AgMIP

The Agricultural
Model Intercomparison
and Improvement Project

SOUTH AMERCIAN REGIONAL WORKSHOP

SEPTEMBER 24-26 2013
CAMPINAS, BRAZIL

Embrapa

AgMIP South America Regional Workshop

Embrapa Agricultural Informatics, UNICAMP, Campinas, Brazil
September 24-26, 2013

EXECUTIVE SUMMARY

A. Goals of the Workshop

- Refine and prioritize work agenda for intercomparison and improvement of crop simulation models, development of climate data scenarios, evaluation of the extreme events, development of Representative Agricultural Pathways (RAPs) and intercomparison of regional economic models in each participating country.
- Create opportunities for multi-institutional collaboration within and between countries with the goal of demonstrating and building capacity for regional multi-disciplinary research activities.
- Incorporate these elements into a strategy to develop proposals for country-specific Integrated Climate Impact Assessments with the goal of understanding important uncertainties of climate impacts and adaptation strategies on agricultural production and food security.

B. Pre-workshop activities

- Preparation was led by a workshop planning committee (including Roberto, Eduardo, Alex, and Carolyn, among others)
- Workshop logistics were arranged primarily by Marilene Cristiane de Jesus (Embrapa)
- The workshop was announced via emails to the AgMIP List-serve and through direct circulation among agricultural scientists in Latin America
- Roberto led interactions and preparations with all teams
- A Pre-workshop meeting was held in Peru the week before
- Teams from Bolivia and Chile also expressed interest but were unable to attend

C. Participants

The workshop was hosted by Embrapa Agricultural Informatics and led by AgMIP Science Steering Group. Scientists with expertise in agronomy, soil sciences, climate science, agricultural economics, livestock and information technology. A total 49 scientists, from Argentina, Bolivia, Brazil, Colombia, Netherlands, Peru, Uruguay and USA attended the workshop. Members from the AgMIP Science Steering Group also participated via internet.

D. Workshop activities

- Day one – Alex Ruane described AgMIP, its organization, its global activities, and the AgMIP charter for the emerging global program. Alex also introduced the AgMIP Regional Integrated Assessments Handbook and presented the core questions for regional assessment. After lunch a representative from each country presented the state of agricultural modeling activities in their country.
- Day two – Morning breakouts split the participants up by discipline, with Alex leading the Climate group, Guillermo leading the Crop Modeling/IT group, and Roberto leading the Economics group. Afternoon breakouts were organized by country (with Uruguay and Argentina meeting together) to plan the scope of the project and identify data and

methodological needs. Cynthia Rosenzweig and Jim Jones led a teleconference communication with the workshop plenary.

- Day three – Breakouts in the morning were focused on developing concrete steps toward AgMIP LAC projects. These included goals for a 6-month and 12-month time frame, as well as assignments for a coordinator and leaders for a variety of specific project activities.
- There were several side conversations related to the Coordinated Climate-Crop Modeling Project (C3MP), including a brief comparison of results from two Argentinean groups for Balcarce wheat.

E. Workshop Outcomes

- Announced the AgMIP Brazil Project, funded by Embrapa
- Embrapa Agricultural Informatics will build and host the AgMIP LAC data servers for inputs and outputs from the projects, constructed according to AgMIP protocols and linked to the central AgMIP web pages.
- Formed AgMIP Latin America and Caribbean Coordination Team
    - Agustin Gimenez, INIA, Uruguay
    - Ariovaldo Luchiai Jr, Embrapa Agricultural Informatics, Brazil
    - Néstor M. Riaño, CENICAFE, Colombia
    - Maria Travasso, INTA, Argentina
    - Irene Trabejo, SENAMHI, Peru
    - Bruno Condori (CIP) may also serve a similar role for Bolivia (to be confirmed).

  Country representatives to be defined: Chile, Bolivia, Ecuador, Venezuela.
- CENICAFE will host the next AgMIP LAC workshop in Columbia; March, 2015 (18 months from now)
- CENICAFE is planning on holding a series of workshops to work through the AgMIP Integrated Assessment Handbook, beginning with an invitation to Guillermo and Alex to come to Colombia in November, 2013.
- Embrapa and CENICAFE agreed to exchange technological expertise, with Embrapa improving sugarcane capacity in Colombia and CENICAFE introducing process-based coffee modeling in Embrapa.
- Maurits van den Berg and Alex Ruane developed an outline for an MOU between AgMIP and the EuroCLIMA project led by the JRC
- There was consensus among participants that a joint project with a ~3 year time frame would be beneficial for all participants, and that open collaboration was preferred over individual projects.
- Within ninety (90) days would be ready an article about extreme events, that will be elaborated by EMBRAPA and INTA.

F. Organizing Commite

- Alex Ruane, NASA Goddard Institute for Space Studies, USA
- Eduardo Assad, Embrapa Agriculture Informatics, Brazil
- Roberto Valdivia, Oregon State University, USA
- Guillermo Baigorria, University of Nebraska, Lincoln, USA

AgMIP South America Regional Workshop
Report

On **September 23, 24 and 25 of 2013** the Latin American and Caribbean (LAC) Workshop, that was held at Embrapa Agricultural Informatics, in Campinas City (SP/ Brazil).

