



# GEOGLAM RAPP

## Communication & Coordination Strategy

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22 July 2015

AGRICULTURE FLAGSHIP

[www.csiro.au](http://www.csiro.au)



# GEOGLAM RAPP : why?

A few global agricultural challenges to deal with...



Slide from Brian Keating, CSIRO

# GEOGLAM RAPP : when, what and who?

## GEOGLAM RAPP, a subset or component of GEOGLAM...

**GEOGLAM** : Group on Earth Observations Global Agricultural Initiative

- Initially launched at the G20 Agriculture Ministers meeting in Paris - June 2011
- Meant to *"strengthen global agricultural monitoring by improving the use of remote sensing tools for crop production projections and weather forecasting"*
- Collaborative initiative: space agencies, existing associated institutional frameworks, in-situ networks, rangeland ecologists, and the pasture productivity modelling community

**RAPP** : Rangeland And Pasture Productivity ( [www.geo-rapp.org](http://www.geo-rapp.org) )

- Launched early 2013 (starting phase in Feb 2013), following GEOGLAM's path
- RAPP's implementation is a few years behind GEOGLAM (not in the operational phase yet... but trying to get into it soon)

# GEOGLAM RAPP : when, what and who?

New GEO initiative 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”

RAPP will integrate earth observation and *in situ* data, with modelling approaches to map across the globe:

- Dynamics of the nature and quantity of available plant biomass,
- Nature and quality of animals feeding on the biomass, and their protein production

# GEOGLAM RAPP : key facts

## Grazing land on the planet

- Rangelands – native species often used for livestock
- Pasturelands – improved species and designed for livestock
- Largest land use system on earth

## Some key facts/challenges in Rangeland and Pasture field

- Large proportion of the earth's surface (48% of biomass is consumed by grazing animals – M. Herrero, 2013)
- More and more people with livelihoods dependent on sustained production
- Food impact beyond the footprint
- Greenhouse gas source (approx. 12%)
- Multiple roles in human nutrition and welfare, and key foundations for many ecosystems and biodiversity – many in vulnerable states

# GEOGLAM RAPP : outcomes

## Key **RAPP outcomes** :

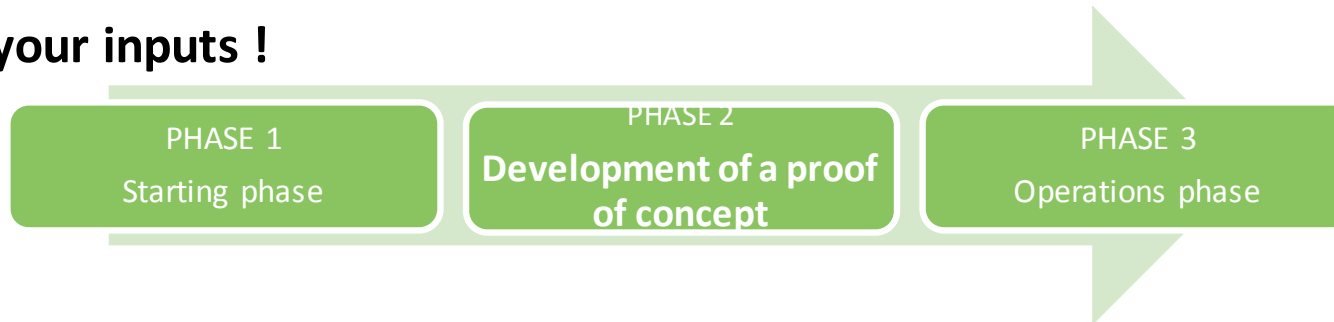
- Improve the **capacity to manage risks, and improve production of animal protein at a range of scales** (due to a better understanding of the trends in biomass and its use for protein production)
- Increase the **capacity to manage variability in production** (due to more timely and accurate national and regional agricultural statistical reporting and early warning of meat production shortfalls)
- **Plan more effectively**, based on accurate forecasts of pasture & rangelands productivity variability
- **Improve global understanding of risks** across all landscapes

