

Project Group A
(Environmental Processes)

Project Group B
(Biota and Ecosystems
Services)

Project Group C
(Human Dimension)

Z01 (Central Tasks),
Z02 (Scientific Service),
INF (Data management and Analysis)
& Ö Project (Public Relation)

Happy New Year 2021



Collaboration Partners :



Funded by :

DFG Deutsche
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CRC 990/ EFForTS Kampus UNJA Mendalo Jambi Tel : +62741 582893

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Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)

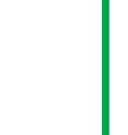
2021 January

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1 : New Year



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Landscapes

Phases 1 and 2 of EForTS (2012-2019) revealed complex trade-offs between ecological and socio-economic effects. Conversion of rainforests to rubber or oil palm plantation resulted in a loss of 56% and 61% in carbon, respectively. Compared to selectively logged rainforests, plant water use (transpiration) was 43% lower in rubber monocultures and 19% lower in smallholder oil palm plantations. In commercial, intensively managed oil palm plantations, transpiration was 40% higher than in forests.



Upper left and right : Forest and rubber plantation.
Below left and right : Oil palm plantation, jungle rubber. © Yuki Linatra



Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)

2021 February

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1	2	3	4	5	6	7
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12 : Chinese New Year



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Dr. Bambang Irawan and field assistant (B11) visited research plot. © Clara Zemp



Biodiversity

Rainforest transformation had strong negative impact to biodiversity. In the oil palm and rubber plantations, an overall strong decrease in local diversity of plants, bacteria, fungi, protists, soil and canopy invertebrates as well as vertebrates was recorded. Important ecological functions including tree biomass, litter decomposition, root health, microbial activity and biomass were significantly reduced in monoculture plantations.



Interception installation (A03) in PTPN VI. © Christian Stiegler



Elaeidobius kamerunicus: male (upper) and female (below).
© Lailatun Najmi

B

2 mm



Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)

2021 March

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11: Ascension of the Prophet Muhammad

12: Collective leave for Ascension of the Prophet Muhammad

14: Bali's Day of Silence and Hindu New Year



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Oil palm farmers and fresh fruit bunches in Bungku Village, Jambi.
© Yukung Linatra



Human Dimensions

Jasper Knieling (C02) interviewed farmers in Bungku Village. © Yukung Linatra

Rubber and oil palm plantation are considered the two most important income sources for the population in rural Jambi. Comparing the economic effects of rubber and oil palm in the smallholder sector, rubber led to higher profits per unit area than oil palm when a lot of family labour is used. However, rubber was much more labour-intensive than oil palm, so that the return per unit labour cost was higher in oil palm cultivation. The representative data from smallholder farm households in Jambi showed that oil palm was more profitable than rubber and households that cultivated oil palm had higher incomes and enjoyed higher living standards than households that had not adopted the oil palm crop.



Dr. Aiyeen Tjoa (Z01) and Dr. Jochen Drescher (Z02) conducted a meeting at PTPN VI Batanghari. © Yukung Linatra



Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)

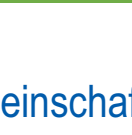
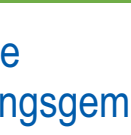
2021 April

