



“The language of water is the language of
climate.”

– *Carter Roberts, WWF-US, 2009, COP15*

droughts hurricanes
typhoons floods glaciers seawalls
dykes famine irrigation

Seeing beyond the Water Sector

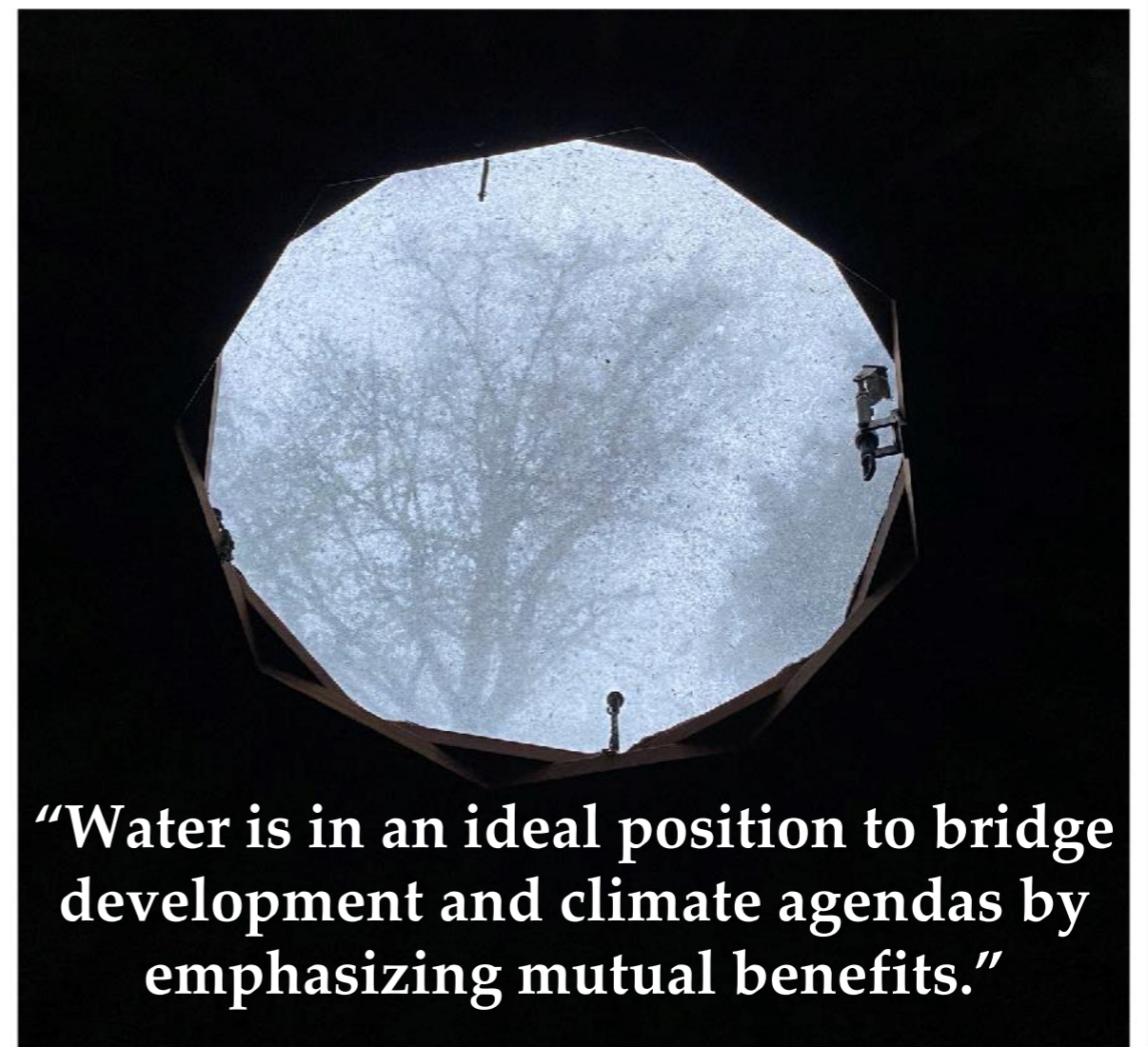
“80 percent of the NDCs mention water already. What more do you want?”

