

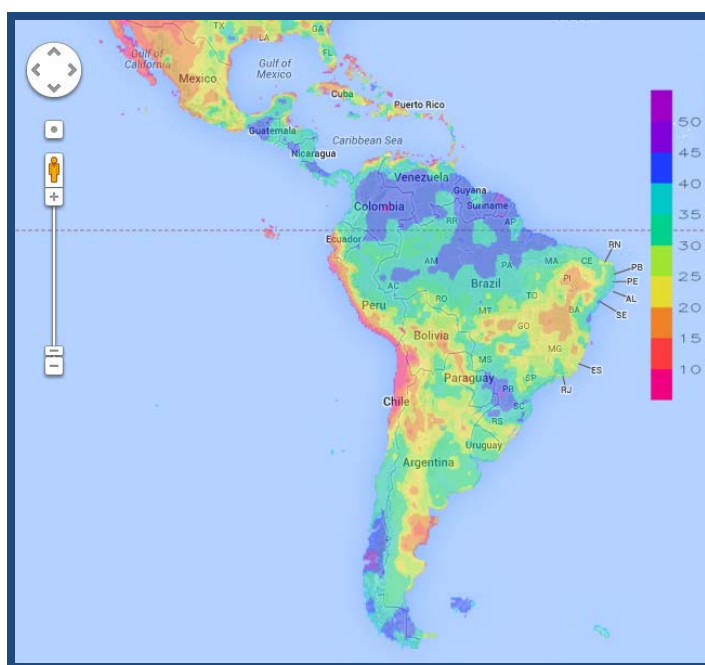


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## International Workshop

### Implementation of the Latin-American and Caribbean Flood and Drought Monitor: Calibration and Validation by National Hydrological Services



Santiago, 17-18 November 2014

[Access](#) the MWAR-LAC Activity webpage for last-minute updates



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**General Objective:** The objective of the workshop is to transfer the technology of the Latin American and Caribbean Flood and Drought Monitor (LAC-FDM) to the member states in the region. The Monitor provides an assessment tool of current conditions and expected drought and flood conditions for the Region. The Monitor is built in collaboration with the Terrestrial Hydrology Group at Princeton University and receives support from the International Centre for Integrated Water Resources Management (ICIWaRM), and uses the same technology as the Princeton US Drought Monitor and the Princeton African Drought Monitor.

**Specific Objectives:**

Specifically, the workshop contributes to:

- a) capacity building of the National Water Resources Managers on the usage of the LAC-FDM;
- b) training on (hydrological) drought concepts; drought and flood risk and management; approaches to drought/flood monitoring in data sparse regions; drought/flood forecasting;
- c) define protocols for calibration/verification and interpretation of Monitor results; and
- e) evaluate case studies for the LAC region.

**Requirements:** The participants to this workshop are required to comply with the following requirements in order to be eligible to participate in the workshop:

- Basic knowledge of hydrology.
- Experience with web interfaces, excel, Geographical Information Systems (GIS).
- Have access to the national dataset of historical precipitation and streamflow records.

**Expected results:**

- Tools provided to pilot countries to identify current and upcoming hydroclimatic risks at the short term (7 days) and medium term (seasonal)
- Participants gained experience with the use of the Latin-American Flood and Drought monitor and its different output datasets
- The participants acquired a methodology to calibrate/validate the model outputs
- A work plan defined for follow-up action and definition of roadmap for improvements/changes to the current version of the Flood and Drought Monitor

**Invited Participants:**

Representatives from water authorities in pilot countries in the LAC region, including Chile, Peru, Brasil, Mexico, Colombia, Argentina, Uruguay, Ecuador, and Cuba, which will be identified through the IHP National Committees, as well as partners of the MWAR-LAC and EUROCLIMA projects.



