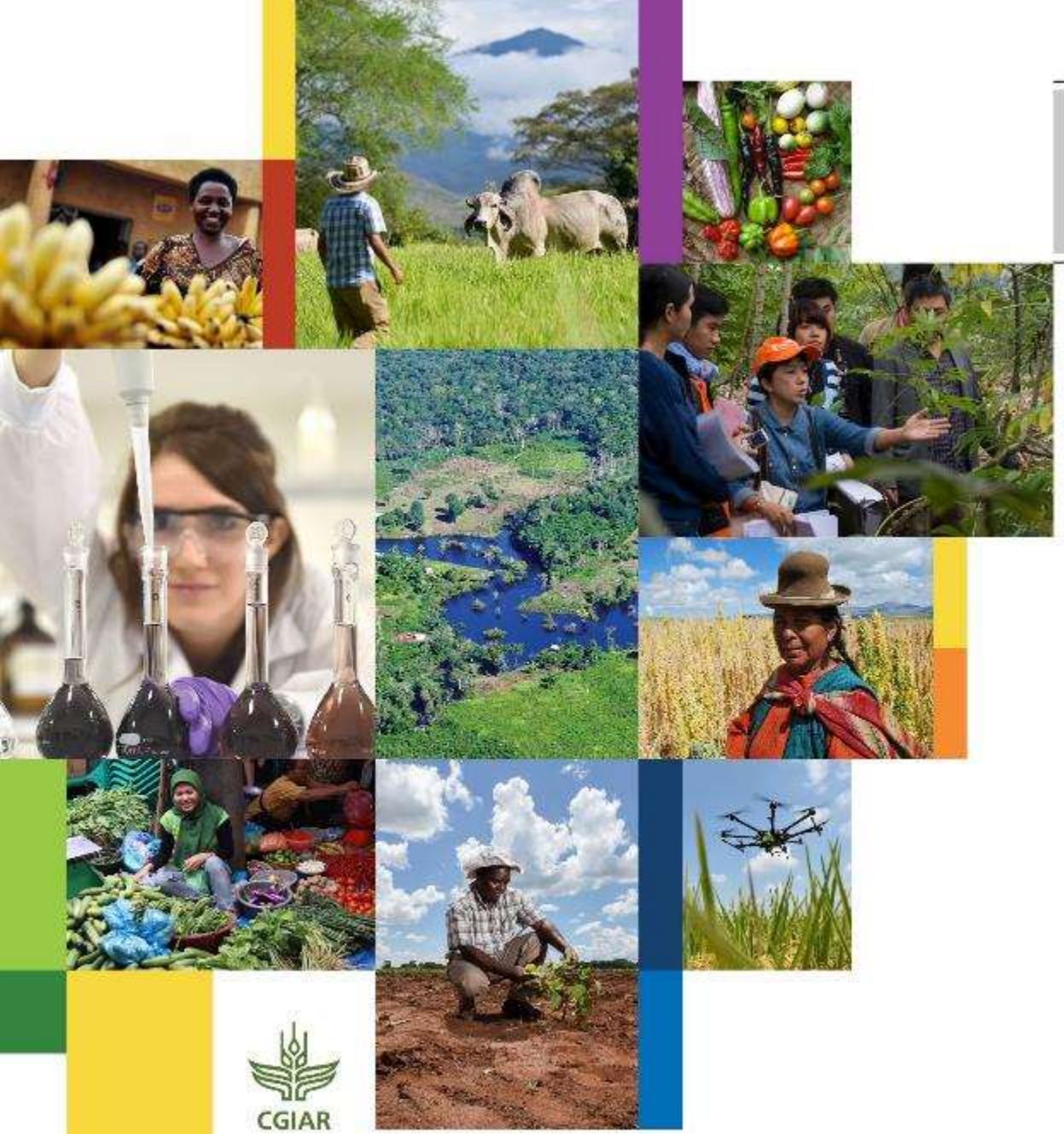


Alliance

Bioversity International

CIAT
International Center for Tropical Agriculture
Since 1967 Science to cultivate change

Busting the Myth that Pilots Never Scale:

Unpacking the USAID Climate Services for Resilient Development Strategy in LAC

Steven D. Prager

Principal Scientist for Integrated Modeling

(+ J. Ramirez, D. Giraldo, C. Navarro, and MANY others)

s.prager@cgiar.org

IITM - Pune, India – 13 Feb, 2020

Many need to be acknowledged!

>30 LTACs in **9** countries

>250 Participating institutions

>330k Producers receiving climate info!

Initial activities in Bangladesh, Ethiopia, and Colombia

Who We Are

CSRD brings together public and private organizations and agencies committed to realizing the potential to enhance climate resilience and climate-smart policies and practices throughout the world, particularly in developing countries.

Founding Partners

CSRD's founding partners include both public and private institutions from around the world. These partners have committed significant resources and financial and in-kind contributions to the CSRD initiative. The founding partners collectively make up the CSRD Steering Committee and provide the partnership's strategic direction and management oversight. Currently, the steering committee is chaired by US Agency for International Development (USAID), with the American Red Cross serving as vice chair.

USAID FROM THE AMERICAN PEOPLE
UKaid
Met Office
ADB
IDB
esri
Google
American Red Cross
skoll global threats fund

Contributing Partners

CSRD is strengthened by a growing network of contributing partners. These partners share in the CSRD vision and offer technical and practical expertise, tools, and products for use in CSRD projects and activities. Contributing partners assist CSRD work at the global, regional, or national scale and across diverse sectors and thematic areas. Some organizations have been invited to act as contributing partners for specific CSRD efforts.