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2 : Good Friday



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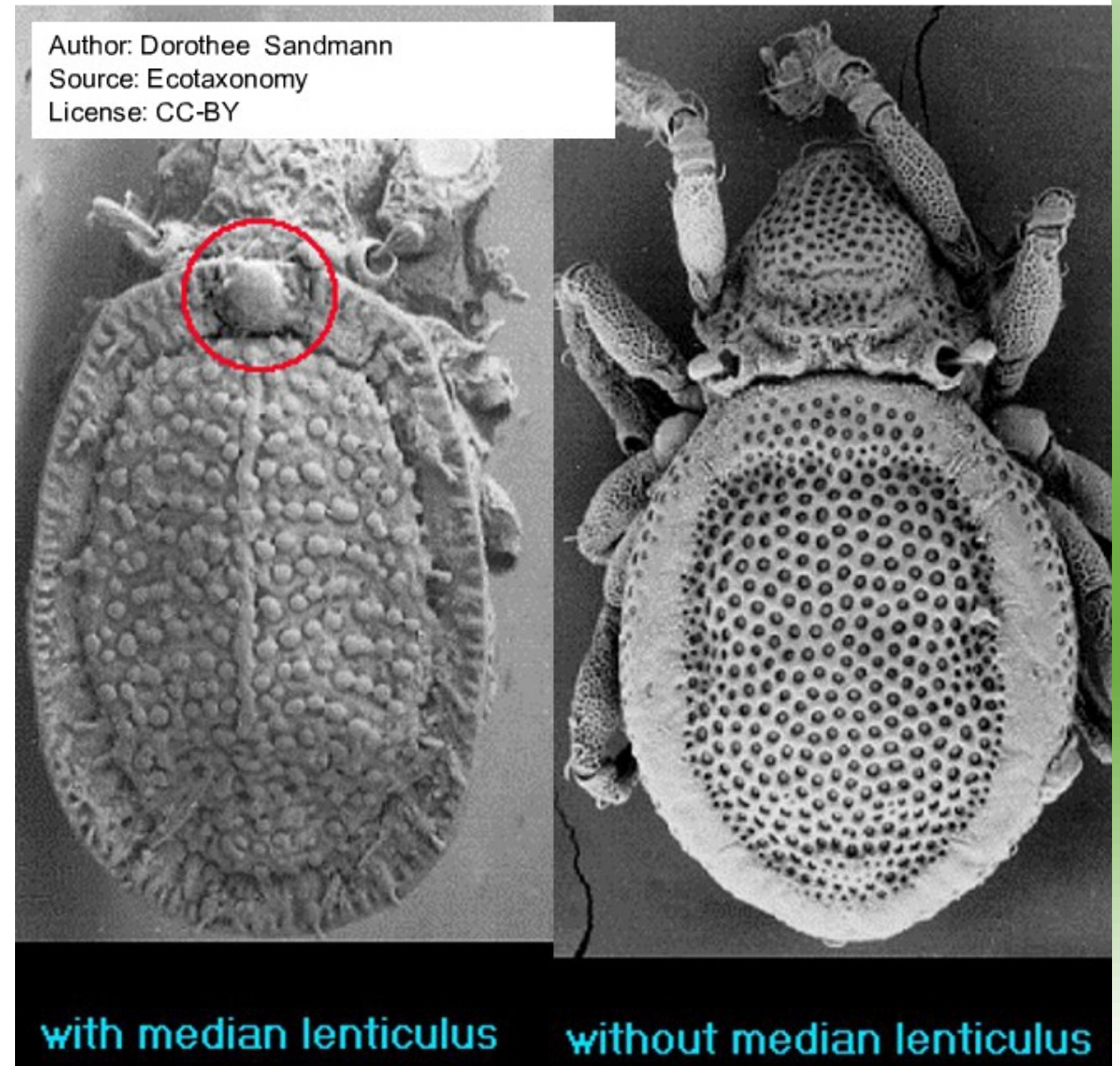
Murcia trimaculata. © R. Penttinen

Bipassalozetes sp. © Monica Young

Lenticuli

The Ecotaxonomy database is an open cloud platform developed to integrate ecological research with taxonomic knowledge and expertise. It is a repository for functional traits, character identification and morphospecies. In our virtual research environment, we link individual organisms to environmental conditions and functional traits. Personal ecological projects can be customized in the system, facilitating collaborative synergies of researchers worldwide.

More Information : <http://ecotaxonomy.org/>



with median lenticulus

without median lenticulus

Oribatida © R. A. Norton



Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)

2021 May

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1: International Labor Day

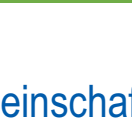
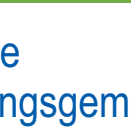
12, 14, 17, 18: Eid Al-Fitr and Collective leave for Eid Al-Fitr

13: Eid Al-Fitr and Ascension Day of Jesus Christ

26: Vesak Day (Buddha Day)