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Name	Institute	Country
Justin Sheffield	Princeton University	USA
Eric Wood	Princeton University	USA
Nate Chaney	Princeton University	USA
Colby Fisher	Princeton University	USA
Guillermo Mendoza	ICIWaRM	USA
Koen Verbist	UNESCO	Chile
Siegfried Demuth	UNESCO	France
Biljana Radojevic	UNESCO	Serbia
Adrian Lillo	DGA	Chile
Javier Narbona	DGA	Chile
Juan Quintana	DMC	Chile
Participante CAZALAC	CAZALAC	Chile
Rafael Gonzalez	PTI-CIH	Brasil
Waldo Lavado	SENAMHI	Perú
Miguel Angel Castillo Vizcarra	OSNIRH-ANA	Perú
Victor Villajelo Garcia	Instituto Nacional de Recursos Hidráulicos (INRH)	Cuba
Edgar Mayeregger	Ministerio de Ganadería y Agricultura	Paraguay
Pilar Ycaza	CIIFEN	Ecuador
José Alberto Zúñiga	ICE	Costa Rica
Eduardo Planos	Instituto de Meteorología/FRIEND-LAC	Cuba
Israel Ruiz	Universidad Autónoma de Querétaro/IFI-LAC	México
Jose Carlos Douriet Cardenas	CONAGUA	Mexico
Ricardo SMN Zimmermann	SNET/MARN	El Salvador
Tania Peña Paz	IHCIT-UNAH	Honduras
Dora Goniadzki	INA	Argentina
Alberto Enrique Baccino Giannetto	DINAGUA	Uruguay



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## Workshop Programme

### Monday 17 November: Introduction to the methodology

Time	Activity	Responsible
08:45-09:15	Inscription of participants	Organizers
09:15-09:30	Opening session, UNESCO-Princeton-CAZALAC	
09:30-09:45	Presentation of the participants	Participants
09:45-10:30	Short overview presentations by participants (5 min/each)	Participants
10:30-10:45	Coffee	
10:45-11:00	Distribution of teaching materials	
11:00-12:00	Hands-on introduction to the LAC-FDM: Introduction to the web portal; navigating the system; basic interface	Princeton
12:00-13:00	Presentation: Overview of the drought and flood concepts and related products; examples with monitor and forecast data	Princeton
13:00-14:30	Lunch	
14:30-16:00	Presentation: Drought and flood risk and management: natural hazards; population vulnerability; reducing risk; monitoring, prediction and early warning; integrated drought and flood management Presentation: Challenges to monitoring in data sparse regions: data sources; satellite remote sensing; hydrological modeling; integrated monitoring systems	Princeton
16:00-16:30	Coffee	
16:30-18:00	Presentation: Environmental sensors for drought and agricultural monitoring: sensor technology; integrated monitoring (sensor deployment, maintenance, uplinks, integration) Presentation: Forecasting: how forecasts are made (6-month/7-day); methods (statistical/physical); uncertainties; verification and interpretation; drought early warning and decision making	Princeton



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**Tuesday 18 November: Training on the use of the methodology using a case study**

Time	Activity	Responsible
09:00-10:30	Hands-on training: interactive interface; examples with monitor and forecast data	Princeton
10:30-10:45	Coffee	
10:45-13:00	Hands-on training: Point data visualization; point data extraction; excel visualization; Spatial data extraction; GIS software visualization	Princeton
13:00-14:30	Lunch	
14:30.-16:00	Hands-on exercises: Case studies (e.g. recent drought/flood event) and validation exercises	Princeton
16:00-16:30	Coffee	
16:30-17:30	Participatory exercises on decision making; Feedback and discussion on upgrades and enhancements to the LAC-FDM	Princeton
17:30-18:00	Group discussion and roadmap for follow-up activities	

**Reference Material**

- 1) BAMS article on the African Drought Monitor (Sheffield, J., E. F. Wood, N. Chaney, K. Guan, S. Sadri, X. Yuan, L. Olang, A. Amani, A. Ali, and S. Demuth, 2013; A Drought Monitoring and Forecasting System for Sub-Sahara African Water Resources and Food Security. Bull. Am. Met. Soc., 95, 861–882. doi: <http://dx.doi.org/10.1175/BAMS-D-12-00124.1>)
- 2) Princeton African Flood and Drought Monitor online: <http://hydrology.princeton.edu/adm>
- 3) Princeton U.S. Drought Monitor online: <http://hydrology.princeton.edu/forecast>