The following organizations have been recognized as contributing partners:

RED CROSS/RED CRESCENT CLIMATE CENTRE
IRI
CRS CATHOLIC RELIEF SERVICES
CIAT

Alliance
Bioversity International
CIAT

The Four Pillars of CSRD

Create a solution space

- Problem focused
- Co-production
- Program coordination

Use quality data, products, and tools

- Assess resources
- Accessible information and technology
- Tailored products and tools

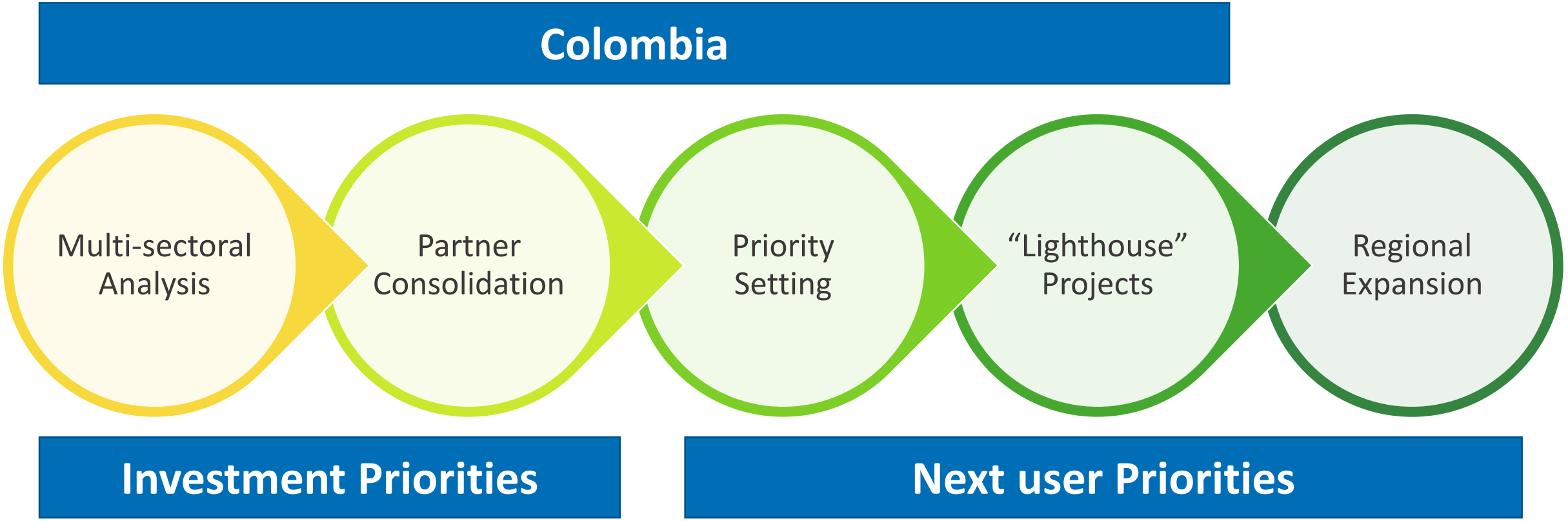
Build capacities and platforms

- Targeted training and platforms
- Enabling institutional arrangements and policies
- Scalable technologies and processes

Build knowledge

- Engage global communities of practice
- Evaluation of lessons learned
- Targeted innovation