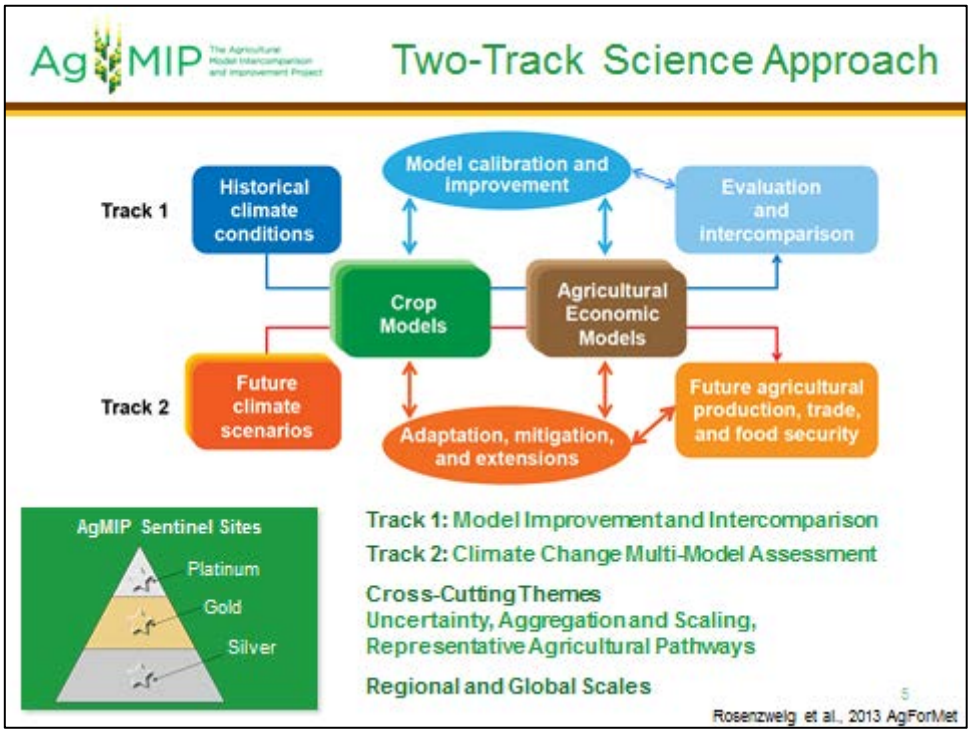
The workshop aim was to establish regional objectives to elaborate projects and work plans based on AgMIPs protocols and methods, to lead project proposals for Integrated Climate Impact Assessments for each participant country.
The Workshop expected the following outcomes:

- To refine and prioritize a common and collaborative work agenda for intercomparison and improvement of crop simulation models;
- -To establish climatic data base to be used in the simulation and evaluation of the extreme events scenarios,
- To develop Representative Agricultural Pathways (RAPs) in order to intercompare regional economic models in each participating country;
- To create regional opportunities collaboration for multi-disciplinary research and capacity building activities.
- To Incorporate these elements into a strategy to develop proposals for country-specific Integrated Climate Impact Assessments with the goal of understanding important uncertainties of climate impacts and adaptation strategies on agricultural production and food security.
- To design a regional program that follows AgMIP Protocols for model intercomparison and improvement, as well as an assessment of agricultural production, economic vulnerability, and food security under future climate scenarios.
- In order to achieve these goals, each country was represented by a transdisciplinary team of scientists with expertise in agronomy, soil sciences, climate science, agricultural economics, livestock and information technology. A total 49 scientists, from Argentina, Bolivia, Brazil, Colombia, Netherlands, Peru, Uruguay and USA attended the workshop. Members from the AgMIP Science Steering Group also participated via internet.

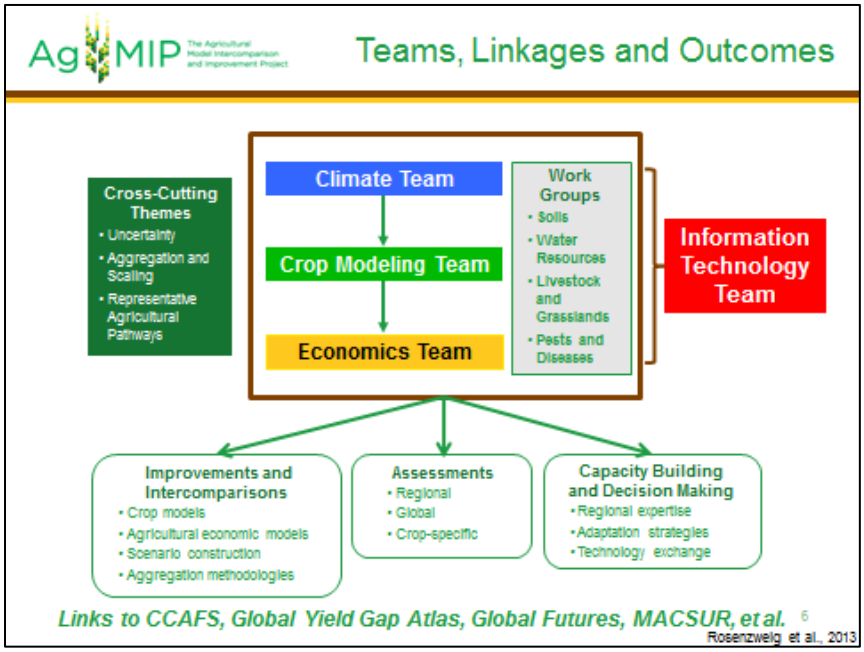
Country	Argentina	Brazil	Colombia	Netherlands	Peru	Peru/Bolivia	Uruguay	USA	**TOTAL**
Num. of Participants	7	25	5	1	4	1	3	3	**49**

On Tuesday, 24th September (Day 1):

Alexander C. Ruane (from AGMIP / NASA, GISS) presented an overview of the worldwide AgMIP progress, over the last 3 years, emphasizing the Two-Track Science Approach and the AgMIP Sentinel Sites, as showed below (Figure 1):



He also explained about the AgMIP Teams, cross-cutting themes, key interactions and expected outcomes, as seen on Figure 2.