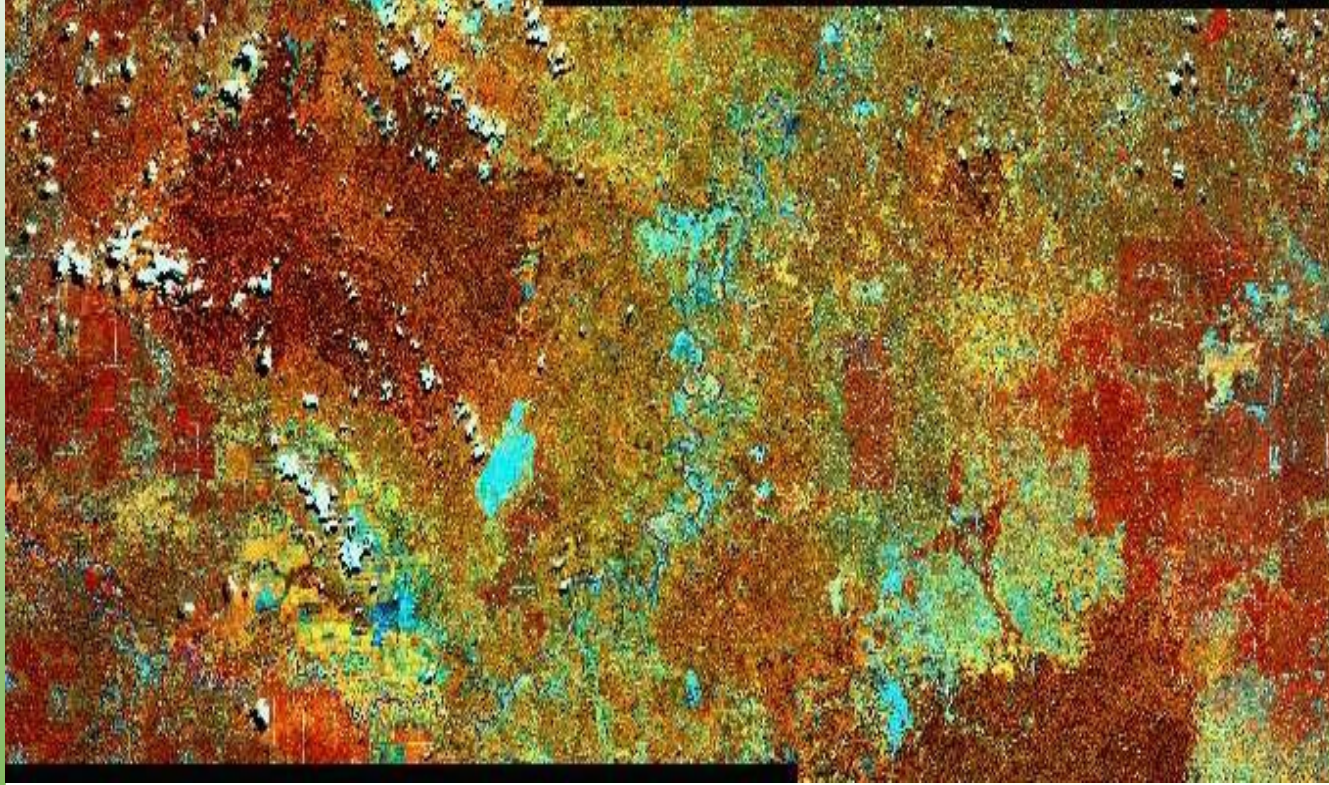


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WELCOME TO THE WEBGIS OF CRC 990