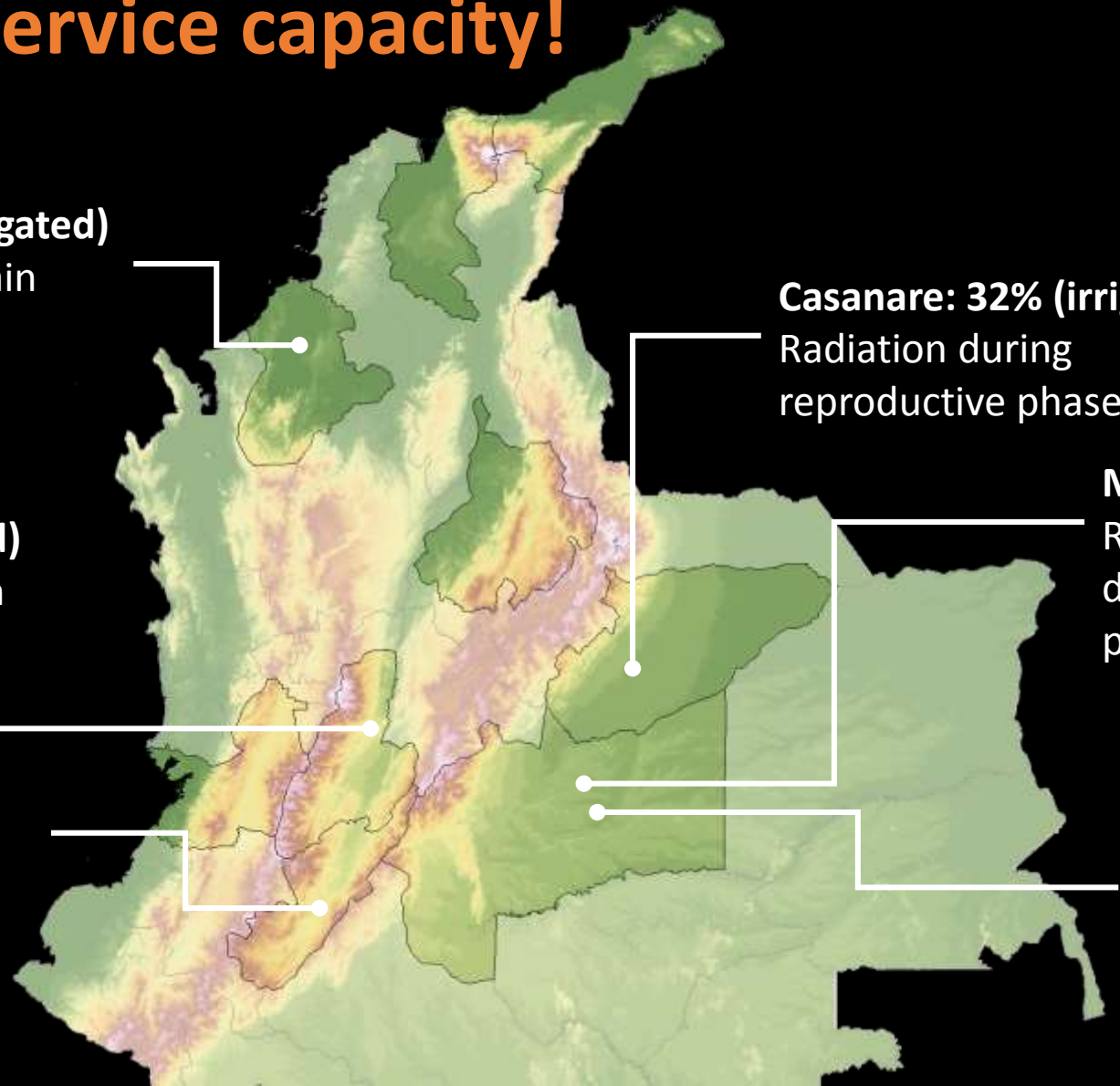
From a local pilot to a regional program…



The Colombian Lighthouse Projects

- Seasonal agroclimatic forecasts for rice
- Seasonal agroclimatic forecasts for maize
- Strategic (2030) forecasts for resilient coffee fincas

Why is Colombia a good place to start? Climate-related factors explain between 30-60% of variation in yield. Plus, great met service capacity!



Córdoba: 56% (irrigated)
Temperature in grain filling phase

Casanare: 32% (irrigated)
Radiation during reproductive phase

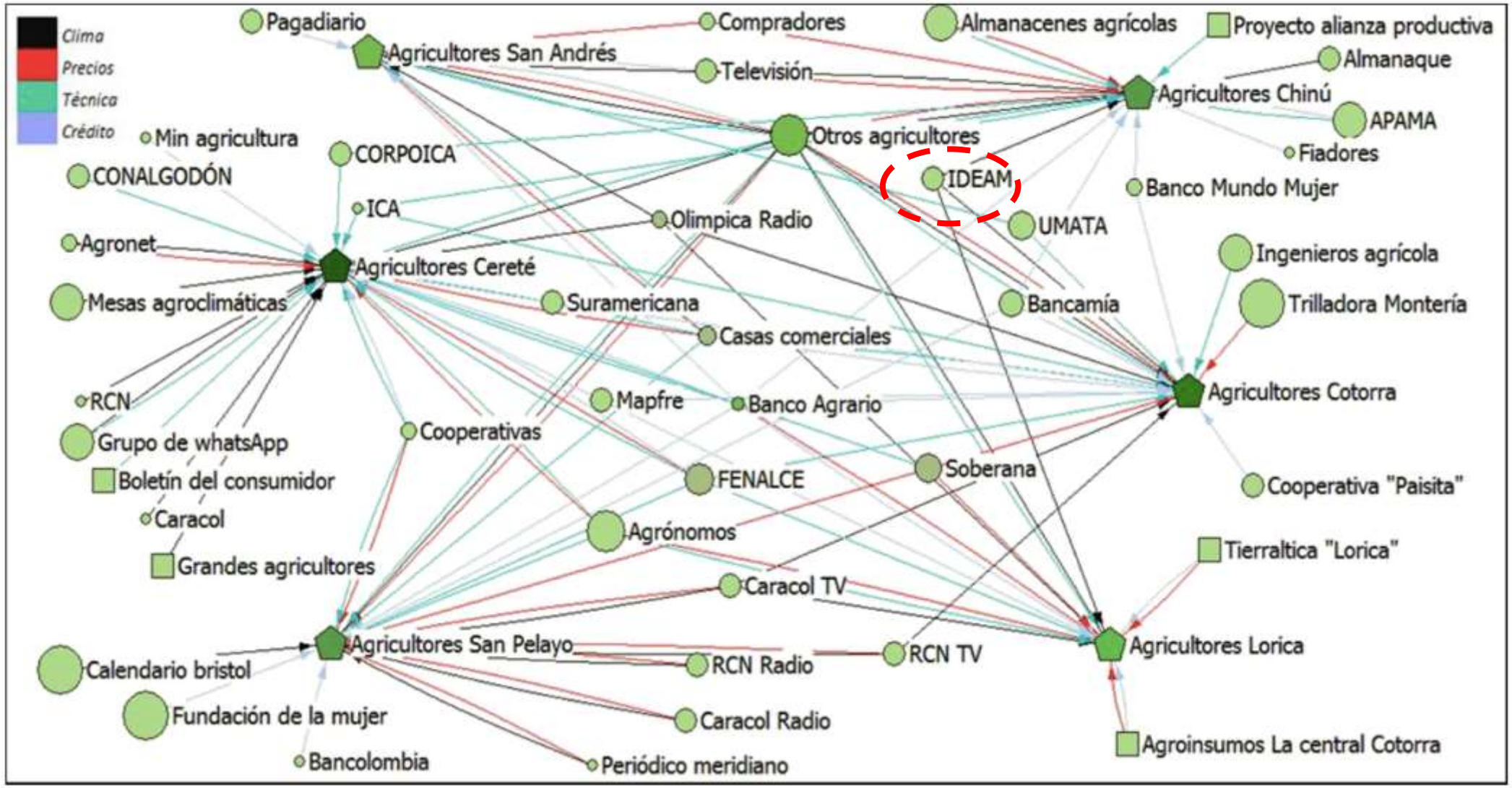
Meta: 29% (rainfed)
Rainfall distribution during vegetative phase

