

GEOGLAM RAPP

(Rangelands And Pasture Productivity)

Newsletter #2

Dear RAPP colleagues,

We are pleased to present here our second RAPP newsletter to keep you informed about RAPP. A domestic CSIRO meeting was recently held in Brisbane (late March) to strengthen links between remote sensing and modelling activities within CSIRO (including Mike Grundy and Mario Herrero's team), to discuss RAPP activities and future strategic directions.

So, what is happening?

Our CSIRO RAPP dedicated team is working on several aspects, including:

- the launch of the **GEOGLAM RAPP Map/Visualizer** (beta version ready)
- a monthly **vegetation cover anomaly product** (<http://www.geo-rapp.org/rapp-monitor/vegetation-cover-anomaly/>) is also reported via our website and twitter account
- community of practice: we regularly communicate with our **pilot sites** and other field data for validation of cover/biomass products, such as Argentina, Canada, Australia, and Colombia.
- RAPP **website** is regularly updated, with recent content published for Argentina, Colombia (and Mongolia soon)
- **International conferences**: 4 RAPP members will attend the LTAR/JECAM/RAPP workshop in Ames IA, May 2016 (technical workshop).
- **CEOS** activities: a meeting was organised in Canberra late March to discuss RAPP data acquisition strategy requirements. RAPP will be represented at the SIT-31 meeting in Frascati (week of 18th April).
- And last but not least, our annual **RAPP workshop**: it will happen **in South Africa** (City of Tshwane, Pretoria) **on 20-21 June 2016** (with a local tour organized on the 22nd).

Read below to get more information!

GEOGLAM RAPP Map/interactive tool: beta version ready, to be published soon!

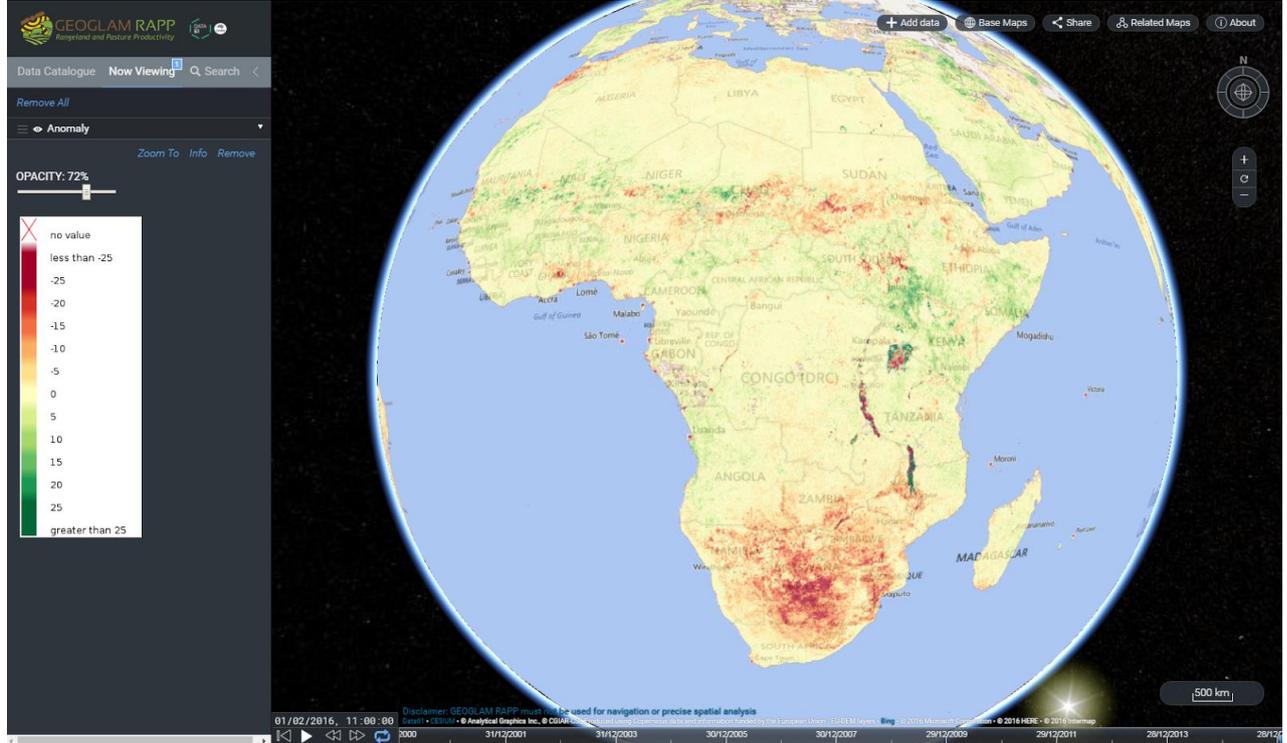
As announced earlier, the project has generated several datasets of global vegetation cover based on the algorithm developed by J. Guerschman et al (2009 and 2015). The data are made available to the public via the AusCover portal (Australian) and following the Creative Commons license terms.