— French Climate Ambassador,
World Water Forum, 2015

rivers flood control hydro
irrigation storage fish

Three lens for viewing water

- **threat?**
- **sector?**
- **connector?**



— *Stop Floating, Start Swimming*
GIZ, Adelphi, PIK

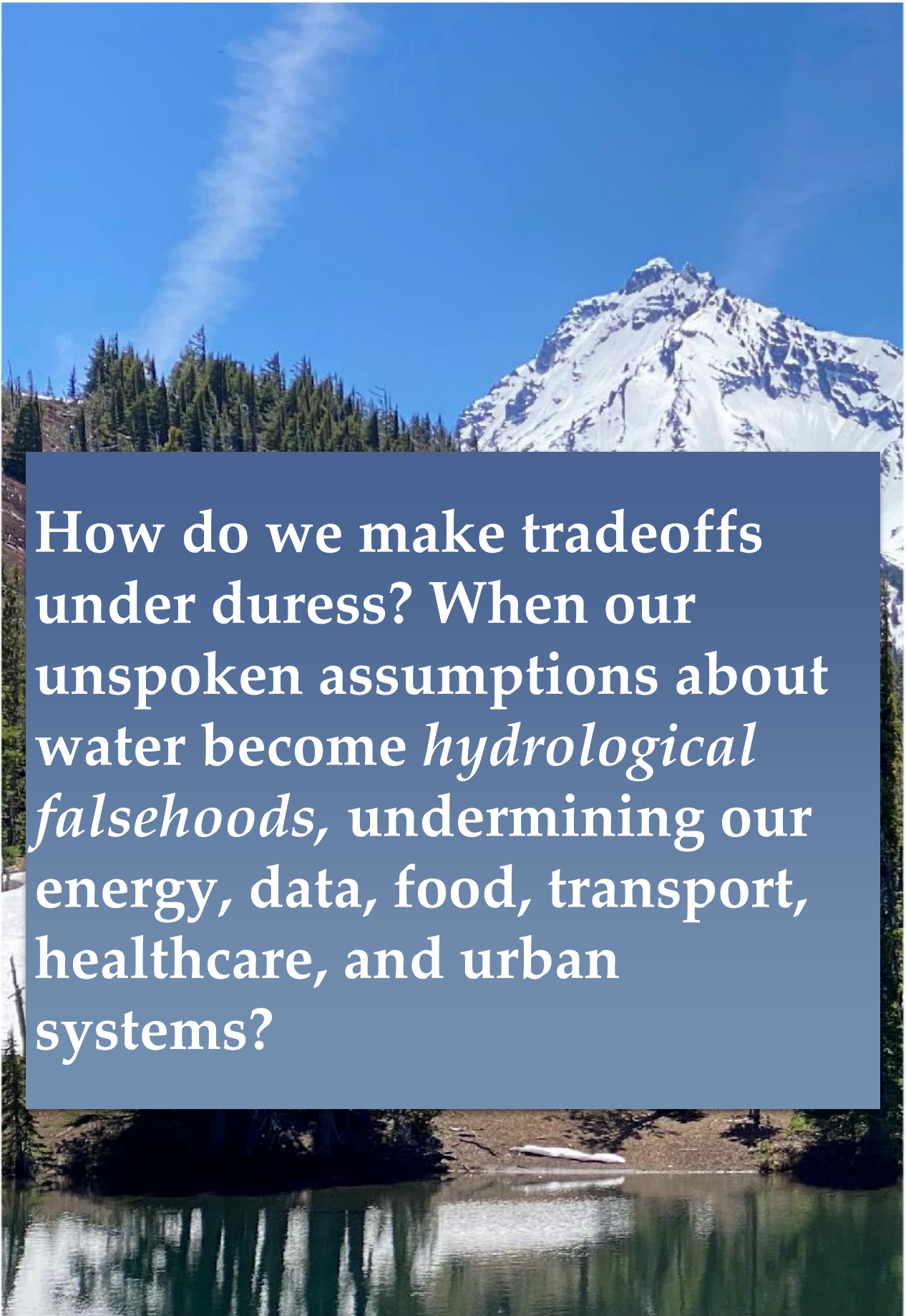
- connector?