Tolima: 41% (irrigated)
Radiation during grain filling

Huila: 28% (irrigated)
Temperature during flowering

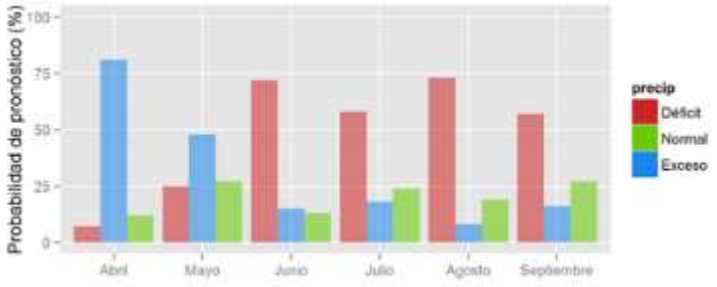
Meta: 61% (irrigated)
Temperature during reproductive phase

Understanding flow of information (solution space)

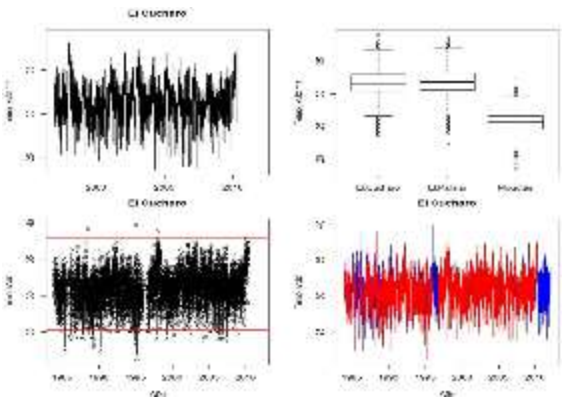


Blundo Canto et al. (2016)

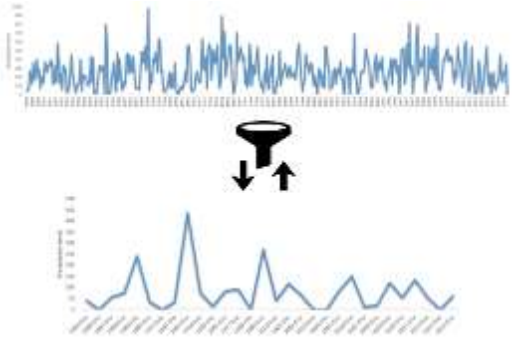
Connecting seasonal forecasts and crop models



