

The Inter-American Institute for Global Change Research (IAI)

Anna M. Stewart Ibarra, PhD, MPA
Scientific Director, IAI

GeoHealth Community of Practice
28 June 2021



Governance and policy

Alignment with env't
governance frameworks
Conference of Parties

Paris Agreement
Sustainable Dev Goals
Trade agreements

Science Programs

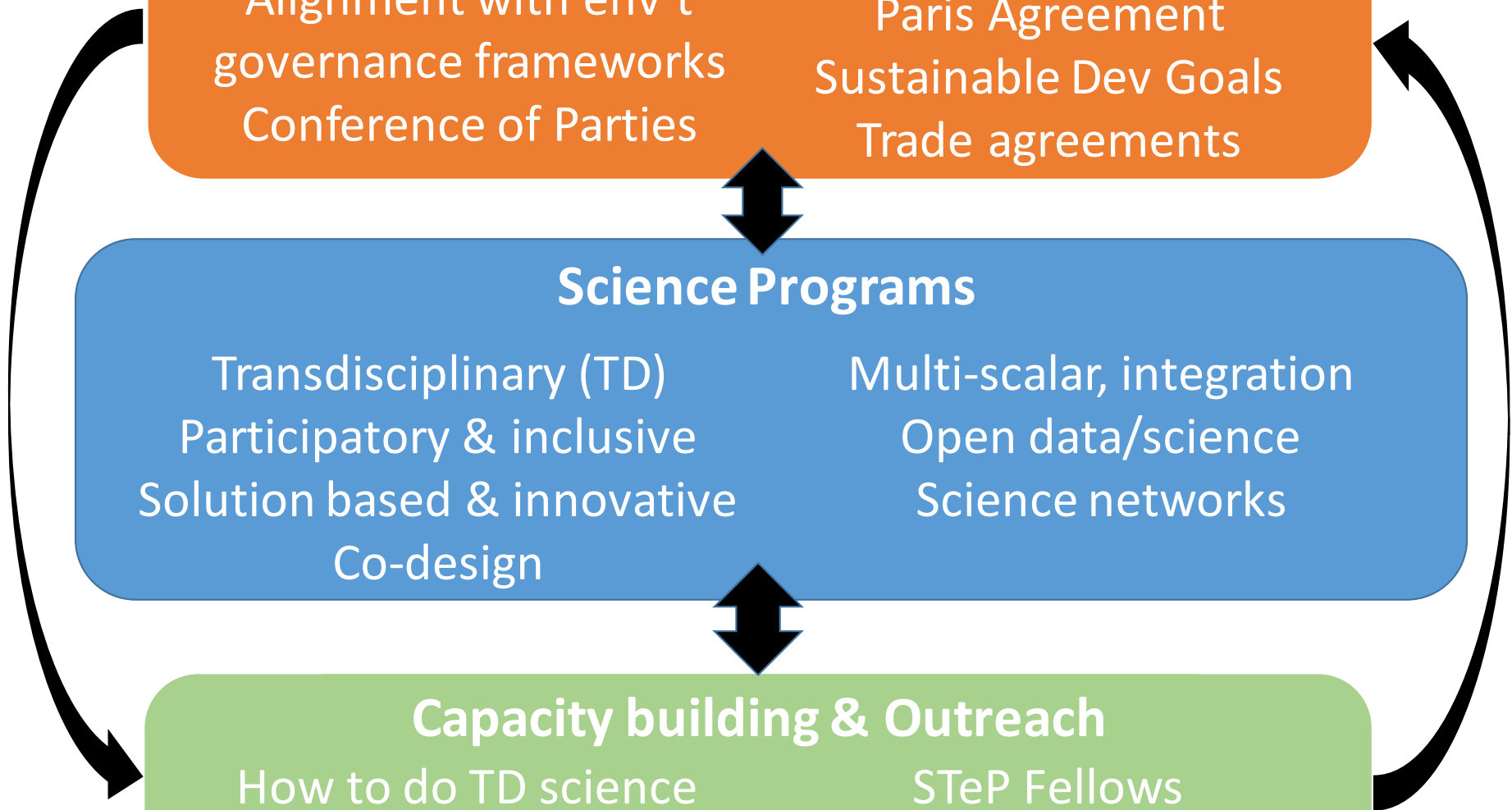
Transdisciplinary (TD)
Participatory & inclusive
Solution based & innovative
Co-design