Is IWRM
enough?
No!

In practice, IWRM programs elevate values such as efficiency and the short-term economic value of water.

IWRM faces challenges when the water cycle itself is changing, especially if those changes are both significant and difficult to predict.

Under these conditions, **efficient solutions** become **brittle**. Uncertain economic values inspires **competition over cooperation**.



How do we make tradeoffs under duress? When our unspoken assumptions about water become *hydrological falsehoods*, undermining our energy, data, food, transport, healthcare, and urban systems?

What does water connect for climate change?

- ❖ IWRM was a critical step in how we saw water as a system connecting sectors and ministries
- ❖ Climate change reveals the **fragility** of these relationships: who wins in a conflict between hydro, irrigation, ecosystems?
- ❖ **Water resilience** can connect us in a time of uncertain change

Water is the medium for
resilience

greenspace for flood storage,
irrigation, livelihoods

extensive new lakes across the city

Udon Thani, Thailand

Reduced competition for
hydro water supplies

stakeholder defined, shared
vision for urban resilience

a city residents hope can
stay resilient, livable

How does water carry resilience?



“The water that holds the boat afloat is the same that sinks it.”
— Traditional Chinese saying

- ❖ coherence in policy
- ❖ coordination between ministries
- ❖ seeing systems (and not just basins)
- ❖ understanding operational limits
- ❖ understanding social limits
- ❖ quantitative stress tests across a wide range of conditions

How we should define resilience?