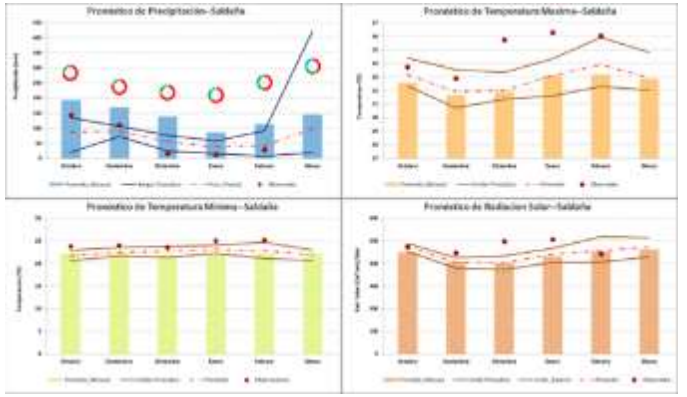
Probabilistic forecast



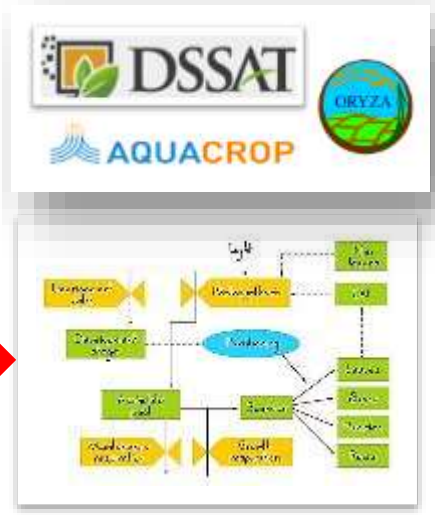
Historical data set



Resampling



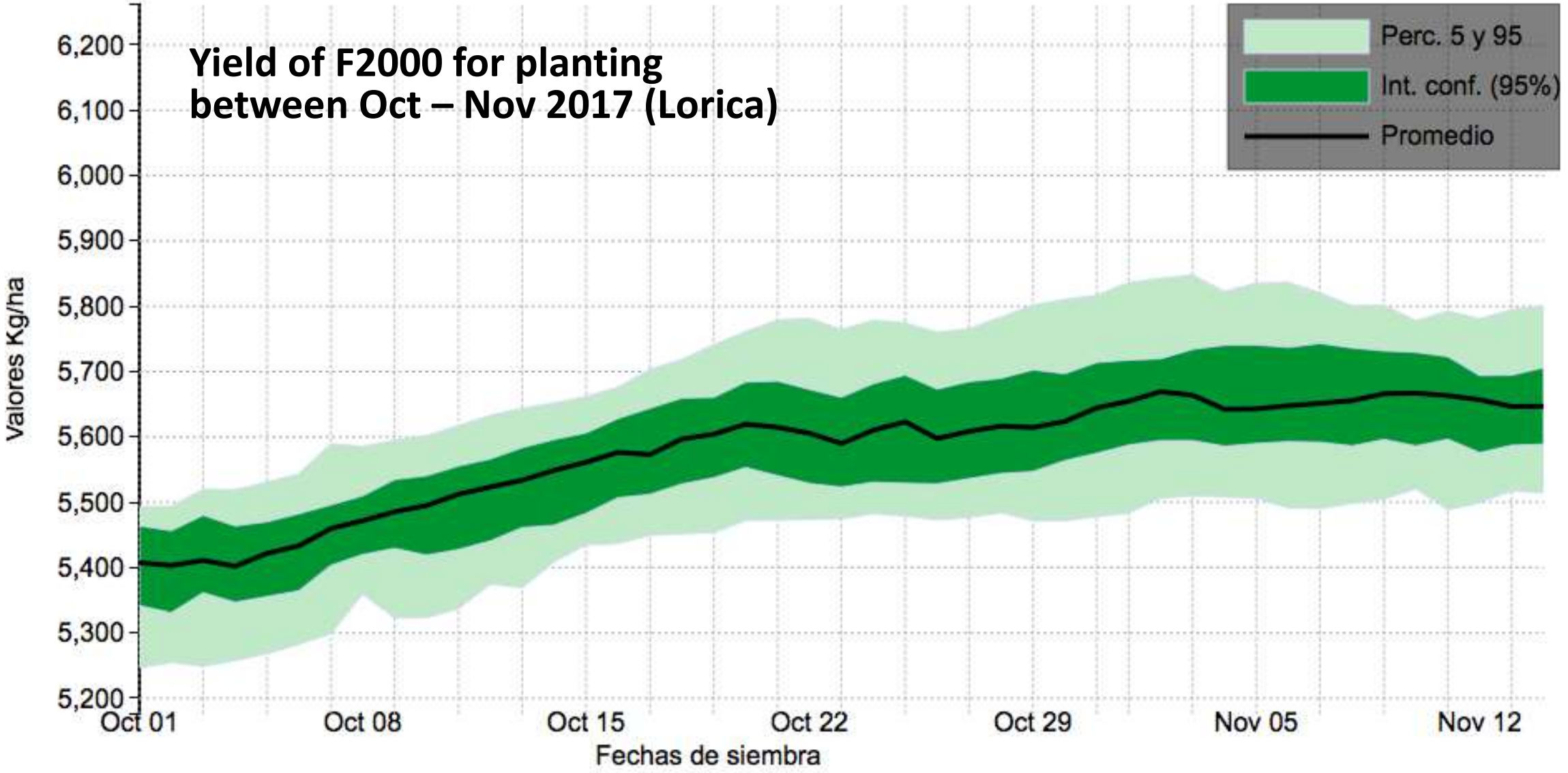
Generating weather scenarios



Calibrated crop model

Linking NHMS data with crop models to translate and contextualize seasonal forecast. Developed with next users (FEDEARROZ, FENALCE).

Automation of seasonal agro-climatic forecasts (platform)



Sotelo et al. (in prep.)

MES
-Normal
Normal
+Normal
Junio 51 32 17
Julio 45 32 23
Agosto 70 15 09
IDEAM
Junio 50 32 18
Julio 41 31 28
Agosto 73 16 11
IDEAM

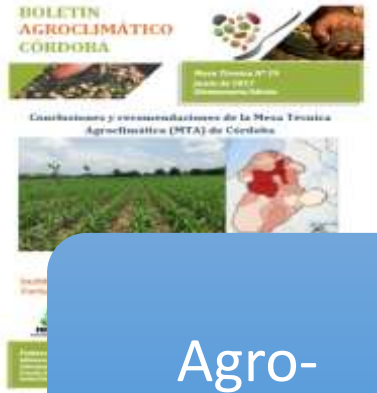
Connecting digital platforms with farmers through participatory processes