The GEOGLAM RAPP Map is currently being developed by CSIRO/Data61: the tool aims to visualise remotely-sensed derived information on the state of global rangelands and pastures. Users will be able to create maps of vegetation cover (including the green and dry components), soil moisture, rainfall and other relevant indices such as NDVI, as absolute quantities and as anomalies from the long-term mean (phase 1).

This interactive map will also provide the means for requesting time-series analysis for a given location and make comparisons between locations and selected regions (phase 2).

RAPP (CSIRO team) will begin to use it as a tool to demonstrate capability and further develop the RAPP activity, at national and international scales. The online version will be released soon once the beta version is ready.

For now, here is a sneaky view of the tool... As soon it's ready, we will publish the news on RAPP website and Twitter account, so please stay tuned!



Screen capture of the current beta version of the GEOGLAM RAPP Map. The raster displayed corresponds to the vegetation cover anomaly for January 2016. Areas in red show negative anomalies (less vegetation cover than the average condition) and show the effects of a current drought in southern Africa.

A poster has been produced for our Dat61 colleagues to present the **GEOGLAM RAPP Map** project during the **Data61 + Live 2016** event, on March 30th 2016 in Sydney: <http://www.geo-rapp.org/wp-content/uploads/2016/04/GEOGLAM-RAPP-Data61-Poster.png>



Working With Us
GEOGLAM Rangelands and Pasture Productivity Map
A web-based Mapping tool to Support Sustainable Livestock Production

GEOGLAM Rangelands and Pasture Productivity (RAPP) will provide the global community the means to regularly monitor the condition of the world's grazing lands on a routine basis, and assess their capacity to sustainably produce animal protein in real time, at global, regional and national levels. Data61 and CSIRO are developing the GEOGLAM RAPP Map which will provide a web interface where users will be able to display and interrogate large volumes of relevant data including pasture condition and productivity derived from satellite imagery, climate and livestock related information.

Background

With global population predicted to reach around 9 billion by 2050, not only intensive croplands, but also rangelands, savannas and pastures will continue to come under pressure to further increase their productivity, ground plant biomass and increase animal protein production, to supply an ever-growing global need for of essential animal protein. At the same time there is much focus on making sure that these lands are being managed in a sustainable manner into the future, as their overall productivity is enhanced.

Currently there is no comprehensive global effort for monitoring the status and productivity of pastures and rangelands. Therefore GEO, the Group on Earth Observations and its Global Agricultural Monitoring (GEOGLAM) initiative, are bringing together space agencies, existing associated institutional frameworks, in-situ networks, ecologists, and the pasture productivity modelling community, to establish a dedicated global system for observing the condition of pastures and rangelands status, and ultimately to also estimate biomass dynamics and productivity.

Problem/Opportunity

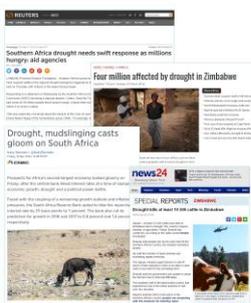
There are large amounts of datasets produced by remote sensing and ecology scientists which are of great benefit to land managers to monitor pasture and rangeland condition. However, delivering these volumes of data in a synthetic and accessible way to non-specialists has remained elusive.

