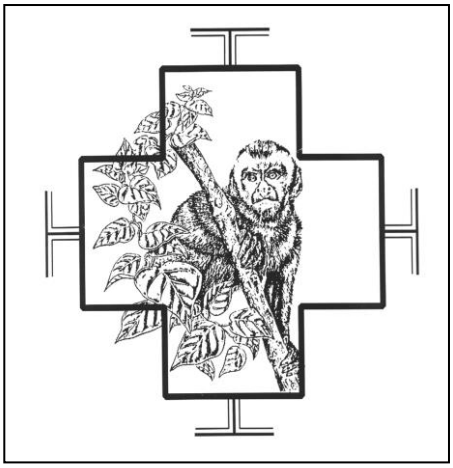
TReeS News No.77
July 2016



The **TReeS** newsletter provides an update for those interested in rainforest related issues in Amazonia, specifically in Madre de Dios, in south-east Peru, and the small-scale projects TReeS supports there.

The latest data for the Tambopata National Reserve (TNR) indicates that there are over 632 bird, 1,230 butterfly, 103 amphibian, 180 fish, 169 mammal and 103 reptile species making it one of the most biodiverse places in the world,

This edition of the TReeS Newsletter focuses on the work of the Monitoring of the Andean Amazon project.

There is news from past recipients of the TReeS small grants awards and an update on the reforestation project and some small-scale support for the work of the TReeS representative in Peru.

Finally, the latest news from Peru details the result of the recent Presidential elections and the potential significance for environmental policy.

Monitoring of the Andean Amazon Project (MAAP)

MAAP is a project of **Amazon Conservation Association** and **ACCA-Conservación Amazónica**. It is a web portal designed to present new technical information and analysis about one of the planets most ecologically and socially important regions: the **Andean Amazon** (defined as sections of Colombia, Bolivia, Ecuador and Peru within the Amazon watershed). MAAP was launched in April 2015, and so far has focused mainly on the Peruvian Amazon.

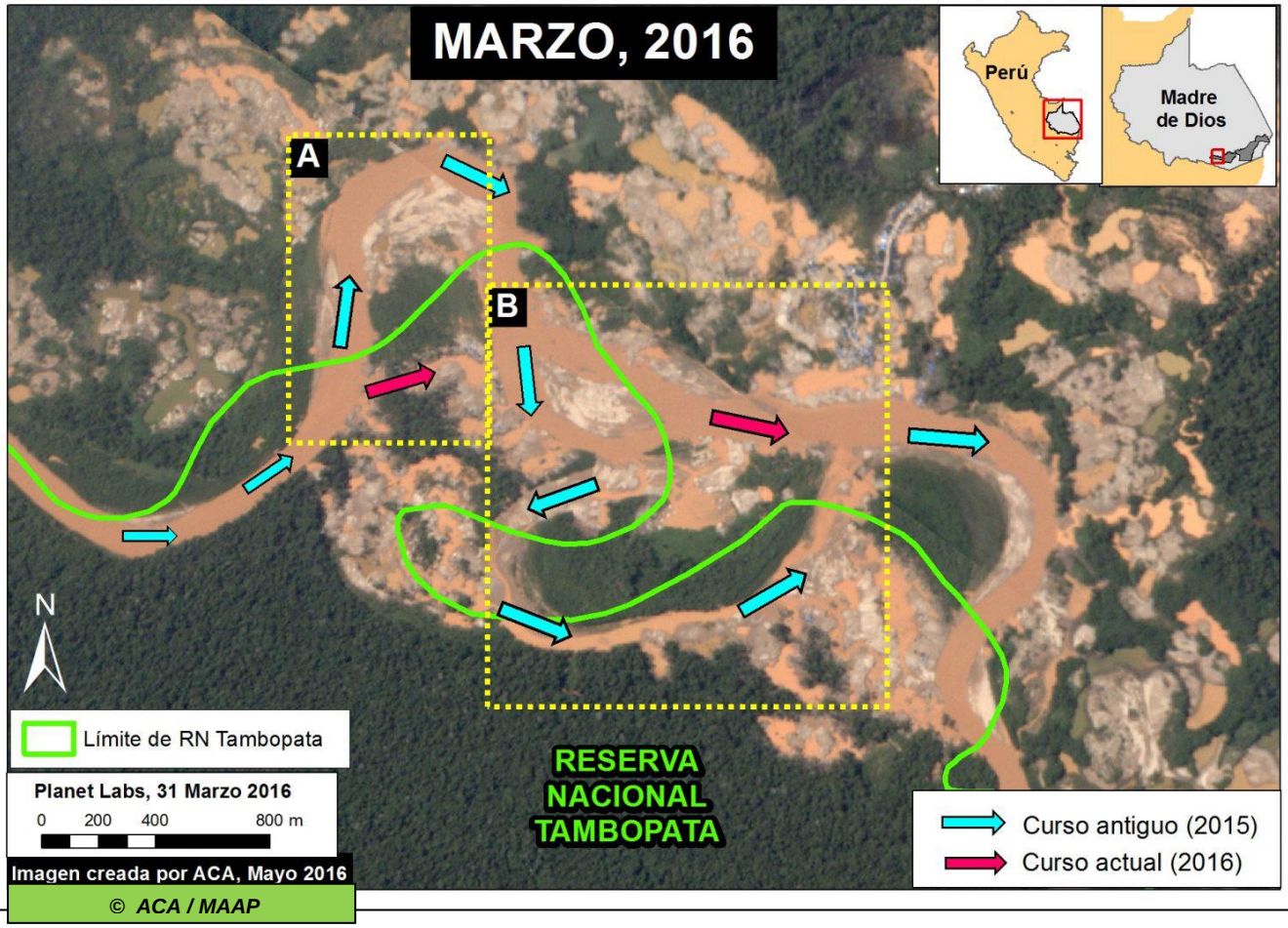
The centrepiece of MAAP is the presentation of data and maps associated with a cutting-edge near real-time deforestation monitoring system**.** This system is based on analysis of data generated from a number of satellite systems (such as Landsat, Planet Labs, Digital Globe, and Sentinel) and related algorithms (such as GLAD alerts).