Institutions

Farmers

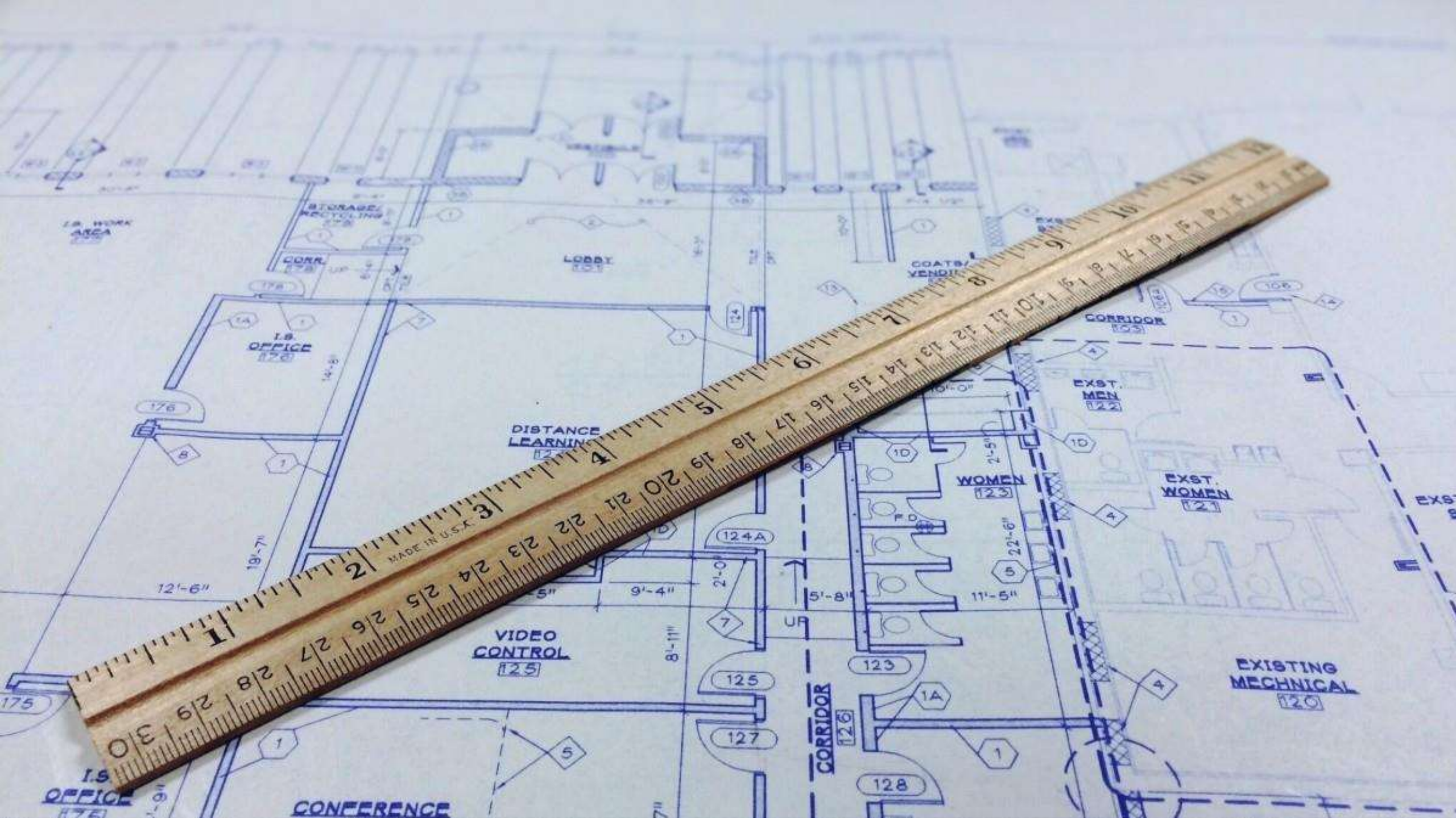
Forecast platform

Agro-climatic committees



Agro-climatic bulletins

Participatory climate services (PICSA)


LOBBY
CORRIDOR
EXST. MEN
EXST. WOMEN
WOMEN
DISTANCE LEARNING
VIDEO CONTROL
CORRIDOR
EXISTING MECHANICAL
CONFERENCE
I.S. OFFICE
MADE IN U.S.A.

Estos son los departamentos afectados por sequía severa en el país

La sequía se debe a la falta de lluvia en los últimos días, según el MARN.