Multi-scalar, integration
Open data/science
Science networks

Capacity building & Outreach

How to do TD science
Science diplomacy
Early career scientists

STeP Fellows
Knowledge mobilization
SciTalks



Science for the Sustainability of the Americas



Science Agenda

- Human dimensions of global env't change
- Climate change and climate variability
- Ecosystems, biodiversity, land use and cover, and water resources
- Global change modulations of the atmosphere, oceans and fresh waters

Collaborative Research Action (CRN3) Special Issue

Bridging science and policy
through collaborative,
interdisciplinary global change
research in the Americas

Many thanks to editors: Marcos Regis da Silva,
Susanna Ehlers, Amanda Sesser, Susana
Adamo, Tereza Cavazos, Evelia Rivera Arriaga,
Katia Kontar

<https://www.sciencedirect.com/journal/environmental-development/special-issue/10XLGNGJM97>



Small Grants Program (2019-2022)

Biodiversity, Ecosystem Services and Human Wellbeing

- >90 pre-proposals submitted
- Required 4-day online training on transdisciplinary science
- 6 projects selected via peer review
- \$1.2 mil awarded, \$1.3 mil in co-funding
- 10 countries— at least 3 per project

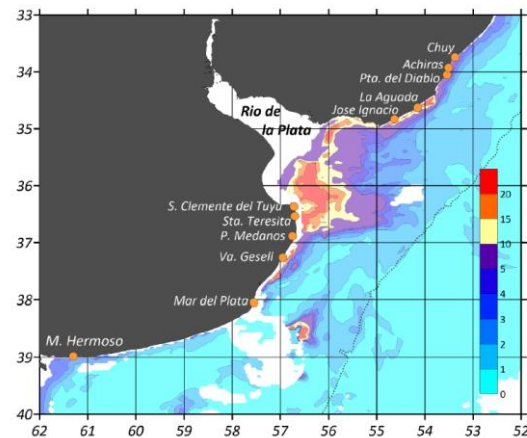


Figure 1: Coastal sampling sites in Argentina and Uruguay. The background colors represent the surface chlorophyll-*a* concentration derived from the MODIS satellite borne radiometer on 5 January 2019.

(Pittman)

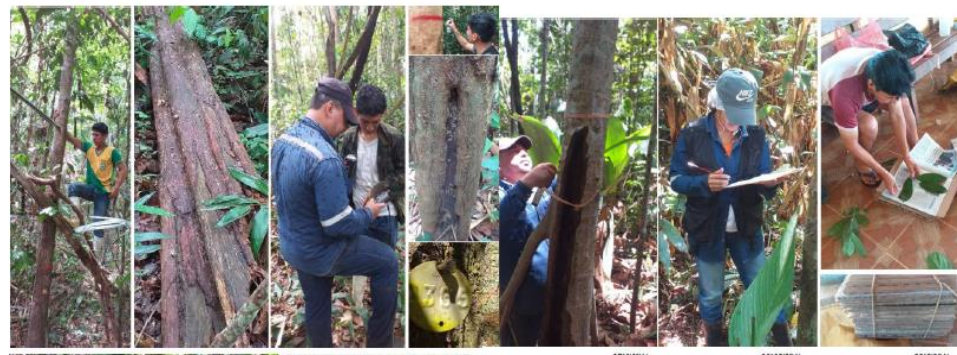


Participant, Workshop "Escrituras de mi Territorio", Cocora, Colombia

(Alonso)

In the first 2 years...

- 156 investigators and partners
- > 50 students
- 147 outreach and training events reaching >1500 people
- \$750,000 in new grant funding
- 66 publications
- 134 media coverage, prizes, other



(Anderson)

Building Capacity for Science-Informed Policy in the

Americas Approved by NSF and anticipated start in August 2021.

Timeline: 2021-2024 (4 years)

Aims

1. To create a virtual global change science diplomacy center with innovative training approaches, including Science-Policy Fellows and in-person and virtual science diplomacy professional development seminars.
2. To develop a transdisciplinary (TD) science training program, with seed grants and virtual training materials, to enhance the capacity of professionals and institutions across the continent to conduct TD science and to bring TD science to inform end users from public and private sectors.