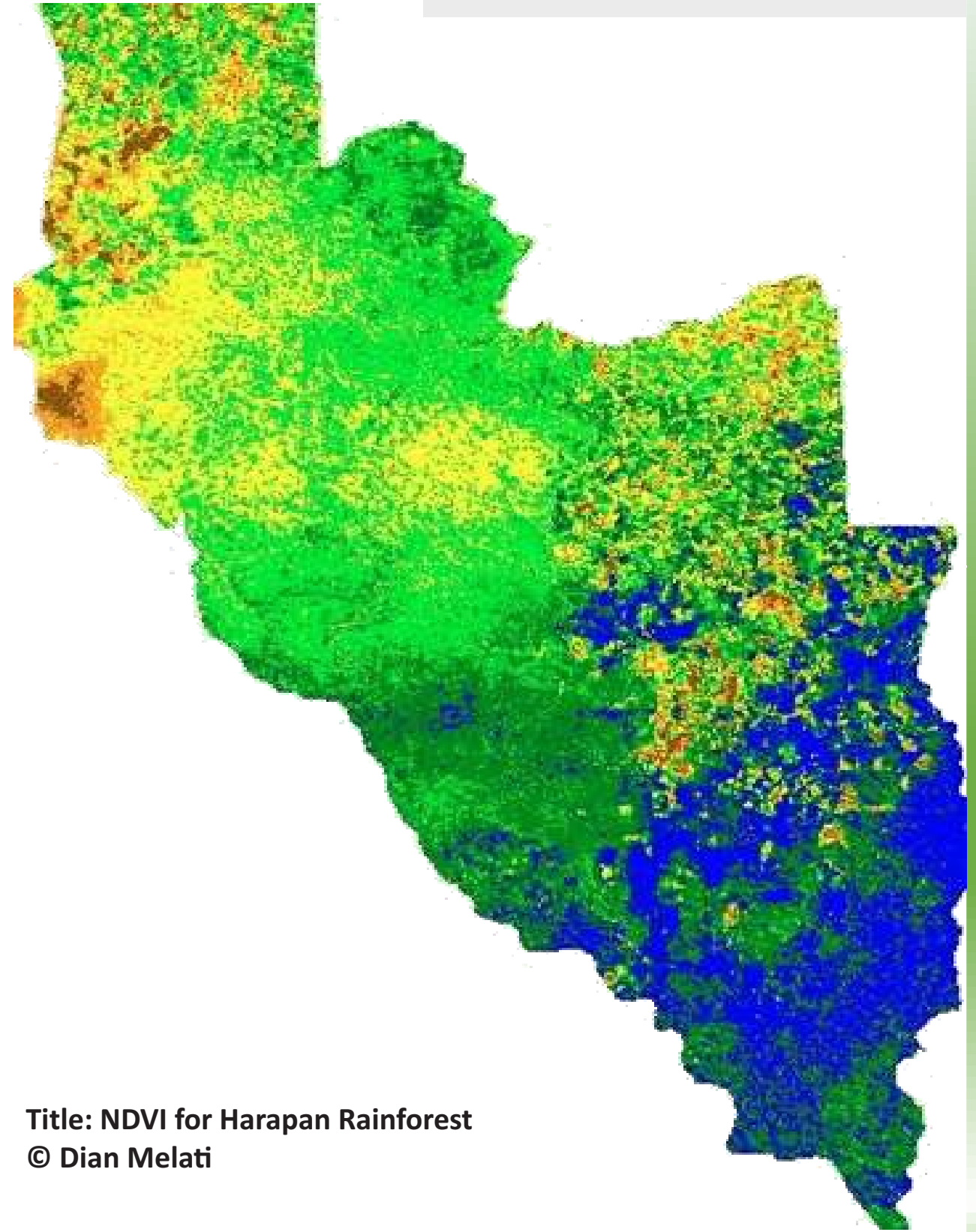


Title: RapidEye of Bukit Duabelas and Harapan landscapes
© Dian Melati

The EForTS-WebGIS is a platform for exchanging spatial data among other CRC 990 researchers, for visualizing spatial data and to create maps which can be shared within the research groups or made publicly available. With the new service we hope to provide an easy to use platform also for "non-GIS" experts to work with spatial data, to increase the data consistency of the CRC 990 subprojects and to facilitate cooperation by visualizing where we work and what is observed.