D1 diario1.com ACAN-EFE

1K Like Tweet

Sequía en Honduras deja pérdidas de más de millón de quintales de granos

04 Aug 2014 / 12:44 AM / Jessica Figueroa

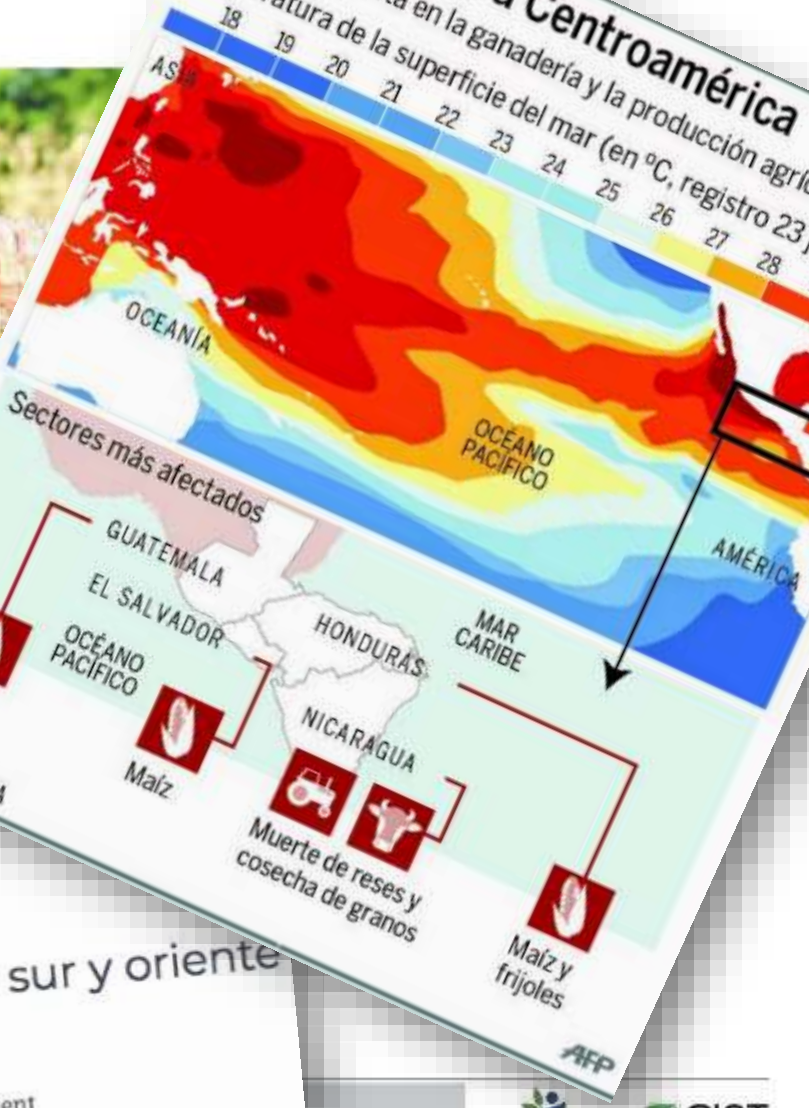
Los efectos del fenómeno de El Niño han dejado damnificadas a 72,000 familias del país.

El Niño golpea a Centroamérica

La sequía impacta en la ganadería y la producción agríc

Temperatura de la superficie del mar (en °C, registro 23

18 19 20 21 22 23 24 25 26 27 28

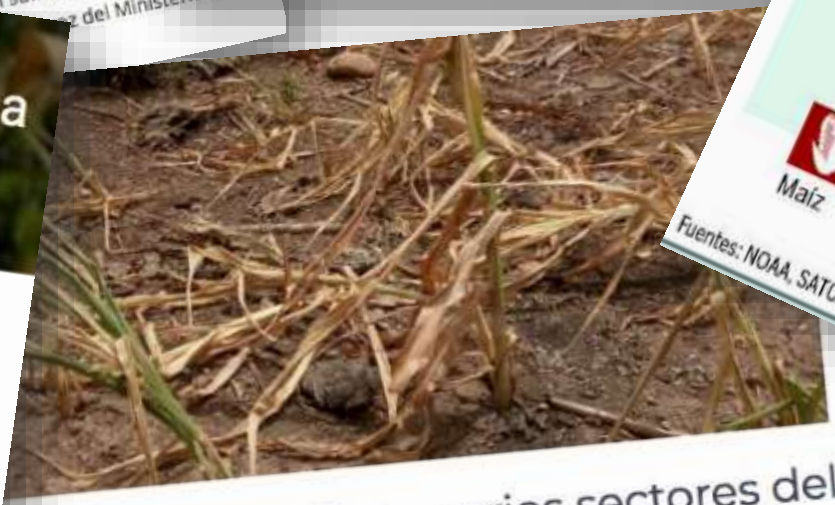


Portada

El "Veranillo" mantiene alarmados a productores de granos básicos

Por Redacción HRN I. Monzón – 15 julio, 2018 245 0

El presidente de la Asociación de Productores de Granos Básicos (Prograno), Dulio Medina, manifestó a través de HRN, que las consecuencias que trae el veranillo, mantiene alarmados a los productores del país, en especial a los del departamento de Comayagua, quienes serán los más afectados por este fenómeno de la naturaleza.