Supporting key adaptation initiatives with the Caribbean health & climate sectors

- Collaboration with regional and national climate and health authorities to co-develop climate services for the health sector (dengue epidemic early warning).
- Studying the role of gender in mosquito borne disease control and transmission to support gender mainstreaming in climate adaptation actions.
- Training workshops in June &



The Caribbean Regional
Track of the Pilot Programme
for Climate Resilience



Health-Climatic Bulletin

Co-designed by climate and health sector stakeholders

Key messages

- Non communicable diseases
- Respiratory illness
- Vector borne disease
- Gastrointestinal illness
- Mental health and well being



Caribbean Health Climatic Bulletin

Climate Conditions and Dengue in 2020

- Recent research (e.g. Lowe et al., 2018) on the link between climate conditions and dengue cases in eastern Caribbean countries suggests that drought conditions followed 4-5 months later by warmer than usual temperatures and excessive rainfall, increases the chance of Dengue outbreaks.
- In that regard, climate conditions in the Caribbean have been optimal for mosquito proliferation and dengue outbreaks throughout 2020, particularly in the eastern Caribbean. A regional drought implied increased water storage in the first half of 2020. This was followed by an intense heat season, particularly in the eastern Caribbean. Higher temperatures lead to increased rates of mosquito breeding, biting and disease transmission. The 2020 Caribbean wet season further brought episodes of excessive rainfall and flooding in many parts of the region, which contributed to an increase in mosquito breeding sites. Increased dengue case confirmations were recorded in several of the Eastern Caribbean states.



RESEARCH ARTICLE

Co-developing climate services for public health: Stakeholder needs and perceptions for the prevention and control of *Aedes*-transmitted diseases in the Caribbean

Anna M. Stewart-Ibarra^{1,2,3,*}, Moory Romero^{1,4}, Avery Q. J. Hinds⁵, Rachel Lowe^{6,7,8}, Roché Mahon⁹, Cedric J. Van Meerbeeck⁹, Leslie Rollock¹⁰, Marquita Gittens-St. Hilaire^{11,12}, Sylvester St. Ville¹³, Sadie J. Ryan^{14,15}, Adrian R. Trotman⁹, Mercy J. Borbor-Cordova¹⁶

Vol. 67 (2) - 2018

BULLETIN

Strengthening Climate Services for the Health Sector in the Caribbean

By Adrian Trotman¹, Roché Mahon¹, Joy Shumake-Guillemot², Rachel Lowe^{3,4} and Anna M. Stewart-Ibarra⁵



RESEARCH ARTICLE

Nonlinear and delayed impacts of climate on dengue risk in Barbados: A modelling study

Rachel Lowe^{1,2,3,*}, Antonio Gasparini^{4,5}, Cédric J. Van Meerbeeck⁶, Catherine A. Lippi⁷, Roché Mahon⁶, Adrian R. Trotman⁶, Leslie Rollock⁸, Avery Q. J. Hinds⁹, Sadie J. Ryan^{7,10}, Anna M. Stewart-Ibarra^{11,12}

PLOS BIOLOGY

ESSAY

Building resilience to mosquito-borne diseases in the Caribbean

Rachel Lowe^{1,2,*}, Sadie J. Ryan^{3,4,5}, Roché Mahon⁶, Cedric J. Van Meerbeeck⁶, Adrian R. Trotman⁶, Laura-Lee G. Boodram⁷, Mercy J. Borbor-Cordova⁸, Anna M. Stewart-Ibarra⁹

Landscaping the availability of, and need for, software tools amongst the climate sensitive infectious diseases modelling community

1. Identify software-based tools that have already been developed and are widely used for the purpose of climate-sensitive infectious disease modelling and create a dataset of these tools.
2. Engage with researchers and policy stakeholders at key organizations in the fields of climate and infectious disease, to understand their perspectives on the software tools landscape

Malaria Elimination Early Warning System

Technical lead: Dr. Bill Pan at Duke University

Goal: to eliminate malaria in LA using an early warning system with earth observation technology.

IAI is supporting a science diplomacy approach that aims to establish a regional network of diverse stakeholders capable of responding to malaria and other complex climate-attributable risks.