To date MAAP have published 34 bulletins available via their website (www.maaproject.org) many of which focus on developments across Madre de Dios, including the Tambopata area.

It must be hoped that detailed, regular, real-time monitoring will encourage greater government control over the area.

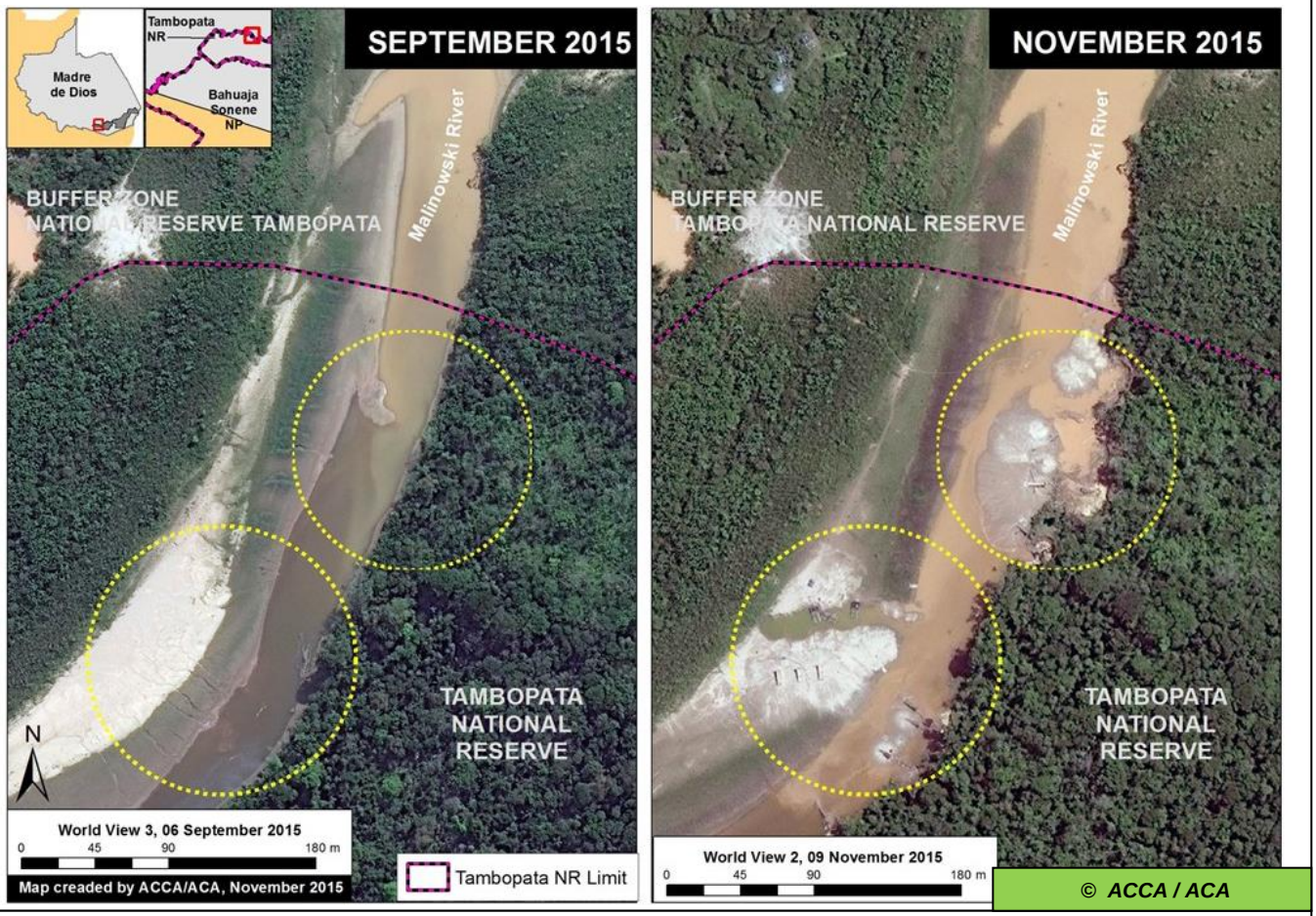
Upper Malinowski river: channel altered by gold-mining activity in river channel and along banks.