Grave sequía afecta varios sectores del sur y oriente de Guatemala

16 julio, 2018 Luis Ángel Franco Fenómenos Naturales No Comment

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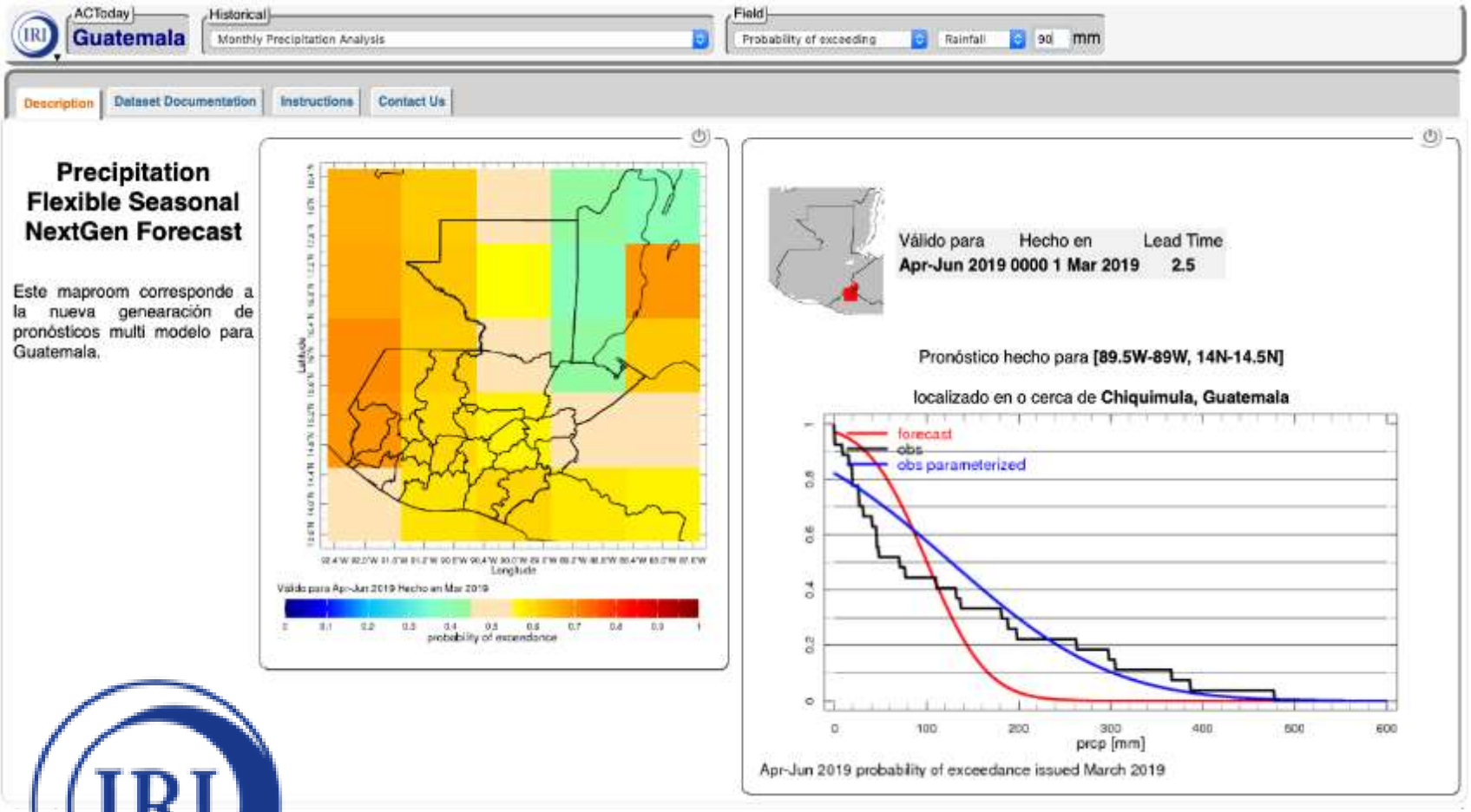
Capacity strengthening and co-design of information products

Towards improving seasonal forecast skill and use at the regional, national, and local level in **Colombia, Honduras, Guatemala y Perú**

IRI Next Generation seasonal forecasts #NextGen

The system produces maps with deterministic and probabilistic values, and probabilities of exceedance of given thresholds.



What is the probability of:

- meeting water requirements of a particular crop?
- exceed dramatically water required, leading to waterlogging?
- experience a severe water defficiency?

Expected yield reduction or pest/disease incidence?

What management can be applied to reduce risk?

PRACTICE

Integration at the regional scale

Integration at the national scale

Integration at local level

POLICY

Policies to scale-out and implement the Regional CRM system

Policies to integrate climate services into decision making (e.g. scaling LTACs, sustaining and scaling FSDSS)

Institutional changes and local policies to enable establishment of climate services

Solution space, data & tools, platform & capacity, knowledge sharing

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Cultivating the virtuous circle…

Contents lists available at ScienceDirect

Climate Services

journal homepage: www.elsevier.com/locate/cliser

Original research article

Predictability of seasonal precipitation across major crop growing areas in Colombia

Alejandra Esquivel[a], Lizeth Llanos-Herrera[a], Diego Agudelo[a], Steven D. Prager[a], Katia Fernandes[a,b], Alexander Rojas[c], Jhon Jairo Valencia[d,e], Julian Ramirez-Villegas[a,f,*]

PLOS ONE

RESEARCH ARTICLE

Assessing Weather-Yield Relationships in Rice at Local Scale Using Data Mining Approaches

Sylvain Delerce[1]*, Hugo Dorado[1], Alexandre Grillon[2], Maria Camila Rebolledo[3], Steven D. Prager[1], Victor Hugo Patiño[1], Gabriel Garcés Varón[4], Daniel Jiménez[1]

Contents lists available at ScienceDirect

Climate Risk Management

journal homepage: www.elsevier.com/locate/crm

Bridging the gap between climate science and farmers in Colombia

Ana Maria Loboguerrero[a,b,*], Francisco Boshell[c,a,d,1,2,3], Gloria León[c,a,1,2], Deissy Martinez-Baron[a,b], Diana Giraldo[b], Liliana Recaman Mejía[e,f], Eliecer Díaz[c,a,1,2], James Cock[b]

Several more pending!

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CIAT
International Center for Tropical Agriculture
Since 1967 Science to cultivate change

Thank you!

Steven D. Prager

Principal Scientist for Integrated Modeling

s.prager@cgiar.org

CGIAR