It was pointed out the core questions that guided out the workshop activities:

1. What is the sensitivity of current agricultural production systems to climate change?
2. What is the impact of climate change on future agricultural production systems?
3. What are the benefits of climate change adaptations?

Delegates of each country **presented the ongoing and future activities related to AgMIP and other Climate Change research activities (Crop/Climate/Economy) – Actual and Prospective.** The presentation of each country is briefly described below:

Argentina

Argentina has a recognized experienced modeling scientists and research program to study the impact of the climate change related to the vulnerability, adaptation and mitigation on crop and animal production. Also Argentinian Institutions involved on agriculture and climate change research, have field experiments to improve the models simulation capabilities. The most used crop models are: DSSAT, STICS, APSIM, CropSys for maize, wheat, soybean, sunflower, mixed crops/pastures; SIMUGAN, SGS, McCall and DSSAT for Grazing-based livestock systems; GBLs, S-MERRA to estimate climate series; C3MP to climate sensitivity tests and AMG to study soil organic carbon.

Argentina also carried out a collaborative project for building capacity to assess impact of climate change and develop adaptive responses for the mixed grain/grazed production systems in the Argentinean, Uruguayan and Brazilian Pampas.

Argentina participates in the wheat pilot project within the AgMIP Project and is a very important partner to contribute to the AgMIP knowledge of regional climate and the associated productivity risk, the vulnerability of agricultural systems and the identification of strategies allowing reducing current and future climatic risk.

Currently researchers from INTA are involved in international projects dealing with the impact of climate and extreme events on crop production (INIA-INTA; MODEXTREME).

Researchers from UBA are working in field experiments to look at the impact of extreme temperatures on wheat and barley yields. Moreover the network established by people from the UNC and INTA is focused on the study of mixed systems (agriculture and livestock) in the Southern Pampas

The main Argentinian institutions participating in the AgMIP are: INTA, Universidad de Buenos Aires and Universidad Nacional del Centro dela Provincia de Buenos Aires.

Uruguay

INIA Uruguay has an Agro climatic and Information Systems Research Unit focused on:

- Climate change and variability studies, impacts and adaptation options.
- Development of products and information systems for planning and decision making support, related with climate in agriculture production.

Results from both research lines were showed, as also from the project "Identification of Adaptation Options to CC (INIA – Cornell University – World Bank, 2009)".

Today´s main studies are:

- Impacts and adaptation of agriculture to climate variability and extreme events (INIA – INTA);
- Information systems: soil water, and crops and pasture production monitoring and forecast, based on climate perspectives (INIA – IRI).
- Models used: DSSAT, Century, water balance model, PPNA,
- Remote sensing (Modis, Landsat, NOAA).
- Climate estimation methods (IRI techniques).

An interesting point is that research is supporting public policies with Governmental actions for Climate Change adaptation, such as:
Emergency funds, development of agricultural insurance services, water reservoir and irrigation promotion, development of a National Agriculture Information System and Soil use and management plans for crop cultivation.

Considering the facts cited above INIA-Uruguay is an important partner for the AgMIP Project and especially in the LAC. The leading Uruguayan institution participating in the AgMIP is INIA.

Colombia

Colombia presented the main networks, platforms and models used for Climate Change, Modeling and tools for decision support system development. The names were not translated.

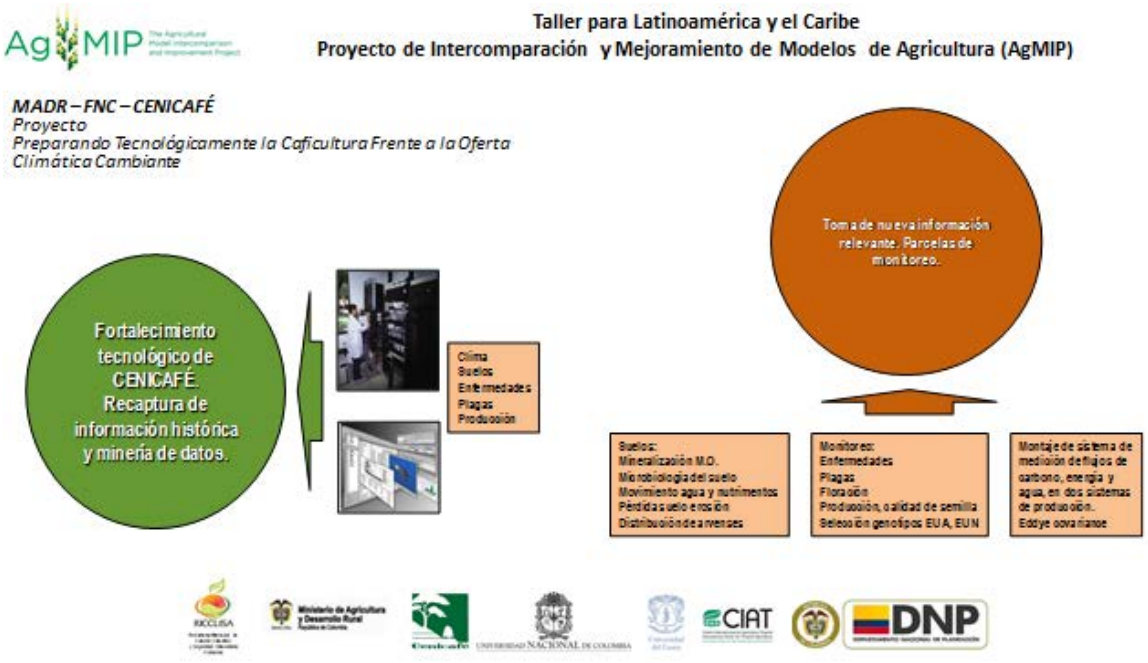
- *Red Interinstitucional de Cambio Climático y Seguridad Alimentaria- RICCLISA.*
- *Red Climática Colombia y Modelación de Clima Escenarios - INSTITUTO DE HIDROLOGÍA, METEOROLOGÍA Y ESTUDIOS AMBIENTALES – IDEAM.*
- *Red Climática Cafetera – CENICAFÉ / Plataforma Agroclimática Cafetera / Xue Mulador.*
- *Red Climática Caña de Azúcar – CENICAÑA / Plataforma de Información.*
- *Uso de modelos de Clima PRECIS – MarkSim – WorldClim - CIAT.*
- *Herramienta para toma de decisiones agropecuarias – AgroNet – MINISTERIO DE AGRICULTURA Y DESARROLLO RURAL - MADR*.