- **old channel in 2015**
- **new channel in 2016**



Upper Malinowski river: channel position altered by gold-mining activity in river channel and along its banks.
These three images trace over time the dramatic changes that can occur relatively quickly when artisanal gold-miners move in to an area. The **red dot** is a constant point – in the centre of the neck of the meander in 2013, by 2015 initial mining activity had encouraged the river channel to erode through the neck of the meander, and by 2016 it is in the centre of a much wider new channel. The surrounding forest has been removed as the gold-mining pits spread outwards away from the river.

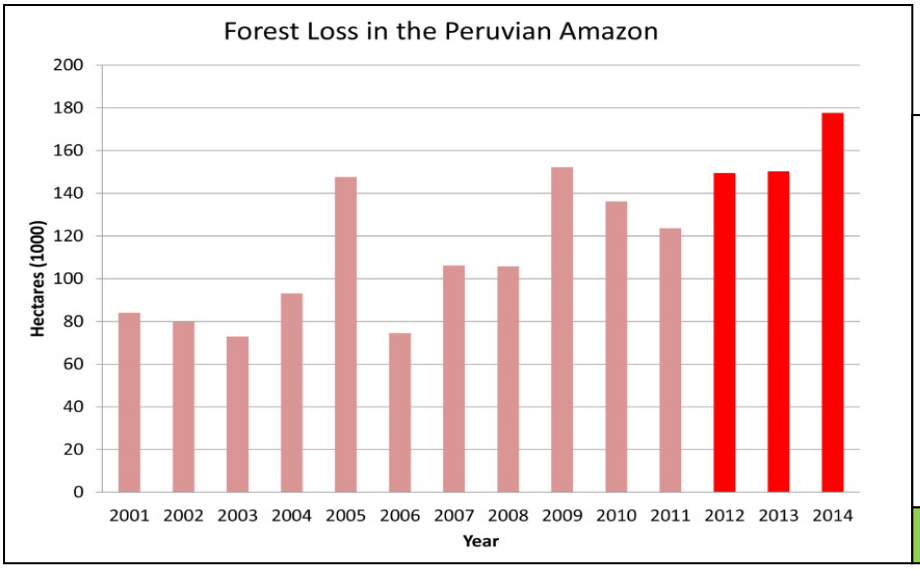
The images below demonstrate in detail how the process of artisanal mining impacts on the river channel and banks in just a few weeks. The dredgers themselves can just about be made out in the small channel in the middle of the sandbank and also along the east bank of the main channel.



Madre de Dios placed under a state of emergency due to mercury poisoning

In 2015 the Environment Ministry estimated that 5-10 hectares of rainforest were being lost every day to illegal gold-mining in Madre de Dios At the end of May, the Environment Minister, placed 11 provinces under a state of emergency in response to concerns that as many as 50,000 people (40% of the population) might be affected by mercury poisoning. People were advised not to eat local fish and the government stated that they would bring in fresh stocks to Puerto Maldonado fish market.

Earlier this year it was reported that up to 80% of the Nahua tribe, living inside the Nahua-Kugapakori Communal Reserve for indigenous peoples living in voluntary isolation, were poisoned with mercury raising serious concerns for the future of the tribe. The source of the Nahua tribe's poisoning remains a mystery but illegal gold-mining in the area is the most likely reason. The Nahua, have also suffered from acute respiratory infections and other health problems since being first contacted in the 1980s. Their land overlaps with the huge Camisea gas project which has been expanding towards their core territory and some suggest that this is the cause of much of their ill health.