# GEOGLAM RAPP : Implementation Plan

- Phase 1 (Feb 2013 - December 2013) STARTING PHASE  
*1<sup>st</sup> workshop in Sydney (Australia) – 2013*
- Phase 2 (Jan 2014 - July 2015) “**DEVELOPMENT OF A PROOF OF CONCEPT**”  
(cf. Dashboard) *2<sup>nd</sup> workshop in Paris (France) – 2014*  
**3<sup>rd</sup> workshop 20-22 July 2015 (Brazil) – transition phase**
- Phase 3 (July 2015 - December 2017) OPERATIONS PHASE

What to do know? Any concrete proposals to implement? Can you help us setting up an implementation plan from now – **key steps, methods/consistent data protocols , finance, governance, results to be achieved?**

**We need your inputs !**



# GEOGLAM RAPP : Governance

## From... (initial stages)

- Australian interim RAPP task team (CSIRO, Queensland Government, University of Queensland, Australian Government)
- Working group representing a developing community of practice (including YOU)

## To.... (Potential future model?)

- Steering and advisory groups (key global institutional partners, donors and users)
- RAPP Technical Implementation Group (task and project leaders)
- Subset of GEOGLAM governance
- Proper **co-fundings to enable international collaborative work**
- **Solid partnerships with high-level global institutions**



# GEOGLAM RAPP : Community of practice

## ACTORS

- Joining a Community of Practice = **sharing more information and tools, in a collaborative approach....** a very enriching environment  
*(ex of “Grazing Intensity Index” (Zhao Dan): to be tested on other pilot sites? To be implemented and required for all pilot sites?)*
- CoP is made of institutions, research centres... with main point(s) of contact

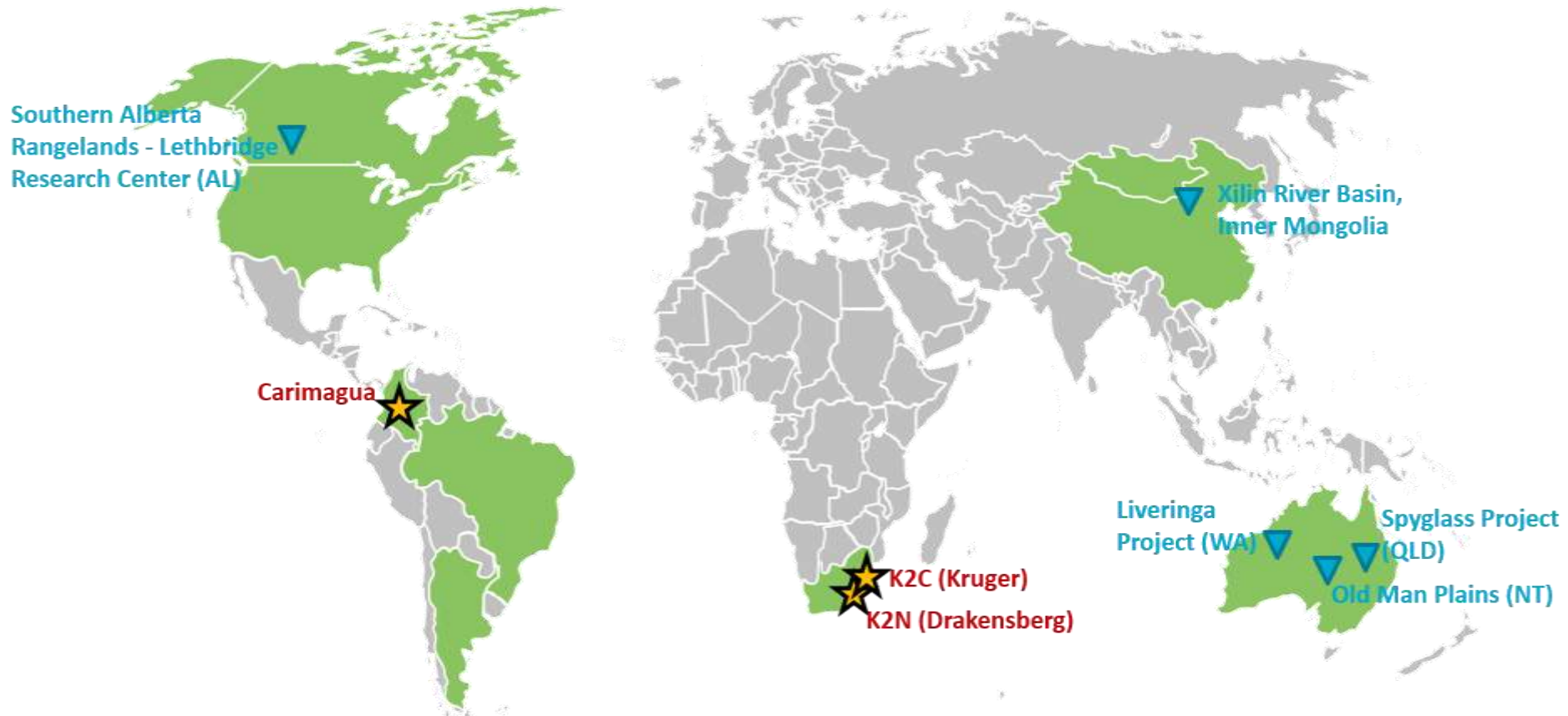
### Besides PILOT SITES actors, other partners and institutions (various scales) are involved :