Proposals under review



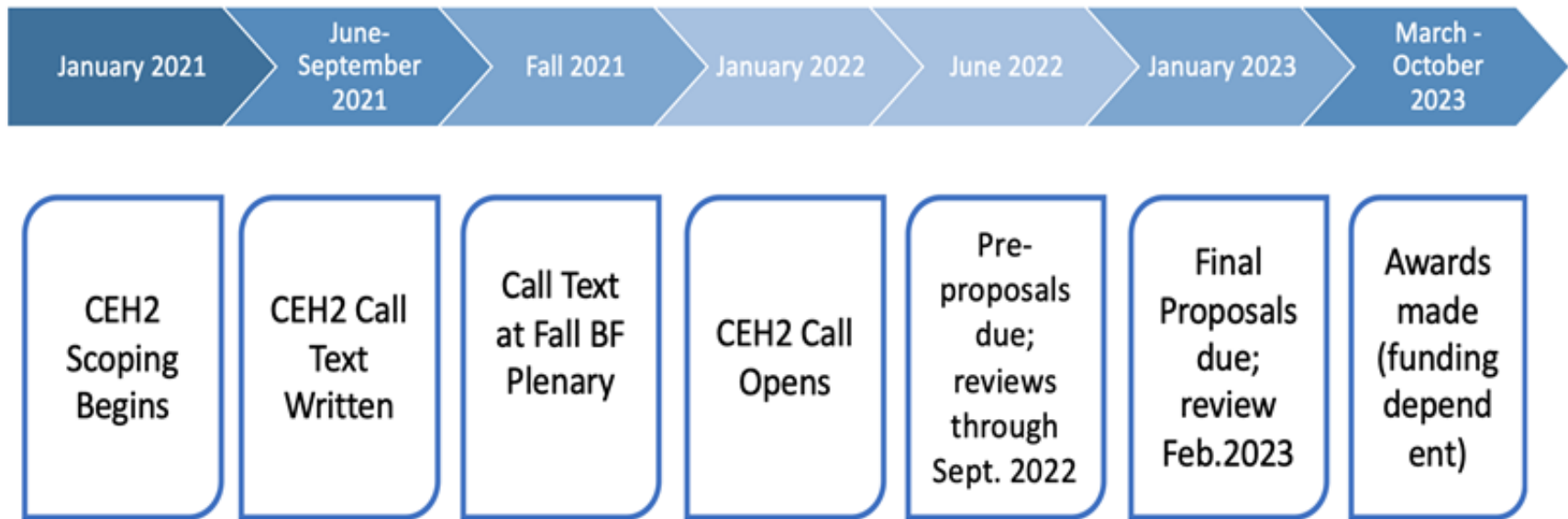
Climate, Environment and Health (CEH2)

Belmont Forum Collaborative Research Action (CRA)

Improving understanding of climate, environment and health pathways to protect and promote health

- Promoting connections across climate, environment, and health services
- Funding innovative research approaches
- Facilitating North-South collaboration
- Effectively engage health sector researchers and decision makers in climate, environment, and health

Proposed CEH2 Timeline



Scoping events at AmeriGEO Week (TBD Aug/Sept 2021) & International Conference on Urban Health (July 2021)

Upcoming opportunities

- CEH2 scoping at AmeriGEO Week
- Regional training workshops and seed grants focused on transdisciplinary (TD) science for climate, environment and health (CEH)
- ASTMH symposium on “Earth observations for infectious disease early warnings: What can we learn from climate and disaster communities?”
- STeP Fellowship Program (Mexico, Argentina, USA, Canada, soon)

The logo for the Science, Technology, Policy (STeP) Fellowship Program, featuring the letters 'STeP' in a large, bold, green font.

Science, Technology, Policy
Fellowship Program

Step into our community and
shape science for society!

Learn more about IAI's Science Technology, Policy (STeP) Fellowship Program:



An inter-American network of early career global change scientists

ES VIABLE LA ESTRATEGIA COVID CERO?

Un análisis de la
evidencia y los posibles
escenarios

FECHA/DATE

Martes/Tuesday
29 Jun. 2021

HORA/TIME

4 pm – 5 pm Bogotá
6 pm – 7 pm São Paulo

Yaneer Bar-Yam,
president of NECSI
& Alcides Ochoa, AASPA;
Irene Torres, IAI

Español / English
(con traducción, with translation)

IS ZERO COVID FEASIBLE?

Analyzing the evidence
and possible scenarios



Register here / Registro
<https://bit.ly/3cgwzWA>



Thank you!

Anna Stewart Ibarra
astewart@dir.iai.int

www.iai.int



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