- Global and CSIRO Land and Water have partnered to develop the GEOGLAM RAPP Map which aims at:
 - Providing spatio-temporal information on grazing lands condition and productivity derived from satellite imagery;
 - Providing the tools to interrogate these datasets in space-time for user-specified regions of interest
 - Provide regular updates as new data becomes available.



Collaboration

CSIRO has a long history of developing remote sensing algorithms and data products which are used to inform management decisions in agriculture and the environment. This is a new partnership with Data61 who have developed the capacity to deliver these type of data to the end user in a more efficient way.



A collage of news articles and reports related to the RAPP project. Visible headlines include: 'Southern Africa drought needs swift response as millions hungry and agencies', 'Four million affected by drought in Zimbabwe', 'Drought, muddling casts gloom on South Africa', and 'Drought: Reports from the field'. The articles feature photos of people and livestock in arid conditions.

Impact

The GEOGLAM RAPP Map will substantially improve the way in which pasture and rangelands are monitored globally and lead to better management practices and improve the way this natural resource is used.

Key meetings and workshops where RAPP will be present

LTAR-GEOGLAM-JECAM-RAPP workshop (“The role of site-based measurements in agricultural monitoring”)

Ames, IO USA, 24-26 May 2016.

RAPP has been invited to co-organise and attend the workshop which aims at better engaging the LTAR project in the USA with the activities in place in GEOGLAM, particularly JECAM and RAPP. As co-organisers, RAPP nominated three additional participants involved in RAPP who will attend the workshop with Juan Guerschman. RAPP expects to strengthen its involvement with the US-based activities as well as promoting RAPP.

CEOS (Committee on Earth Observation Satellites) Strategic meeting

Frascati, Italy, 19-20th April

Alex Held (and Flora Kerblat) will attend the meeting. They will represent RAPP at GEOGLAM side-meetings (on the 18th and 21st). They will provide key updates on RAPP and discuss future strategic views, especially on the data acquisition strategy with the GEOGLAM Ad-hoc working group, as they has already expressed their strong interest and support for RAPP.

Community-of-Practice Building Workshops: City of Tshwane (Pretoria) in South Africa, 20-22nd June 2016

The 4th RAPP workshop will be held in **South Africa in the City of Tshwane (Pretoria)**. The meeting will actually be held on 2 days (20 and 21), and a tour will be organized by the city of Tshwane on 22nd.

The meeting is co-organized by SANSa (South African National Space Agency) and CSIRO, and supported by DST (Department of Science and Technology) and the City of Tshwane in South Africa.

About 30 people are expected (personal invitations have been sent). In 2016, focus will be in linking pasture cover/biomass models with livestock productivity. It will include several dedicated discussion sessions around establishment and activities at pilot sites, as well as how best to link the remote sensing and in-situ data to regional/global livestock productivity models.

The venue for the workshop is the **Protea Hotel centurion**:

<http://www.marriott.com.au/hotels/travel/ptywa-protea-hotel-centurion/>

A general information pack including accommodation advice will be sent shortly to the participants. If you have been invited and planning to attend, please contact us directly for more information: Flora Kerblat (fkerblat@yahoo.com) and Clement Adjorlolo (cadjorlolo@sansa.org.za).



4th INTERNATIONAL GEOGLAM RAPP WORKSHOP

South Africa, Pretoria (Tshwane) 20 & 21 (workshop) and 22 (tour) June 2016

Proudly hosted by SANSa (South African National Space Agency) and Supported by DST (Department of Science & Technology) and City of Tshwane - South Africa, & CSIRO (Commonwealth Scientific and Industrial Research Organization) - Australia

GEOGLAM RAPP (Rangeland And Pasture Productivity) is a global initiative under GEO, the intergovernmental Group on Earth Observation. As a sub-component of GEO's "GEOGLAM (Global Agricultural Monitoring Initiative) flagship initiative, RAPP aims to provide the global community the means to regularly monitor the condition of the world's rangelands and pasture lands on a routine basis, and assess their capacity to sustainably produce animal protein in real-time, at global, regional and national levels.