- GEOGLAM as a global initiative, GEO, CEOS, FAO
- JRC (Joint Research Centre) for Europe, International Institute for Applied Systems Analysis (IIASA) with Ecosystems Services and Management Program (ESM) in Austria
- National Space or Science agencies: CSIRO (Australia), INRA (France), SANSA Earth Observation (South Africa), INPE (Brazil), Institute of Remote Sensing and Digital Earth (RADI)-Chinese Academy of Sciences (CAS)
- Governments : US Department of Agriculture, Australia
- Universities: Maryland (US), Queensland (Australia), Campinas (Brazil)

# GEOGLAM RAPP : Community of practice

Map of proposed GEOGLAM RAPP Pilot Sites (June 2015)

**WORKSHOP ADDITIONS: 1 in Colombia, 2 in South Africa... more?**



*Argentina, Australia, Brazil, Canada, China, Colombia, Mongolia, South Africa, USA... other countries to be integrated ?*

# GEOGLAM RAPP : Community of practice

**PILOT SITES** to be created, developed and used as references (harmonization) :

Projects already proposed in **9** countries, any more to be integrated ?

[http://www.geo-rapp.org/?page\\_id=9](http://www.geo-rapp.org/?page_id=9)

- Similar process to JECAM activity: [www.jecam.org](http://www.jecam.org)  
(Joint Experiment for Crop Assessment and Monitoring)
- Criteria:
  - **Large test-sites**
  - National government or other significant institutions will or **have already committed local expert capability and access to field data, have the capacity for ongoing nested field programs and science validation test-sites.**
  - Priority would be given initially to **areas with historical and currently active rangeland/grassland monitoring and research activities**
- Important to work closely with the Committee on Earth Observation Satellites (CEOS) to support satellite data acquisition for the initial pilot sites
- Need to get consistent data protocols, to HARMONIZE data (Is it worth developing a **manual of field protocol?**)

# GEOGLAM RAPP : Community of practice

EXAMPLE OF A PILOT SITE DESCRIPTION: [http://www.geo-rapp.org/?page\\_id=55](http://www.geo-rapp.org/?page_id=55)

## CANADA - Southern Alberta Rangelands

Team leader: Dr Anne M. Smith

Agriculture and Agri-Food Canada (AAFC)

Link to a journal – just published:

[www.tandfonline.com/toc/ujsr20/current#.VZ\\_bX\\_P4Abw](http://www.tandfonline.com/toc/ujsr20/current#.VZ_bX_P4Abw)

## DESIRABLE INFORMATION FOR EACH PILOT SITE

- Project Overview
- Collaboration & Stakeholder involvements
- Implementation Plans
- Site description
- In-situ Observations
- Agency databases
- EO Data requirements
- Location(s) - regional/local scales
- Project reports ?