Crop modeling activities:

- *Red Interinstitucional de Cambio Climático y Seguridad Alimentaria-RICCLISA.*
- *Estudio del efecto del Cambio Climático en la Agricultura DNP – IDEAM – FAO / AQUACROP - MAÍZ* / PAPA.
- *Mega de Cambio Climático para la Agricultura FR – CT&I.*
- *Análisis integral de sistemas productivos en Colombia para la adaptación a los fenómenos Climáticos. MADR / CIAT; FENALCE – CENIPALMA – CLAYUCA – FEDEARROZ – BIOTEC – BIOFUTURO – GASA, DSSAT / AQUACROP / APSIM. Cultivos: MAÍZ / ARROZ / FRIJOL / YUCA.*
- *Desarrollando e inter-comparando modelos de predicción de crecimiento y producción de cultivos como herramienta para determinar la vulnerabilidad del sector agrícola frente a la variabilidad y el cambio climático. WP5 / Cuenca alta del río Cauca*.

CROPS: *papa, frijol, yuca, maiz tradicional, maíz tecnificado, platano, caña de azucar, café, cacao, pasturas, forestales.*

MODELOS: CREFT – DSSAT – AQUACROP – APSIM – ARC/APEX



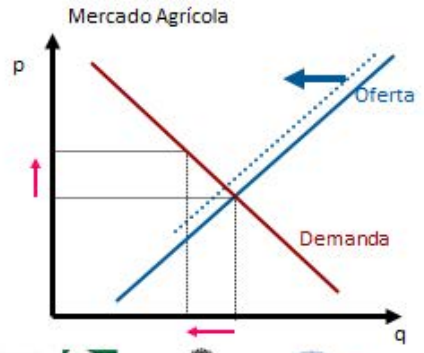
Pilot program:

- *UT - RICCLISA - Programa de Fortalecimiento para enfrentar los efectos del cambio climático y la variabilidad climática sector agrícola colombiano, proponiendo estrategias y lineamientos comunes para la incorporación de la gestión del riesgo y la adaptación al cambio climático.*
- *GRUPO CENTRAL / CiAGUA – CENICAFÉ – CIAT – CREPIC – UNIVERSIDAD DEL VALLE – UNIVERSIDAD DEL CAUCA.*

Modeling the Economic Component:

Taller para Latinoamérica y el Caribe
Proyecto de Intercomparación y Mejoramiento de Modelos de Agricultura (AgMIP)

Modelo de Equilibrio General Computable (MEG4C) cuantifica las interacciones de choques a la economía y como éstas se esparcen a los demás sectores; a diferencia de un modelo de equilibrio parcial donde solo se analiza un mercado.



The Colombia research strategy - networks, scientists experience and achievements are very important for the AgMIP and AgMIP LAC.

The main Colombian institutions participating in the AgMIP are: RICCLISA, Ministerio de Agricultura y Desarrollo Rural, CENICAFÉ, Universidad Nacional de Colombia, Universidad del Cauca, CIAT and DNP.

Peru

The delegation presented the following topics:

AgMIP Project components activities:

- Climatic extreme events: methodologies for scenarios development, economy.
- Climate Change: impact assessment studies for the 07 major economic Peruvian crops.
- Potato pilot crop modeling: description of on-going activities and location sites.
- The Information technology: infra-structure, personnel and institution involved were presented.

Economy:

Aim: To measure the Climate Change impact on national GDP from the losses quantification of 8 productive activities: fishing, agriculture, livestock, infrastructure, tourism, mining, hydropower and health.

Agriculture case: To measure the Climate Change impact on 7 selected crops based on the importance on the agricultural GDP: potato, rice, yellow corn, coffee,

sugarcane, *platano* and starchy corn. The agriculture sector, livestock and fishing were the most impacted sectors. The losses estimation were between 16% and 72% of the agricultural GDP.

Report of The AgMIP Activities – Steering Committee:

The preparatory activities for the Peru-

- AgMIP workshop results were reported and was also presented the Future Plane Action was also presented.
- The main Peruvian institutions participating in the AgMIP are: SENAMHI, INIA, UNALM, CIP and Ministerio de Agricultura y Riego.

Brazil

Agriculture and Climate Change efforts:

- The on-going activities of national REDECLIMA network (Brazilian research on Climate Change and the impacts on agriculture production), coordinated by Embrapa were presented. As also, the fact that Universities are supporting the National network mostly taking care on the basic research.
- The structure, the main research priorities of the Embrapa´s R&D Portfolio on Climate Change were presented.
- Embrapa has a national Project replicating the AgMIP in Brazil.