Robustness

Flexibility

Equity

The ways we describe problems shape the solutions we have available

Robustness is an established approach to uncertainty

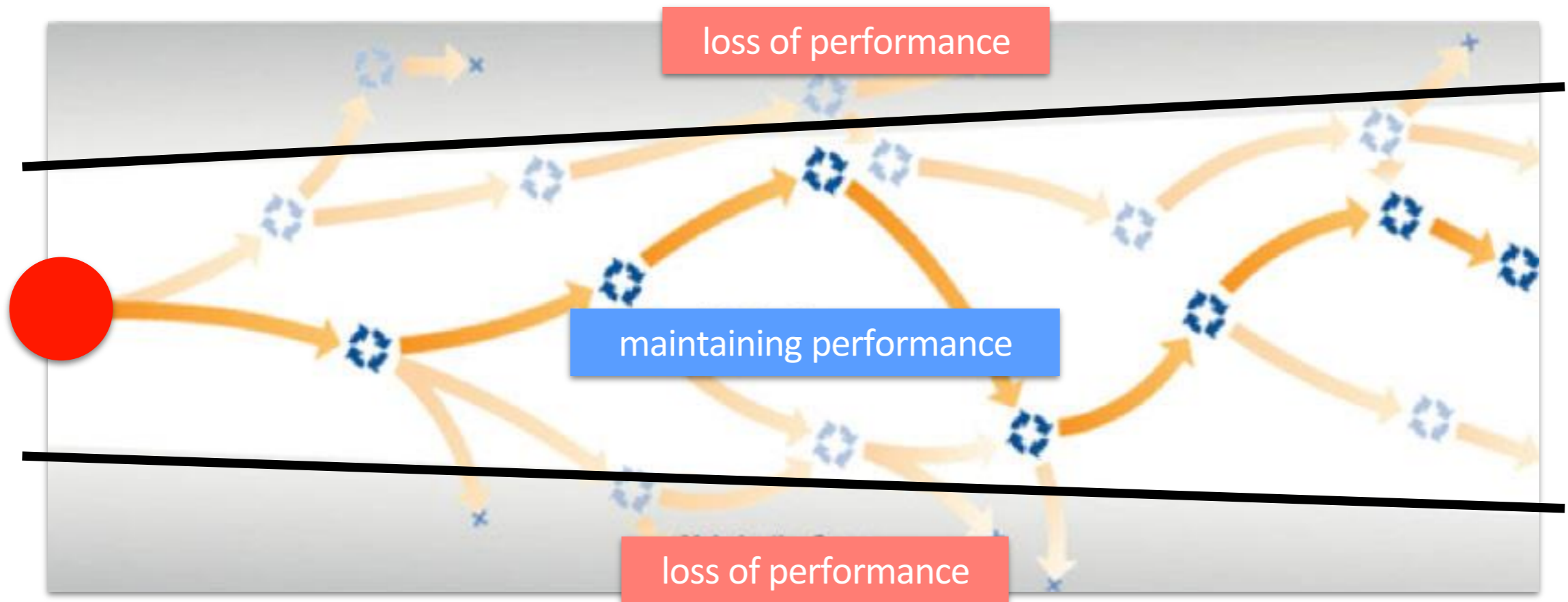
Robustness



Limits often are reached in terms of cost, political suitability, or potentially exclusive alternatives. But knowing those alternative futures can be a limit in itself... "predict" vs "project"?

Flexibility

Flexibility addresses residual uncertainty



Equity arises from engaging with stakeholders

Valle de Mexico and CDMX

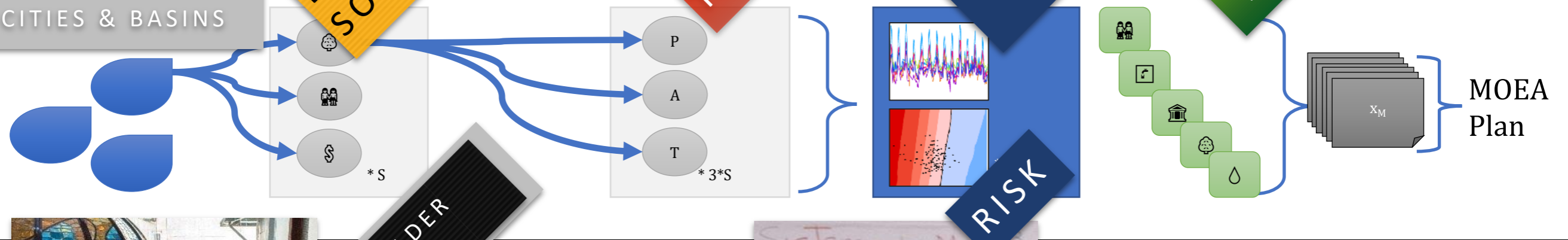
ENVIRONMENTAL • SOCIAL • ECONOMIC

PERSIST • ADAPT • TRANSFORM

HYDROLOGY & CLIMATE

DECISION VARIABLES

CITIES & BASINS



39 STAKEHOLDER GROUPS



CATEGORÍA TERRITORIAL
 AZONA DE CARGA/INFILTRACIÓN
 ZONA DE INUNDACIÓN
 EN LAS REYES DE PLANEACIÓN,
 ORDENAMIENTO TERRITORIAL Y
 DESARROLLO URBANO 2018-2019

Sistema de Monitoreo
 Control y Gestión del Agua
 - Monitoreo Remoto/Tiempo Real
 - Accesibilidad - Accesos Claros
 - Procesamiento/Protocolos
 - Gestión Integral de Curvas
 - Área: 4 cuencas
 - Que: Calidad 100-200-10-12
 - Fases 50 Ratios Estratégicos
 - Documentos a Subir: 1 Centro de Control 2 Rel
 - 20 - Unidades de Control



Programa de Comunicación de Resiliencia
 Hídrica
 Objetivos:
 - Cambio de comportamiento
 - Habilitador de acciones
 Descripción:
 Generar portafolio de acciones transversales de comunicación para dar a conocer el plan de acción estratégico de resiliencia hídrica para la ciudad de México con la finalidad de...



Hydrosystems Research Group
 A research group of the Department of Civil & Environmental Engineering



COLLABORATIVE MODELING

Signposts on the way to water resilience

UNFCCC-AGWA CASTT Adaptation Academy

unfccc.int/castt-adaptation-academy

Adaptation Action Coalition Water Tracker

watertracker.cc

UNESCO's CRIDA course

en.unesco.org/crida/activities



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“The language of **climate action** is the language of
water resilience.”

– *Me, right now*

Join the team for water resilience: alliance4water.org



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#water4climate @Alliance4Water

