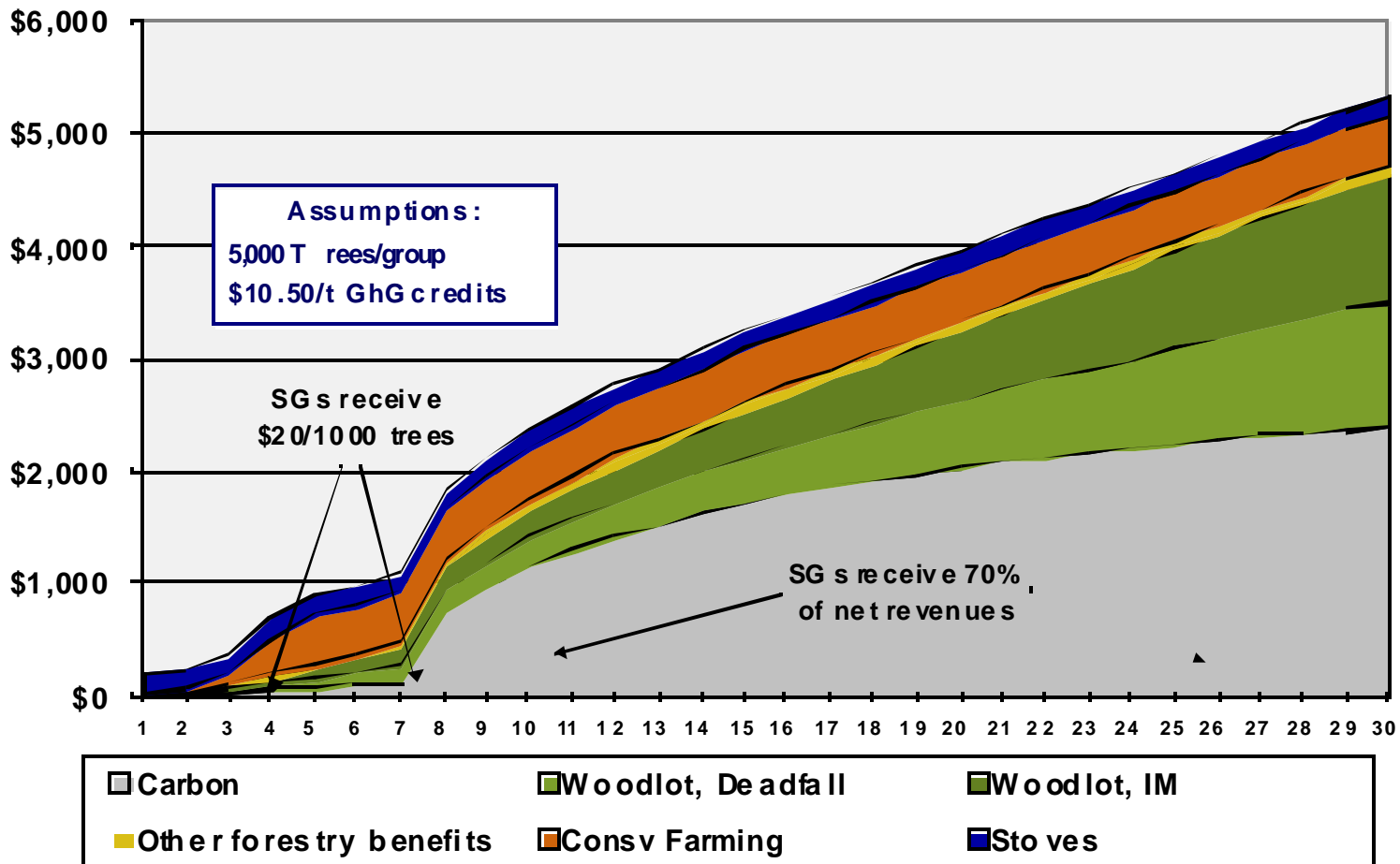
Carbon really is the Co-Benefit

18 CCB 3rd party verifications have certified:

- Higher yield from Conservation Farming – food to eat or sell – room to plant trees!
- Home grown fruit, nuts and firewood
- Compost manure
- Raising seedlings for own use or sale

Further Benefits

- Fuel savings through improved stoves
- Beekeeping and honey to sell
- Home grown fodder
- Employment opportunities
- For every \$10 invested per tonne CO₂, \$24 in non-carbon benefits



*IM = Improved Management



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TIST Member Benefits



TIST

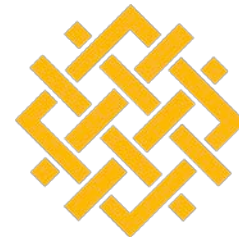
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**Positive Change
Livelihoods**

Next Steps to Meet the Challenge

“10% by 2020”

- Identify and document successful programs
- Identify expansion targets
- Test the limits of scalability (bottom up)
- Pave the way for expansion (top down)
- Plan for succession
- Keep on scaling up



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“The Hope Desk”

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- BenHenneke@cleanairaction.com
- Vannesa Henneke: hennekev@gmail.com
- World Resources Institute: WRI.org
- TIST: TIST.org and GrowCleanAir.com
- Join Us To Bring Restoration To Needed Scale!



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