Main Crop Models and Simulators used in Brazil:

- Beans (cowpea and common) – DSSAT
- Cassava – DSSAT
- Corn – DSSAT/APSIM/EPIC/STICS
- Grape – STICS
- Grass – DSSAT/APSIM
- Rice (upland and irrigated) – DSSAT/APSIM/Oriza
- Soybean – DSSAT
- Sugarcane – DSSAT/APSIM/STICS/MONICA (**AgMIP Sugarcane Pilot program)**
- Wheat – DSSAT
- CENTURY – soil organic carbon.

Climate model development and studies mainly on-going at:

- INPE (National Institute of Space Resarch)
- USP (University of São Paulo)
- UNICAMP (State University of Campinas) /CEPAGRI

Economy studies mainly on-going at:

- Embrapa Agricultural Informatics
- USP/ESALQ
- UNICAMP (State University of Campinas)

IT infrastructure activities mainly on-going at:

- Embrapa Agricultural Informatics
- UNICAMP (State University of Campinas)/CEPAGRI
- INPE (National Institute of Space Resarch)

Brazil has a sugarcane/Wheat pilot project within the AgMIP Project and is a very important partner to contribute to the AgMIP database knowledge of regional climate and the associated productivity risk, the vulnerability of agricultural systems and the identification of strategies allowing reducing current and future climatic risk. Brazil is also important in the use of Information Technology to create harmonized Database linked with data conversion tools to support a modeling framework.

On Wednesday, 25th September (Day 2):
On the second day, three groups were formed and received orientations in how to discuss and address the following themes:

Climate - Objectives
The AgMIP Climate Team is tasked with collecting historical climate information, generating climate sensitivity experiments, producing consistent climate scenarios, and performing agro-climatological analysis for regions modeled as part of AgMIP. AgMIP Climate Team activities are designed to place climate data in ready-to-use formats to facilitate applications by agricultural modelers around the world.

Crops (IT, STICS) – Objectives
The Crop Modeling Team has the responsibility of coordinating the evaluation, intercomparison and improvement of crop models prior to using the crop models for climate change assessment and adaptation to climate change. They are coordinating team efforts to calibrate crop models at both site-specific and regional levels, so the models will give more reliable predictions under baseline and future climate scenarios.

Economics - Objectives
The Economics Team's goal is to establish a methodological and procedural foundation for the systematic comparison and improvement of global and regional land use, production and trade models used for analysis of climate change impact, as well as mitigation and adaptation in the agricultural sector.

As AgMIP regional integrated assessments require close relationship among economic, climate, crop modeling and IT teams on the regional basis. The afternoon was dedicated by discussion by country. The results are showed below:

COUNTRY	BIOME/ REGION	What are major production systems that need to be modeled?	What are major stakeholder/policy questions that need to be addressed?	What data are available?	Who will lead efforts for each portion of the project?	Who else do we need to involve?
Argentina/Uruguay		Wheat, Maize, and Soybean	INTA (Ar) Climate variability, extreme events, and climate change impacts on crop production Adaptation options Socioeconomic vulnerability of different production systems	Soils, Climate, Physiological, Crop growth, parameters, and economic	Maria Isabel Travasso (crops) Gabriel Rodriguez (crops, climate) Graciela Magrin (crops) Santiago Meira (crops) Edgardo Guevara (crops) Adrian Andriulo (soil carbon) Hernan Urcola (economist)	
		Livestock	Universidad de Buenos Aires			
			INIA (Ur) What are the major impacts of extreme events and climate variability on agriculture production? What adaptation options would be implemented for dealing with extreme events and climate?		Federico Bert (crops) Ramiro Carretero (crops) Guillermo Garcia (crops)	
			Universidad Nacional del Centro de La Provincia de Buenos Aires		Agustín Giménez Bruno Lanfranco (economist) Adrian Cal (crops, climate) Guadalupe Tiscornia	IRI (Columbia University)
					Claudio Machado	
Brazil	Savannah	Corn Soybean Sugarcane Rice Coffee	What's the sensitivity of the production systems over yield and vulnerability to CC? What's the impact of CC on future agricultural production systems? What are the benefits of crop adaptations? What are the available mitigation techniques? What are the available production systems? How CC will affect food security? What are the future social and economic impacts of CC on regional and national bases? What will be the breakdown of diseases and pests? How resilient will the future crop systems be? What are the future economic, social, and environmental scenarios?	Soils, Climate, Physiological, Crop growth, parameters, and economic	**Embrapa Cerrados**: Fernando Macena Soares, Balbino A. Evangelista (DF); **Embrapa Pescae Aquicultura**: Leandro Bortolon (TO); Embrapa Milho e Sorgo, Camilo Lelis, Charlote (MG) **Embrapa Agrosilvopastoril**: Renato Rodrigues, Jorge Lulu, Austedinio Lopes (Sinop, MT); Leandro Bortolon (Palmas/TO) **Embrapa Cerrados**: Balbino A. Evangelista (DF) **Embrapa Arroz Feijão:** Alexandre Bryant and Silvando Carlos (Sto Antonio/GO) **Embrapa Cerrados**: Omar Cruz Rocha (/PlanaltinaDF); Embrapa Inf: Gustavo C. Rodrigues	INPE, IAPAR, EPAMIG, APROSOJA, MAPA, IRGA, EPAGRI, IAC, CEPAGRI
	Atlantic Rainforest	Soybean Sugarcane Wheat Coffee				
	Temperate Climate	Paddy Rice			**Embrapa Soja**: José Renato (Londrina/P) **Esalq**: Fabio Marin (Piracicaba/SP) **Embrapa Trigo**: Gilberto Cunha and José Maurício (Passo Fundo/RS) **Embrapa Informática:** Gustavo Costa Rodrigues (Campinas/SP)	
	Semi-arid (Caating)	Sugarcane			**Embrapa Clima Temperado**: Santiago, Silvio Steinmetz (Pelotas/RS) **Embrapa Tabuleiro Costeiro**: Antonio D. Santiago (Rio Largo/AL)	