The 4th international RAPP workshop to be held in South Africa because...

- SANSa, as an active member of RAPP Community, and DST strongly support the RAPP initiative and the workshop. They are fully committed to showcasing the benefits of EO technology to the citizens of South Africa, the African continent and contribute to societal benefits/solutions through such global initiatives.
- Livestock management is a key challenge in South Africa.
- Tshwane is the largest agricultural sector in South Africa, with a population of some 13.8-million cattle and 28.8-million sheep. Stock breeders concentrate on the development of breeds that are well adapted to diverse climatic and environmental conditions. Sustainable.
- South Africa (via SANSa) has proposed "pilot sites" for RAPP to be officially announced.

OBJECTIVES – The workshop will be the occasion to:

- Strengthen the RAPP Community of Practice and reaffirm the community's involvement pilot sites, global distribution, R&D development;
- Review progress and development of a Global Monitoring system;
- Foster information exchange with the remote sensing and modelling community, and identify future collaborative research involving researchers from South Africa and Africa.

PARTICIPANTS – The envisioned audience (~30 people to be personally invited) includes:

- South African and African researchers with expertise in pasture, remote sensing and modelling, particularly those with a potential interest in participating in research within the GEOGLAM RAPP framework;
- Members of the global pasture research community and GEOGLAM RAPP, particularly RAPP pilot sites representatives, and with potential interest in South Africa and Africa.

Local contact (SANSa)
Dr Clement Adjorlolo
cadjorlolo@sansa.org.za

CSIRO contacts (Australia)
Dr Juan Guerschman
juan.guerschman@csiro.au
Flora Kerblat
flora.kerblat@csiro.au

SPONSORS: SANSa SPACE AGENCY, science & technology, Department of Science and Technology REPUBLIC OF SOUTH AFRICA, TSHWANE, CSIRO

Communication

Besides regular emailing with our key partners, RAPP communicates through the website (www.geo-rapp.org) which is regularly updated with news, events and information on RAPP pilot sites (recently: Argentina, Colombia). A Twitter account (@geoglammRAPP) has also been created to publish news and products, such as the monthly Vegetation Cover anomaly.

National Pilot sites: updates

In the recent months, RAPP has been collecting various information on national pilot sites. RAPP has updated the dedicated pages on RAPP website, especially for Argentina and Colombia (South Africa and Mongolia are coming soon).

If you want to know more on these pilot sites, go and check this out!

Argentina: <http://www.geo-rapp.org/pilot-activities-2/argentina-2/>

Colombia: <http://www.geo-rapp.org/pilot-activities-2/colombia/>

Mongolia: draft to be published soon

If you wish to nominate a pilot site (see description and criteria: <http://www.geo-rapp.org/pilot-activities-2/description-and-criteria/>) for your country, please contact us!



Argentina pilot site page

GEOGLAM Strategy and Implementation

Late 2015, RAPP provided a workplan "post-2015" for GEOGLAM to include the activity in their own long-term plan.

RAPP is a key sub-component of GEOGLAM as well as Asia Rice and already benefits from strong support from GEOGLAM and CEOS community (Ad-hoc working group). Therefore CEOS can help the RAPP community to collect more specific data (or more frequently) according to their data requirements.

RAPP is expected to continue growing especially with the implementation of the GEOGLAM RAPP Map, provided the project gets supported by other organizations with a longer term financial engagement.

Next key dates for GEOGLAM RAPP

- **RAPP's representation at CEOS SIT meeting + GEOGLAM side meetings (Frascati, 18-21st April)**
- **4th RAPP technical workshop in South Africa (20-22 June)**

You are receiving this email because you have participated in an event, or you are a member of the RAPP community. If you are not interested in getting these emails anymore, please let us know (kerblat@yahoo.com and juan.guerschman@csiro.au), and you will be removed from our list.