# GEOGLAM RAPP : Community of practice

**AUSTRALIA (website pages to be updated soon) – 3 proposed pilot sites, in 3 different regions, but roughly with the same objectives and research teams:**

- **Spyglass** beef research facility, near Charters Towers (Queensland, QLD)
- **Old Man Plains**, south of Alice Springs (Northern Territory, NT)
- **Liveringa Station**, in the Kimberley district (Western Australia, WA)

## Spyglass - Project overview :

(...) This project will develop algorithms for mapping grass biomass in Australia's northern rangelands from radar and optical satellite imagery, and methods to validate these models in the field.

Achieving these objectives would place Australia at the forefront of rangeland and biomass mapping world-wide, and provide a strong leadership position in the food-security and global rangeland productivity mapping projects (...)



# GEOGLAM RAPP : Community of practice

FOR MORE INFORMATION ON PILOT SITES, EVENTS and GEOGLAM RAPP activity in general, please visit : [www.geo-rapp.org](http://www.geo-rapp.org)

A dedicated **website**, managed by CSIRO, has just been created to:

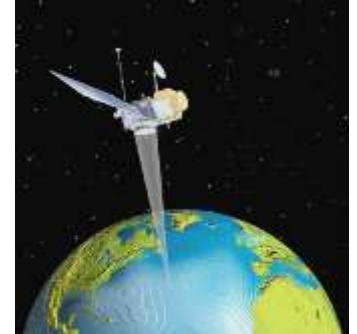
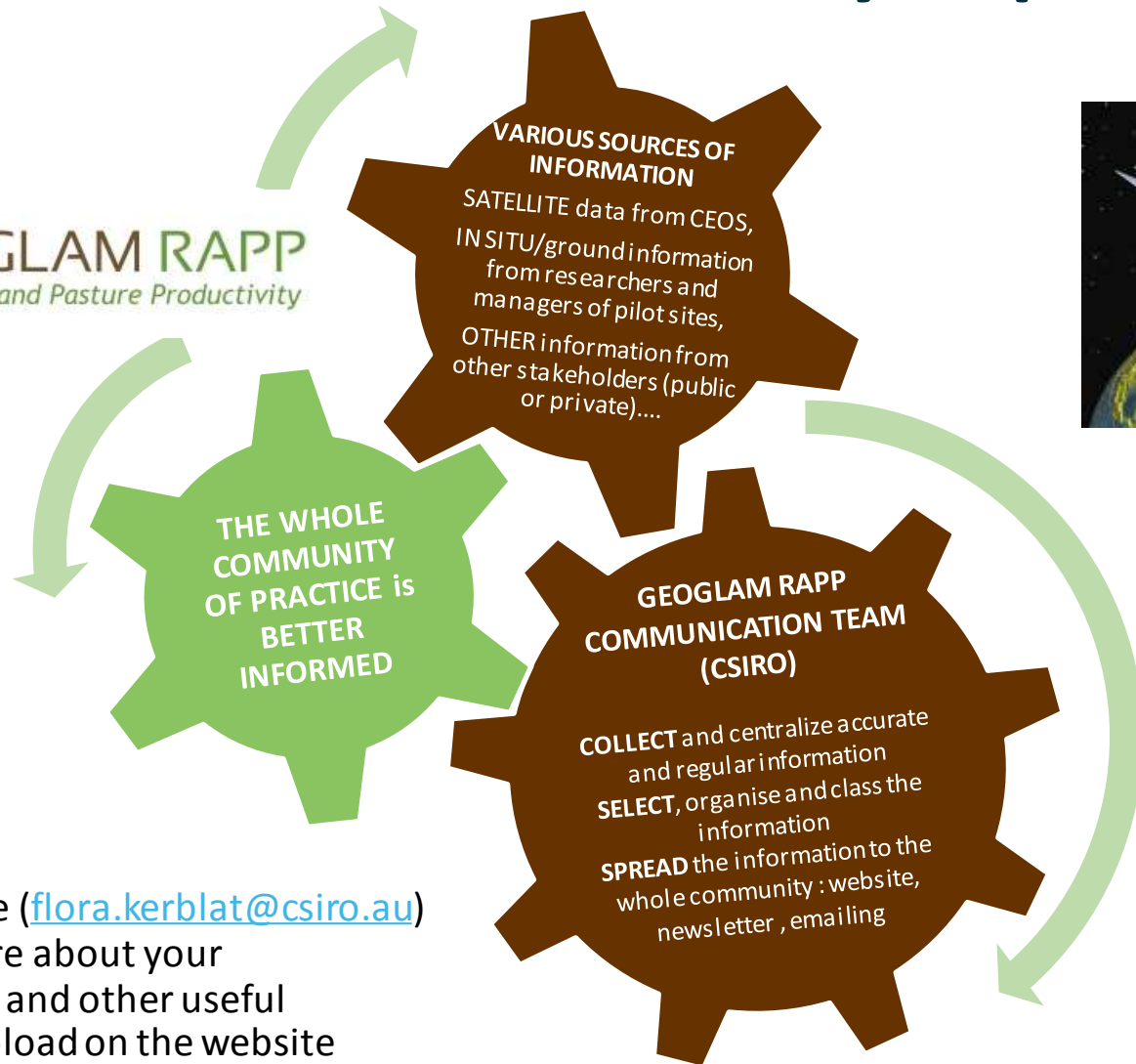
- **COMMUNICATE** all general information about the project (general plan, research, pilot sites, partners)
- **PROVIDE INFORMATION** about all National Pilot Sites (some are already online, while others are still under construction: waiting for detailed information from the national teams)
- **UPDATE** the community (YOU) on specialized events and workshops
- **INFORM** about : R & D, RAPP Monitor, Capacity Development and Outreach (under construction, more to come)
- **LIST** the partners