COUNTRY	BIOME/ REGION	What are major production systems that need to be modeled?	What are major stakeholder/policy questions that need to be addressed?	What data are available?	Who will lead efforts for each portion of the project?	Who else do we need to involve?
Colombia		Fast Track – Coffee and Corn	What's the sensitivity of the production systems over yield and vulnerability to CC?	Soils, Climate, Physiological, Crop growth, parameters, and economic	For Coffee Cenicafé Team; for Corn Fenalce Team	MINISTERIO DE AGRICULTURA, CORPOICA, CIAT, FENALCE, CENICAÑA, CIPAV, IDEAM, INICAUCA, UNIVALLE, UNINACIONAL, UNICALDAS, CADENAS PRODUCTIVAS.
		Other crops for Upper basin of Cauca river, Sugarcane, Beans, Plantains, Potato, Cassava, Pastures and Cocoa			For Sugarcane Cenicaña Team; Beans, Cassava and Pastures CIAT Team, and the other crops Corpoica and several Universities located in the upper basin	
Peru/Bolivia	Highlands (Puno)	Agricultural System: (potato, quinoa, bean) Livestock System: (ovine, bovine, alpaca)	How can we ensure the availability of food? Which research could improve the quality of the product? How to reduce or leverage the impact of climate on crop yields and livestock? Which are potential areas of production with low risk of extreme events? What adaptation measures recommended to mitigate and leverage the impacts of climate change? How will be the climate in the next agricultural campaign?	**Weather:** Data available (Temp, PP). Estimated: solar radiation Not available: long historical series, little geographic coverage of meteorological stations **Crops and livestock**: National statistical (area planted, area harvested, yield) Results of research of public and private institutions: planting and harvest date, water and nitrogen management, phenology and soil. Difficulties: Not systematic information. There is no information about CO_2, leaf area index, genetic coefficients **Economy:** Data Available: Regional and national data time series of production and prices. Estimated cross revenue Not available: Historical series of production costs, only cross-sectional.	Weather: SENAMHI (C. Oria, G. Avalos, D. Acuña, E. Jaimes)	Decision makers from regional and local governments, NGOs, and universities
	Mantaro Valley	Agricultural System: (potato, corn, bean) Livestock System: (ovine, bovine)				
	Cost North of Perú (Piura Valley)	Agricultural System: cotton			Crops: CIP (C. Barreda, B. Condori, R. Gutierrez), SENAMHI (K. Quevedo, W. Yzarra, L. Cruzado, G. Canchari), INIA (J. Arcos, W. Barreda, F. Ruelas) Livestock: INIA, CIRNMA (C. Leon Velarde, R. Valdivia) Economy: UNALM (L. Alvarado, C. Orihuela), SENAMHI (G. Villar), INEI (D. Chávez) TICS: SENAMHI (O. Solis, P. Ruiz, A. Llacza, G. Jacome), CIP (J. Guerrero) **Embrapa Tabuleiro Costeiro**: Antonio D. Santiago (Rio Largo/AL)	

	Who will lead efforts for each portion of the project?			
	Argentina/ Uruguay	**Brazil**	**Colombia**	**Peru**
Soil Organic Carbon	Adrián Andriulo (INTA)	Elisandra Solange Oliveira Bortolon (TO); Luiz Fernando Leite	Hernan Gonzalez MSc-Cenivafé	INIA (Beatriz Salas)
Crop modeling Team	Arg: G. Rodriguez (crops and climate), H. Urcola (economics), C. Machado (livestock) Uy: Adrian Cal and Guadalupe Tiscornia (crop and climate)	**Embrapa Informática:** Eduardo Assad, Ariovaldo Luchiai Jr, Gustavo C. Rodrigues (Campinas, SP)	Néstor M. Riaño H. PhD-Cenicafé; Victor H. Ramírez MSc-Cenicafé	CIP (Carolina Barreda), SENAMHI (Karim Quevedo)
IT Team		**Embrapa Informática:** Silvio Evangelista, Luciana Alvim, Adriano F. Otavian, Luciano V. Koenigkan	Juan C. Corrales PhD, Universidad del Cauca-CiAgua	SENAMHI (Olimpio Solís), CIP (José Barreda)
Climate Team			Andrés J. Peña MSc-Cenicafé	SENAMHI (Clara Oria)
Economic Team			Sergio Orrego PhD – Universidad Nacional de Colombia	UNALM (Laura Alvarado)

On Thursday, 26th September (Day 3):

The results discussed on the last day are briefly showed below:

	Argentina/Uruguay	Brazil	Colombia	Peru
Goals: next 6 months	In the case of Argentia-Uruguay cooperation, related to agriculture, it is intended to work at north agricultural zone of Buenos Aires, south of Santa Fé and Cordóba (Ar) and west coast zone (Ur). For livestock, intended to work in a mixed system, in the south of Buenos Aires. And for Uruguay it is intended to work in ranching zone. Agriculture: To join and coordinate the work team and to gather the climate data for the selected areas. Livestock: as it's not advanced, make the first contacts with possible interested teams of both countries. To contact Latin America group, aiming to form a thematic network.	AgMIP BR (Fernando Ariovaldo) will meet with the PI of AgMIP/BR to define routes and goals aligned with the Climatic Changes Portfolio MOU Embrapa – USDA (Labex USDA – ARS) – Eduardo Assad MOU – INTA, INIA Uruguay, INIA Bolivia, Peru, Colombia (Ariovaldo Luchiari) TI – Site AgMIP LAC, BR (standards) – Luciana Alvim Economy: Data collection – database (IBGE) – Aryverton and Maria do Carmo Course economic component for AgMIP LAC: Methodology for data collection and processing (Aryverton and Maria do Carmo) Models: first approach of simulated models Models training: STICS training (Fernando Macena)	Consolidate AgMIP Colombia through RICCLISA Network Climate Modelling Workshop – November 14-15, 2013 Economic Analysis Workshop – January 2014	National and international agreement (SENAMHI-EMBRAPA) To manage MOU with AgMIP (central team) Seek for financial source for many activities
Goals: next 12 months	Have the crop data available, the climate and crop data in AgMIP format Begin the search for available economic data that would be able for the proposed model (TAO-MD) Run made with DSSAT for wheat, soybeans, and corn in two locations (one in each country)	To be defined as a function of the AgMIP BR meeting (Fernando, Ariovaldo)	Crop Modeling Workshop – March 2014	Training workshop for the Puno Region (components). Research project for Altiplano, for potato crop, using available models (DSSAT SOLANUM). To follow up the actions/commitments AgMIP-Brazil
Need for another workshop	Every 18 months	Every 18-24 months	AgMIP LAC Workshop – March 2015 at Colombia - CENICAFÉ	Every 18 months
What is needed	funding	Funding: IICA, World and Ilteramerican Bank, Bill and Melinda Gates Foundation	Advances of AgMIP analysis for selected crops in Campinas Workshop	Funding the participation (financial support) Support from central AgMIP for actions that will contribute to the different components of the project

	Argentina/Uruguay	Brazil	Colombia	Peru
What is expected from a Latin America coordination team	To promote the livestock initiative among countries in the region	Working plan Soil, climate, data share Regional integration: modeling activities of corn, cane, coffee, wheat, soybeans, rice	Funding sources To coordinate the writing of LAC – AgMIP proposal to be presented to donors	Boost the interaction between different national teams Monitor actions to achieve concrete results in different priority crops Organize and coordinate virtual forums, workshops or other mechanisms of information and experiences exchange between countries
What is needed from central AgMIP	Necessary training on the economic models TOA-MD and mainly on STICS and APSIM	Working plan collaborative Models latest version and adjustments Models running and adjusted by experts, diminish errors, use local data Protocols – experimental and models, data collections, analysis TI- data banks (standards, tools for data search, aggregation, model integration visualization) Databases, soils, crop experiments, climate scenarios, crop model outputs, economic models	To facilitate the communication between regional AgMIP teams around the world Technical review for LAC proposal Identification of potential donors and funding sources for AgMIP LAC proposal Technical support	Process facilitation for national and regional action accomplishment Scientific support for diverse aspects of the project Scientific counterpart for local and regional alternatives Coordination and organization support and displacement of scientists from central AgMIP for National Workshops
Opportunities for cross country funding? MOUs	To develop MOUs between/among countries in the region during the first year	Opportunities for cross country funding – MOUs between countries	MOU between RICCLISA and AgMIP LAC coordination team	Facilitate experience exchange Joint project profiles preparation Search for project application
AGMIP-LAC STEERING COMMITTEE	Argentina: Maria Travasso Uruguay: Agustin Gimenez	Ariovaldo Luchiai Jr.	Néstor M. Riaño	Irene Trebejo
Conclusions			A three year proposal was submitted to Administrativo de Ciencia, Tecnología e Innovación – COLCIENCIAS This proposal has the objectives of: 1. To fortify climate modeling to the working WP1, and 2. To intercompare crop models WP5 for the Cauca River Basin A research proposal has been articulated by Dr. in the area of economic modeling Dr. Sergio Orrego involving DNP and CIAT	When working with database, we must have a secure database, these could be in EMBRAPA Renew the zonification agreement and amplify AgMIP Peru will work modeling yields in potato

Workshop Outcomes:

- Embrapa Informatics will build and host the Latin American and Caribbean (LAC) AgMIP website, with data servers for inputs and outputs from the projects, constructed according to AgMIP protocols and linked to the central AgMIP web pages.
- Within ninety (90) days would be ready an article about extreme events, that will be elaborated by EMBRAPA and INTA.
- Establish the international agreement among INTA (Argentina), EMBRAPA (Brazil), INIA (Uruguay and Bolivia), SENHMI (Peru) and UT-RICCLISA Colombia.
- Eduardo Assad, member of AgMIP Science Steering Group, announced the AgMIP Brazil Project, funded by Embrapa.
- CENICAFE will host the next AgMIP LAC workshop in Columbia; March, 2015 (18 months from now)
- CENICAFE is planning on holding a series of workshops to work through the AgMIP Integrated Assessment Handbook, beginning with an invitation to Guillermo and Alex to come to Colombia in November, 2013.
- Embrapa and CENICAFE agreed to exchange technological expertise, with Embrapa improving sugarcane capacity in Colombia and CENICAFE introducing process-based coffee modeling in Embrapa.
- Maurits van den Berg and Alex Ruane developed an outline for an MOU between AgMIP and the EuroCLIMA project led by the JRC
- There was consensus among participants that a joint project with a ~3 year time frame would be beneficial for all participants, and that open collaboration was preferred over individual projects.
- Formed AgMIP Latin America and Caribbean Coordination Team
    - Agustin Gimenez, INIA, Uruguay
    - Ariovaldo Luchiai Jr, Embrapa Agricultural Informatics, Brazil
    - Néstor M. Riaño, CENICAFE, Colombia
    - Maria Travasso, INTA, Argentina
    - Irene Trabejo, SENAMHI, Peru
    - Bruno Condori (CIP) may also serve a similar role for Bolivia (to be confirmed).
    - Country representatives to be defined: Chile, Bolivia, Ecuador, Venezuela.