The latest figures for forest loss across the Peruvian Amazon show an increasing trend over the last 10 years. The rate doubled from 2001 to 2014, peaking in the latest year for which data is available – 2014, at nearly 180.000 hectares.

This is especially worrying as the latest forest monitoring technology means that the data is increasingly accurate.

***Forest Loss graph* © MAAP**

Tambopata conservationist wins major award

Victor Zambrano has been awarded the 2016 National Geographic Society/Buffett Award for Leadership in Latin American Conservation. He grew up on the banks of the Tambopata and has always greatly valued the biodiversity of the forest and traditional Ese'eja knowledge.

TReeS has worked with Victor for many years since he was President of FADEMAD (Federation of small farmers of Madre de Dios), most recently on the Tambopata river eco-tourism corridor – his home is one of the participating *casas*.

He is currently President of the TNR's Management Committee and recently gave an interview to the British journalist David Hill about the 8,000 miners operating in the TNR and more than 35,000 in its buffer zone. "No one disputes that huge quantities of mercury have been dumped into the rivers - approx. 400 tons have been dumped into the rivers 1998-2010. Hair samples have been taken and analysed, and show that we're contaminated, and that's why it's said 40% [of the population] have signs of contamination."

"A navy post was installed but because of a lack of budget they were only there a week. By the end of that week they had evicted practically all of the miners that were in the TNR, but then the week was up, no more money, no more logistical support, and so the navy had to leave. The miners - even more than before - returned."

"What can SERNANP do if they can't use arms ? The TNR guards can't use weapons. They're protecting that territory, but what can they do against scores of people who turn up armed?"

His message to Pablo Kuczynski is that "In Madre de Dios there is no authority. The mining camps, the houses there, the businesses, the children forced to work as prostitutes, etc. All totally illegal. Like they say: *The law of the jungle*."

The full interview can be found at:

www.theguardian.com/ environment/andes-to-the-amazon/2016/jun/19/top-peruvian-amazon-tourist-invaded-gold-miners

'Lost Tribe of the Amazon'

In February, Channel 4 screened a documentary entitled *'Lost Tribe of the Amazon'* which focused on a small group of *'Tsapanawas'* or '*Sapanahuas*', who lived in voluntary isolation until June 2014, until they arrived in a Brazilian village just over the border from Peru – a little to the north of Madre de Dios.

The documentary followed an experienced member of Brazil's National Indian Institute (FUNAI) who was present when contact was first made, returning to the *Tsapanawas* after nine months. It also featured the '*Mashco-Piro*' living on beaches on the Alto Madre de Dios river, in Peru.

This was a rare documentary to make it on to mainstream television and highlight some of the issues and challenges facing indigenous peoples living in voluntary isolation. However, it still contained a number of factual errors and barely addressed the reasons as to why these peoples had decided to seek contact.

Finally, there are the concerns about close up contact with such peoples given their extreme vulnerability to disease even if the outsiders have been vaccinated. In particular, the encounter with the Mashco-Piro came close to appearing to be purely to entertain the viewer and might encourage others to seek similar contact given their relative accessibility on the tourist route in to the Manu Reserve.

***Victor Zambrano beside the RioTambopata* © V.Zambrano**

TReeS Small Grants (*Becas*) program

In 2015 a record number of small grants were awarded – 7 grants. However, this year far fewer applications were received and the quality of applications was not up to the usual standard. Consequently, no grants were awarded.

This is disappointing because the small grants programme is an important contribution to the career development of young Peruvian scientists who will, potentially, be researching, working in and promoting Amazonia for decades to come. TReeS funding assists them in gaining all important field work skills that may allow them, subsequently, to join other more significant field research projects and conservation organisations.

The TReeS representative now plans to contact the Heads of Biology in the institutions which have provided most applicants in the past to see how we can best support their students in future.

Appeal: £25+ donations towards the **2017 grants programme. TReeS members support is hugely important in maintaining this programme**.

Expedition grants

TReeS offers small-scale support to UK under-graduate University expeditions to Madre de Dios, sometimes in conjunction with the Anglo-Peruvian Society. The expeditions have usually registered with the Royal Geographical Society Expedition Advisory Centre but this year no expeditions to Peru have registered.

Reforestation project update

The project is continuing to monitor the progress of the original camu-camu saplings planted in the *aguajal*. Further camu-camu saplings have been planted in a new area, where there is a greater movement of water and more will be planted in the Autumn. More fruit trees will also be planted, including *moquete de tigre* (Moraceae), a type of fig, and cacao.