More information: <http://efforts-webgis.uni-goettingen.de/>

WebGIS Database



Title: NDVI for Harapan Rainforest
© Dian Melati



**Ecological and Socioeconomic Functions of
Tropical Lowland Rainforest Transformation
Systems (Sumatra, Indonesia)**

2021 June

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1: Pancasila Day



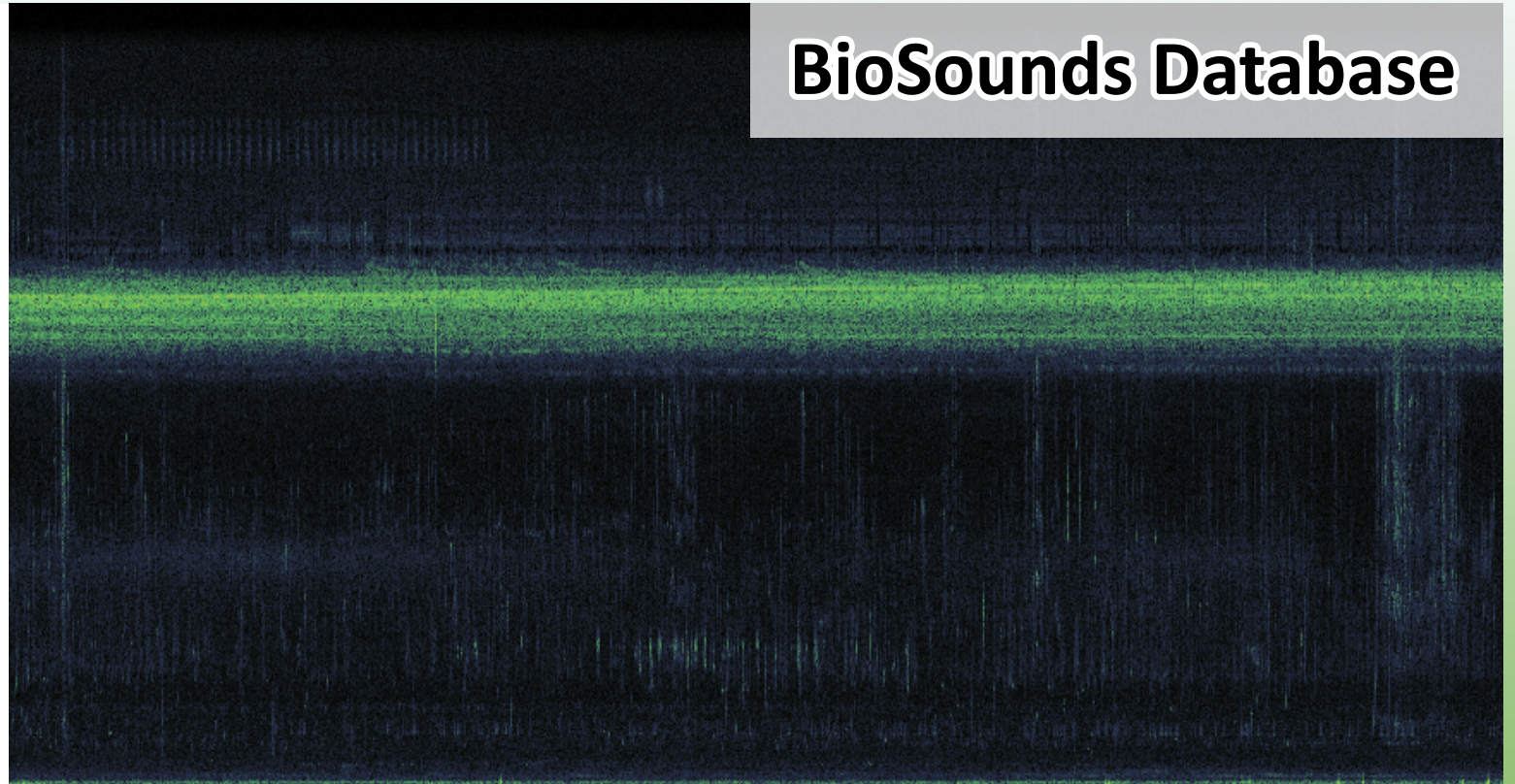
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BioSounds Database



© Kevin Darras

BioSounds is a tool for generating, analyzing and tagging animal sound spectrograms on the web. It is an ecoacoustics platform of the EFForTS project (CRC 990). The researchers have round the clock recordings for a whole year's time from the following locations: secondary forest, jungle rubber, rubber and oil palm plantations, as well as primary and secondary swamp forest and bush swamp. The birds need to be identified in a subset of the data.