Participants List:

Name	country	Institute	email
Adriano Otavian	Brazil	EMBRAPA - CNPTIA	adriano.otavian@embrapa.br
Agustin Gimenez	Uruguay	INIA	agimenez@inia.org.uy
Alan Nakai	Brazil	EMBRAPA - CNPTIA	alan.nakai@embrapa.br
Alexander C Ruane	USA	AGMIP / NASA, GISS	alexander.c.ruane@nasa.gov
Ana Paula Packer	Brazil	EMBRAPA - CNPMA	paula.packer@embrapa.br
Andrea Koga	Brazil	CEPAGRI/UNICAMP	andrea.kvicente@gmail.com
Andres Pena Q	Colombia	CENICAFE	andres.pena@cafedecolombia.com
Ariovaldo Luchiari	Brazil	EMBRAPA - CNPTIA	ariovaldo.luchiari@embrapa.br
Aryeverton Fortes	Brazil	EMBRAPA - CNPTIA	ary.fortes@embrapa.br
Balbino Antonio Evangelista	Brazil	EMBRAPA - CPAC	balbino.evangelista@embrapa.br
Bruno Condori	Peru/Bolivia	CIP	cip-agmip@cgiar.org
Bruno Lanfranco	Uruguay	INIA	bruno@inia.org.uy
Carla Ferreira Josef	Brazil	Embrapa	carlajosef@hotmail.com
Claudio Machado	Argentina	Universidad del Centro de la Prov de BsAs	cmachado@vet.unicen.edu.ar
Denis Araujo Mariano	Brazil	INPE	denis.m@dsr.inpe.br
Edgardo Guevara	Argentina	INTA	eguevara@pergamino.inta.gov.ar
Eduardo Delgado Assad	Brazil	EMBRAPA - CNPTIA	eduardo.assad@embrapa.br
Elisandra S. Oliveira Bortolon	Brazil	EMBRAPA - CNPASA	elisandra.bortolon@embrapa.br
Fabio Ricardo Marin	Brazil	ESALQ	fabio.marin@usp.br
Fernando Macena	Brazil	EMBRAPA - CPAC	fernando.macena@embrapa.br
Gabriel Rodriguez	Argentina	INTA	garodri@cnia.inta.gov.ar
Graciela Magrin	Argentina	INTA	gracielaodiliamagrin@gmail.com
Guadalupe Tiscornia Tosar	Uruguay	INIA -GRAS	gtiscornia@lb.inia.org.uy
Guillermo Ariel Garcia	Argentina	Universidad de Buenos Aires	garciagu@agro.uba.ar
Guillermo Baigorria	Lincoln, NE	University of Nebraska-Lincoln	gbaigorria@unl.edu
Gustavo Costa Rodrigues	Brazil	EMBRAPA - CNPTIA	gustavo.rodrigues@embrapa.br
Hilton Silveira Pinto	Brazil	CEPAGRI/UNICAMP	hilton@cpa.unicamp.br
Irene Trebejo Varillas	Peru	SENAMHI	itrebejo@senamhi.gob.pe
Jesus Arcos Pineda	Peru	INIA	jharcos28@hotmail.com
Jose Ruy Porto de Carvalho	Brazil	EMBRAPA/CNPTIA	jose.ruy@embrapa.br
Juliano Daniel Groppo	Brazil	CEPAGRI/UNICAMP	jdgroppo@gmail.com
Jurandir Zullo Jr	Brazil	CEPAGRI/UNICAMP	jurandir@cpa.unicamp.br
Karim Quevedo Caiña	Peru	SENAMHI	kquevedo@senamhi.gob.pe
Laura Alvarado	Peru	UNIVERSIDAD NACIONAL AGRARIA LA MOLINA	lalvarado@lamolina.edu.pe
Leandro Bortolon	Brazil	EMBRAPA - CNPASA	leandro.bortolon@embrapa.br
Luciana Alvim	Brazil	EMBRAPA - CNPTIA	luciana.romani@embrapa.br
Luciano Vieira	Brazil	EMBRAPA/CNPTIA	luciano.vieira@embrapa.br
Maria Isabel Travasso	Argentina	INTA	mtravasso@cnia.inta.gov.ar
Marilene C de Jesus	Brazil	EMBRAPA - CNPTIA	marilene.jesus@colaborador.embrapa.br
Maurits Van den Berg		JRC IES Monitoring Agricultural Resources Unit – H04	maurits.van-den-berg@jrc.ec.europa.eu
Nestor Riano	Colombia	CENICAFE	NestorM.Riano@cafedecolombia.com
Patricia Moreno	Colombia	CGIAR	l.p.moreno@cgiar.org
Roberto Valdivia	USA	Oregon State University	roberto.valdivia@oregonstate.edu
Rosana C V Higa	Brazil	EMBRAPA/CNPF	rosana.higa@embrapa.br
Santiago Meira	Argentina	INTA	smeira@pergamino.inta.gov.ar
Sergio Alonso Orrego Suaza	Colombia	National University of Colombia	saorrego@unal.edu.co
Silvio Evangelista	Brazil	EMBRAPA - CNPTIA	silvio.evangelista@embrapa.br
Victor Hugo Ramirez Builes	Colombia	CENICAFE	Victor.Ramirez@cafedecolombia.com
Waldenilza Monteiro Vital Alfonsi	Brazil	Cepagri/Unicamp	walmvital@gmail.com