Manu Learning Centre **© Lewis Gillingham (Exeter)**

UK University expeditions

In 2015 TReeS made small-scale grants and a donation of checklists to two UK University expeditions visiting the Manu Learning Centre (MLC) run by CREES, in the Alto Madre de Dios. These trips often provide a first experience of the neotropics for undergraduates and can provide invaluable initial tropical rainforest field work experiences.

The **Exeter University** expedition consisted of seven undergraduates and a MSc student, plus two Peruvian biologists from Lima universities. They spent four weeks in the field during which time they undertook 228 visual encounter surveys for amphibians and reptiles along nineteen existing MLC transects through partially cleared forest and 228 surveys off transect. 23 species of amphibians, including 19 frog species, a salamander and 3 reptile species were recorded and identified. There were no significant differences noted between 'on transect' and 'off transect' results. Furthermore, there were also no significant differences noted between the Rapid assessment survey technique employed and established survey procedures. Nocturnal surveys produced slightly more recordings.

The **Glasgow University** expedition involved seven students undertaking a range of research projects.

*Butterflies: a base line study identified 450 individuals from 63 species, 60% from 4 species.

*Amphibians: a base line study identified 36 individuals from 20 species, especially toads.

*Mammals: direct observations and camera traps identified 31 species of which 18 were terrestrial, including Brazilian Tapir, Jaguar, Red Brocket deer and Short-eared dog. The research indicates no direct impact of tourism on mammal activity.

*Leaf-cutter ants: research indicated that some species are more adapted than others to human modified environments but not necessarily that it is more advantageous for them to live there. More research is needed and also to see if their presence is a positive indicator for recovering forest.

*Soils: disturbed forest studies of the relationships between herb layer coverage and soil acidity, as well as leaf litter depths and infiltration rates both produced weak correlations.

Jaguar caught on camera trap **© Glasgow Expedition**

TReeS Becas reports

***Pavel Sanchez** (UNMSM) (2014) *Diversidad de Moscas asesinas (Diptera: Asilidae) de la RNT.*

Pavel followed up on the work of Eric Fisher, in 1984, looking at Robberflies. Few new specimens have been collected since then and only one of the non-identified species he collected has been identified. 7,000 species are known worldwide and 150 species have been recorded in Peru. Of these, 97 were recorded in the original Tambopata Reserved Zone (TRZ) (5,500 hectares), in 1984, but only 45 of the species were then known to science. This was the greatest global diversity known at the time.

Pavel collected specimens at the Reserva Ecológica Taricaya and Refugio Amazonas. The Fisher specimens housed at the Natural History Museum (MNHSM) were found to be incomplete and in poor condition which made species identification difficult. The revised collection now has 53 identifiable species one of which was originally identified as far back as 1787. The latest field research suggests that there are well over 100 species in the Tambopata area.

***Maritza Cardenas** (UNMSM) (2014) *DIversidad de chinches Coreidae (Insecta: Hemiptera) de la Reserva Nacional de Tambopata.*

Maritza has submitted a preliminary report. *Coridae* is a large group of *hemipteros* with over 260 genera and nearly 20,000 species globally of which 136 genera and 838 species are found within the neotropics but just 10 genera and 17 species are registered in Peru. Most species in Peru have been identified through studies linked to agriculture. Maritza studied six known species for the Tambopata National Reserve though, undoubtedly, there remain many more species to be found and identified.

***Carmen Nascimiento** (UNAMAD) (2015) *Evaluación del efecto de un pretratamiento enzimático en el proceso de obtención de aceite de castaña (Bertholletia excelsa H.B.K) en Madre de Dios.*

Carmen selected the best second grade brazil-nuts from the Tahuamanú region for her study looking at the production of brazil-nut oil. After the oil was extracted from the brazil-nuts it was treated with enzymes to determine its chemical composition. The tests may also help to improve production both in terms of its nutritional value and quality.

Andrenosoma olbus © Pavel Sanchez

Phthia ornata* (Stål) © *M.Cardenas

Rainforest Foundation UK forest monitoring project

TReeS has granted some small-scale support to assist the start-up of this project as reported in our last Newsletter. The project was originally planned to monitor forest loss in three indigenous communities in Madre de Dios but this has now been extended to two more communities – El Pilar and Bélgica, with four more showing interest.

These are all communities where there is a growing threat from logging. The project has also now been extended to monitor not only logging threats to the communities but also illegal gold-mining activities.