More information:
<https://soundefforts.uni-goettingen.de/biosounds/>



**Ecological and Socioeconomic Functions of
Tropical Lowland Rainforest Transformation
Systems (Sumatra, Indonesia)**

2021 July

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20: Eid Al-Adha



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Collecting freshwater arthropods. © Tia Wulandari

ABS Fund (Access Benefit Sharing) Nagoya Protocol

***108 ABS Grants (2014-2019)**

The Access and Benefit-Sharing (ABS) strategy of EFForTS is based on three pillars:

1. Short-term research grants for counterparts and stakeholders (108 grants so far) & Research grants for early career researchers (13 grants so far);
2. Capacity building workshops (Identification of soil fauna, Identification of plants, Methods in Bioclimatology); and
3. Research infrastructure (Research station at PT Humusindo, Field laboratory at TNBD, Herbarium at UNJA).



Interview session. © Asri Buliyansih



**Ecological and Socioeconomic Functions of
Tropical Lowland Rainforest Transformation
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2021 August

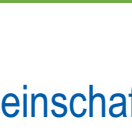
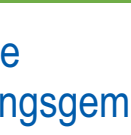
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30	31					

10: Muharram/Islamic New Year

17: Indonesia Independence Day



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Social networking and agricultural extension services in Sungkai.
© Yuking Linatra



Social networking and agricultural extension services in Pematang Kabau.
© Yuking Linatra



Social networking in Regional Development Planning Agency (BAPPEDA) Batanghari Regency. © Yuking Linatra

EFForTS carried out various social networking activities and agricultural extension services in Jambi. The social networking activities were held to inform the EForTS research activities and major finding of the research to stakeholders close to the research plots. While the agricultural extension activities aimed to improve the knowledge of farmers who are living near the EForTS research plots on sustainability farming and entrepreneurship.



Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)

2021 September

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MoU signing ceremony between the Indonesian Consortium of CRC 990-EFForTS and PT. Berkas Sawit Utama (PT. BSU). © Asmadi Saad

CRC 990-EFForTS works in close cooperation with national park, state and private companies as well as Indonesian governmental organizations since 2012. Cooperation with national park, state and private companies:

- PT. Perkebunan Nusantara VI (PTPN VI)
- PT. Humusindo Makmur Sejati
- PT. REKI - Harapan Rainforest
- National Park Bukit Duabelas (Taman Nasional Bukit Duabelas, TNBD)
- PT. Berkas Sawit Utama (PT. BSU)

Cooperation with Governmental organizations:

- Indonesian Institute of Science (LIPI)
- Meteorological, Climatological, and Geophysical Agency (BMKG)
- Jambi Local Governmental Bodies

Supporting institutions

PT. Humusindo
Makmur Sejati



PT
Restorasi
Ekosistem
Indonesia



LIPI



BMKG



PTPN6



BERKAS SAWIT UTAMA



**Ecological and Socioeconomic Functions of
Tropical Lowland Rainforest Transformation
Systems (Sumatra, Indonesia)**

2021 October

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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4	5	6	7	8	9	10
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19: The Prophet Muhammad's Birthday



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Team of station 3 during DFG review at University of Göttingen.
© Tania June



DFG Review

Rector of IPB University and UNTAD & Vice Rector of UNTAD and UNJA during DFG review at University of Göttingen. © Aiyeen Tjoa

The evaluation of the Collaborative Research Center 990 EForTS was carried out between 17 and 19 September 2019 by a team of internationally recognized scientific experts under the guidance of the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) at the University of Göttingen. On September 17, the review panels visited our field sites in Indonesia virtually by means of interactive touchscreens. The evaluation continued with presentations and a poster session on September 18 and ended with a plenary discussion on September 19. Participants from Göttingen were principal investigators, doctoral/postdoctoral researchers and representatives of the university management. From the Indonesian side, about 34 counterparts, stakeholders (Kemenristekdikti and Indonesian Embassy) and rectors of the partner universities participated.



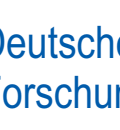
DFG review. © Sunny Reetz



Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)

2021 November

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Prof. Susanne Bögeholz, Prof. Damayanti Buchori, and Finn Matthiesen (left-right). © Sunny Reetz



Invited speakers and all participants of PR Project workshop in Bogor. © Tika Dwining



Group discussion of PR Project workshop. © Sunny Reetz



Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)

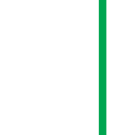
2021 December

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24, 27: Collective leave for Christmas holidays
25: Christmas Day



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