# GEOGLAM RAPP : Community of practice



**GEOGLAM RAPP**  
Rangeland and Pasture Productivity



Please contact me ([flora.kerblat@csiro.au](mailto:flora.kerblat@csiro.au))  
to provide us more about your  
project/pilot site, and other useful  
information to upload on the website

# GEOGLAM RAPP : Summary

- Rangelands & pastures deliver a **substantial amount of the world's protein needs**
- RAPP's initiative (= the GEO'S new Global Agricultural Monitoring community of practice for Rangelands And Pastures Productivity): to **enable the global community to monitor (in real time) the performance of these crucial and sensitive landscapes in producing animal protein (regional, national and global scales)**
- **INPUTS from the Community of Practice** are ESSENTIAL to build a solid initiative with real impacts and outcomes for the end users (policy makers, farmers, ...)
- New **WEBSITE** to centralize and coordinate all the information about RAPP

## NEXT STEPS ?

1. Reinforce & develop the community of practice: key stakeholders at different scales, especially **high-level institutional partners** (firm involvement, funding) to give an official and continuous framework to the initiative
2. Give regular updates on RAPP's activities/monitoring through (if funded accordingly):
  - The **website**,
  - A regular (quarterly?) **newsletter**
  - A (monthly?) **global conference call** (with key RAPP partners) to report and keep track of the activities to be implemented
3. Organise the next (4<sup>th</sup>) workshop of the community of practice in Africa or Asia ? (discussions)





Spyglass, QLD, Australia, credits Michael Schaefer CSIRO

# Thank you - Obrigado

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