In February, RFUK and FENAMAD held the first workshop which was attended by about 30 people from the interested communities. Julio Cusurichi, the new President of FENAMAD, stated: '*illegal mining is destroying our forests and polluting our rivers. ForestLink will help indigenous communities in Madre de Dios in the fight to protect their forests, their health and their livelihoods. I call on you to support this initiative*.' The communities have now elected 2-3 forest monitors (*Veedores Comunales*) who will be trained up in Forest Link procedures.

Forest Link enables remote communities to report via satellite technology using smartphones with icon-based applications, illegal threats to their lands in real time. Any illegal activities are reported to OSINFOR (*Organización de supervisión de los Recursos Forestales)* who will then respond. OSINFOR is the only Peruvian organisation that can independently monitor the legal compliance of timber concessions. It is estimated that 80%+ of forestry activity in Peru involves illegal activities and several shipments of illegally harvested timber have been intercepted recently en route to the USA/Mexico.

RFUK has held meetings, in Lima, to make agreements with with OSINFOR, AIDESEP (the national indigenous organisation), and SERFOR (*Servicio Forestal*). The project will also provide technical support to the AIDESEP Forest monitors working elsewhere in Peru, and developing technical proposals in response to the new forestry legislation to improve forestry monitoring and protection.

Appeal: £25+ donations towards offering further support to this project.

Meeting at FENAMAD in P.Maldonado © RFUK

Indigenous movement in Madre de Dios review

TReeS has agreed to provide some small-scale funding to facilitate the publication a review of the indigenous movement within Madre de Dios (1980-2015). The review is being undertaken by the TReeS representative in Peru: Alfredo Garcia.

FENAMAD was founded in 1982 and recently held its 17th Congress. It is affiliated to AIDESEP, the umbrella organisation of Peruvian Amazonian indigenous organisations. Within FENAMAD there are two regional groups: COINBAMAD, representing native communities in the lower Madre de Dios such as the Ese'eja and Shipibos; and COHARYIMA representing Yine, Harakmbut and Matsigenka native communities in the upper Madre de Dios.

The review will be the first full-scale review of FENAMAD's history and activities. It will look at some of the problems, challenges and achievements of FENAMAD over the last 25 years including internal issues, links with other organisations, the authorities and external influences.

Appeal: £25+ donations towards the costs of this project.

***Julio Cusurichi takes the oath of office* © FENAMAD**

FENAMAD XVII Congress

FENAMAD held its 17th Congress in the native community of Infierno, on the Tambopata river, in mid-January. Representatives from 33 of the 36 native communities attended the three day meeting. Only three communities: Shipetiari, Palotoa Teparo and Tayakome, the latter two lie inside Manu National Park, were unable to send a representative. Julio Cusurichi, a Shipibo, who has worked closely with the TReeS representative in Peru for many years, was elected President for the next 2 years.

Three new native communities were recognised as members of FENAMAD. La Victoria is a Yine community on the Las Piedras river. Sariguimenique or Cacaotal, near Yomibato, and Maizal, near Tayakome, are both Matsigenka communities located within Manu National Park. They take the total number of FENAMAD members to 36 communities - 34 of which are located in Madre de Dios but two are in the dept.of Cusco.

Peru News

After a very close campaign, the new President of Peru is 77 year old Pablo Kuczynski (PPK) who gained just 50.12% of the vote, compared to 49.88% for Keiko Fujimori. About 18 million Peruvians voted but the difference was less than 42,000 votes from an 80% turnout.

This was a major turnaround from the first round of voting in which Keiko secured 40% of the vote while Kuczynski obtained only 21%. This eliminated Veronika Mendoza (19%), the most left-wing candidate, while ex-President Garcia secured only 6% of the votes cast.

Keiko lost out in the end due to widespread opposition to her party's links with narco-traffickers, and her stated aim to secure the release from prison of her father – ex-Present Alberto Fujimori whom, it was suggested, was really behind her campaign.

Kuczynski's campaign, struggled to excite the electorate but his experience as a government Minister on numerous occasions dating back to the early 1980s, and his close US and business links attracted many in the establishment and the huge anti-Fujimori vote. Geographically, PPK won most votes in urban areas, Lima and the south, while Fujimori was most popular in rural areas in the north and central Peru. Madre de Dios voted for Fujimori – her second highest % regional vote.

However, in the first round of voting Fujimori had secured 73 of the 130 seats in Congress while PPK obtained only 18 seats which will makes his ability to govern effectively very challenging. However, the two parties have very similar free market policies on many economic/social issues.

In terms of environmental policy, PPK – who is close to the Texan Hunt family, owners of Hunt Oil - and Fujimori are both unlikely to want to increase environmental controls as they try to attract new investment. Many mining investments have been suspended over environmental issues and community protests while awaiting the outcome of the election.

ADEX, the Peruvian exporters' association, has reported that over 80% of Peru's exports are controlled by just 5.8% of the 8,000 exporters. Peru's total exports in 2015 were worth $33.3bn.

For much of 2016 global weather reports have made frequent reference to El Niño with respect to extreme weather conditions. On the coast of Peru the weather has been very warm at times but the terrible rains which fell during the 1998 event have not materialised.

We are grateful to the Peru Support Group (PSG): www.perusupportgroup.org

and David Hill: @DavidHillTweets & www.hilldavid.com for the sourcing of some of the details in this section of the Newsletter.

Peru & Climate change

Peru has been assessed as one of the countries most vulnerable to climate change. The Ministry of the Environment has published a very detailed report updating the threats climate change poses to Peru and recent changes to government policies in this respect:

www.minam.gob.pe/wp-content/uploads/2016/05/ Tercera-Comunicaci%C3%B3n.pdf

The Organisation for Economic Co-operation & Development (OECD) has also just published a detailed report on environmental problems and government policies. The report makes 66 recommendations with an emphasis on effective policies for land use mapping. The new President, PKK, is keen for Peru to become a member of the OECD so the report may carry some weight with the new government:

www.oecd.org/environment/country-reviews/16-00313%20Evaluacion%20desempeno-Peru-WEB.pdf

TReeS Library: since June 2015, hard copies of documents/reports relating to Tambopata & Madre de Dios have no longer been placed in the TReeS library. We will still list details of all new articles, documents and reports received in the newsletter (see below). Many of them can be traced via the internet while those directly linked to TReeS will be placed on the TReeS website and hard copies can be requested from TReeS for a suitable payment to cover p/copying and P&P.

Recently received documents and reports -

-***'How much potential biodiversity and conservation value can a regenerating rainforest provide? A 'best-case scenario' approach from the Peruvian Amazon'***, A.Whitworth et al, Tropical Conservation Science Vol.9(2016);
-***'Ecosystem heterogeneity determines the ecological resilience of the Amazon to climate change',*** N.Levine et al, PNAS, (2016);
-***'Consistent, small effects of treefall disturbances on the composition and diversity of four Amazonian forests',*** T.Baker et al, Journal of Ecology 104 (2016);
-***'London Stock Exchange Financing for Illegal Deforestation in Peru via AIM-listed United Cacao Ltd. SEZC',*** Environmental Investigation Agency (2016);
-***'Seasonal drought limits tree species across the Neotropics',*** A.Muelbert et al (2015);
-***'Aporte de biomasa aérea de las especies arbóreas de la familia Myristicaceae en los bosques Amazónicos del Perú',*** Marisabel Ureta Adrianzén et al, Revista Biología Tropical, Vol.63 (2015);
-***'The linkages between photosynthesis, productivity, growth and biomass in lowland Amazonian forests',*** Y.Malhi et al, Global Change Biology (2015);
-***' Recent Amazon climate as background for possible on-going and future changes of Amazon humid forests',*** M.Gloor et al, AGU Publications (2015);
-***'Estimating the global conservation status of more than 15,000 Amazonian tree species',*** H.ter Steege, Science (2015);
-***'Using repeated small-footprint LiDAR acquisitions to infer spatial and temporal variations of a high-biomass Neotropical forest',*** M.Rejou-Mechain, Remote Sensing of Environment 169 (2015);
-***'Variation in stem mortality rates determines patterns of above-ground biomass in Amazonian forests: implications for dynamic global vegetation models',*** *M.Johnson et al, Global Change Biology (2016);*
-***'Hyperdominance in Amazonian forest carbon cycling',*** S.Fauset, Nature Communications (7857)(2015);
-***'Entre la minería auriferia y la conservación: impactos, resitencia y libre determinación del pueblo Harakmbut de Madre de Dios',*** J.Gonzalez, (TReeS Beca)(2016);
-***'Diversity of Assassin bugs (Diptera: Asilidae) in the Tambopata National Reserve'***, P.Sánchez Flores (2016);
-***'Diversity of Bedbugs Coreidae (Insecta: Hemiptera) in the Tambopata National Reserve'***, M.Cárdenas (2016);
-***'Evaluación del efecto de un pretratamiento enzimático en el proceso de obtención de aceite de castaña (Bertholletia excelsa H.B.K) en Madre de Dios'***, C.Nascimiento (2016);
-***'Efecto de la mineria informal en la comunidad de aves en Madre de Dios',*** V.Tejeda (2016);
-***'Fast demographic traits promote high diversification rates of Amazonian trees',*** T.Baker et al, Ecology Letters 17 (2104);
-***'Evidence for arrested succession in a liana-infested Amazonian forest',*** B.Twyman, Journal of Ecology 104 (2016);
-***'Mineral revenue sharing in Peru',*** M.Aresti, Natural Resource Governance Institute (2016);
-***'Mission Manu 2015: expedition report',*** Exeter University (2015);
-***'Expedition report'***, University of Glasgow (2015);
-***'MAAP Reports Summary (Nos.1-15)',*** MAAP (2013-15);
-***'MAAP Reports (Individual)(Nos.16-34)',*** MAAP (2015-16);
-***'Mapa de pobreza provincial y distrital de Peru 2013',*** INEI (2013);

TReeS Newsletter by email

Due to ever increasing postal charges, TReeS is now distributing the vast majority of newsletters by email. We hope all other members apart from those that have specifically requested a hard copy, will also be happy to receive the Newsletter by email in future.

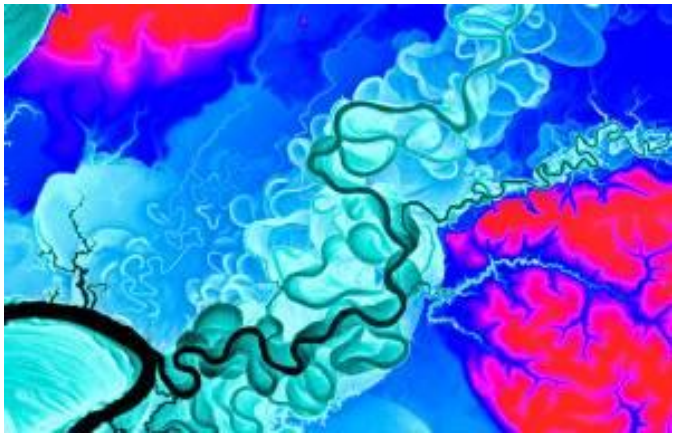
On this basis, if you have received this Newsletter by post and don't think we have your email address in our database, please email us at: treesuk1@gmail.com

Peruvian Foods in the UK

An increasing number of Peruvian products can now be found in stores across the UK ranging from mainstream supermarkets, to delis, to health food shops. Many of these are indigenous crops while others result from the enormous 'greening of the desert' projects all along the Peruvian coast. They include Asparagus, Peppers, Avocados, Goldenberry (Cape Gooseberry), Mangos, Lucuma, Mandarins, Mineolas, Limes, Grapes, Quinoa, Kiwicha, Yacón, Brazil-nuts, Maca, as well as Pisco and Cusqueña beer.

Many of them such as quinoa, kiwicha, goldenberry, maca and yacón come under the recently derived and increasingly commonly used term of '*superfoods*' given their high-level nutritional, medicinal and health giving properties.

Lucuma (Pouteria lucuma) © Wikipedia



New TReeS T-shirt

TReeS has limited numbers available of a new T-shirt featuring the Carnegie Scientific Institute (Carnegie Airborne Observatory/Greg Asner ©) satellite image of the confluence of the La Torre and Tambopata rivers - see last Newsletter.

The T-shirt is available in Medium & Large sizes on a good quality, white cotton T-shirt.

Price: £12.00 each, including postage, or **£10** each for any 2, or more.

TReeS Membership

The basic TReeS membership rate is still just £15 / annum.

Membership is due on the **1st** of **January** each year.

We would be most grateful if members could amend their standing orders, if necessary.

All cheques are payable to – 'TReeS'.

TReeS Membership:
£15 per annum.

TReeS contact details –

P.O.Box 33153,
London NW3 4DR

TReeS USA –

P.O.Box 842, Shasta Lake, CA96019-0842, USA.

TReeS USA is run by Bud and Margaret Widdowson.

All members in Canada / the USA are requested to pay their annual membership via TReeS USA.

TReeS committee 2015-2016

Sally Edwards
John Forrest
Dr Helen Newing
Huma Pearce
Elizabeth Raine
Daniel Turner
Rebecca Warren

TReeS website

Details of **TReeS merchandise** can be found at the website:
www.tambopata.org.uk

If you would like to receive the TReeS Newsletter in future by email, please send a request to –
treesuk1@gmail.com

TReeS Merchandise

Other TReeS T-shirts (See previous Newsletters for images) -

***'Earth Warrior'**, XL only, Andean red image on an unbleached T-shirt.
Price: £9.00, including P&P.

***'Rainforest to Desert',** M & L, full colour design on a white T-shirt.
Price: £10.00, including P&P.