

Modeling in Water Resources Showcasing Potential Application

Stockholm Environment Institute
Latinoamérica (LAC-SEI)

Purpose

- Explore the Benefit of modeling a hydrological system
- Show a Case Study
- Discuss ideas about which features of the systems may be useful to model

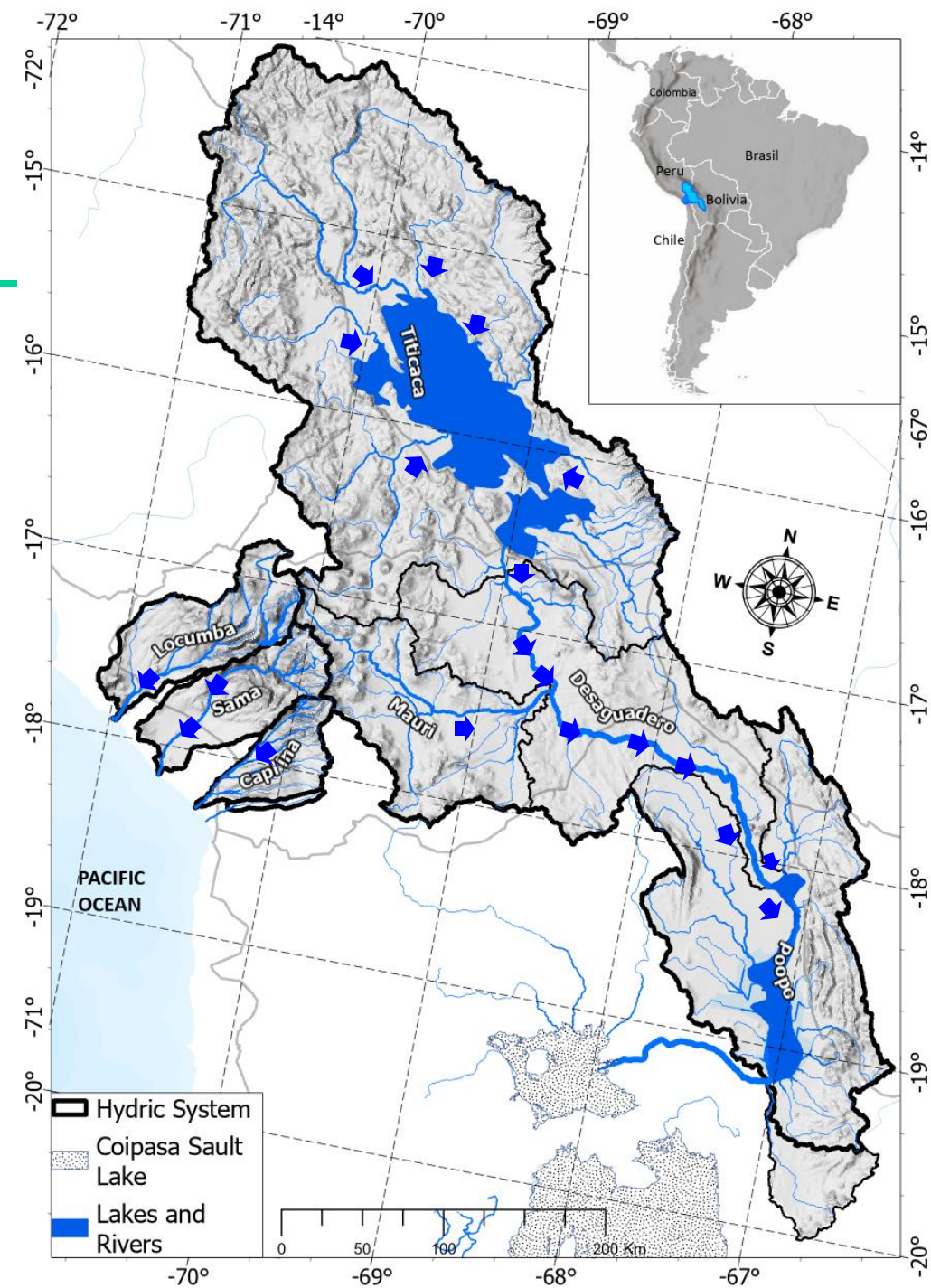
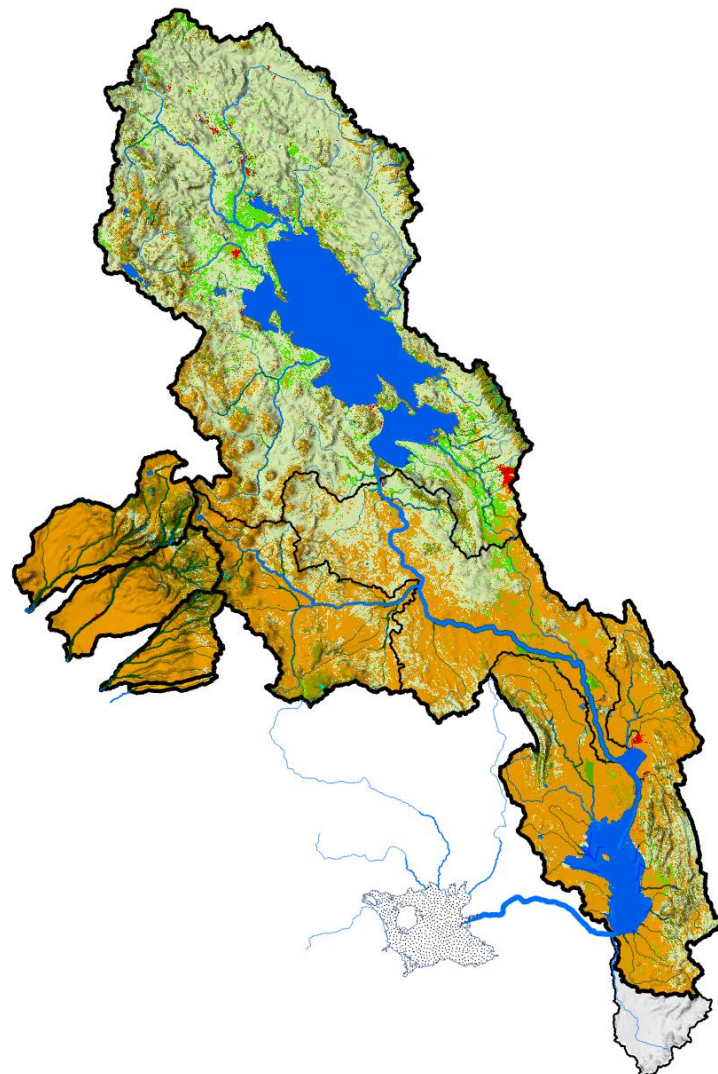


Models in Hydrological Systems



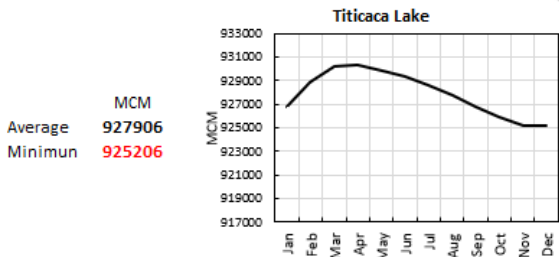
A model in Water Resources Context

Landcover

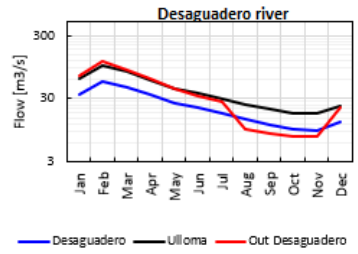
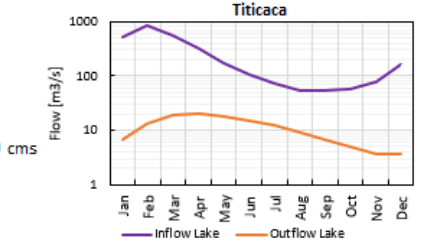
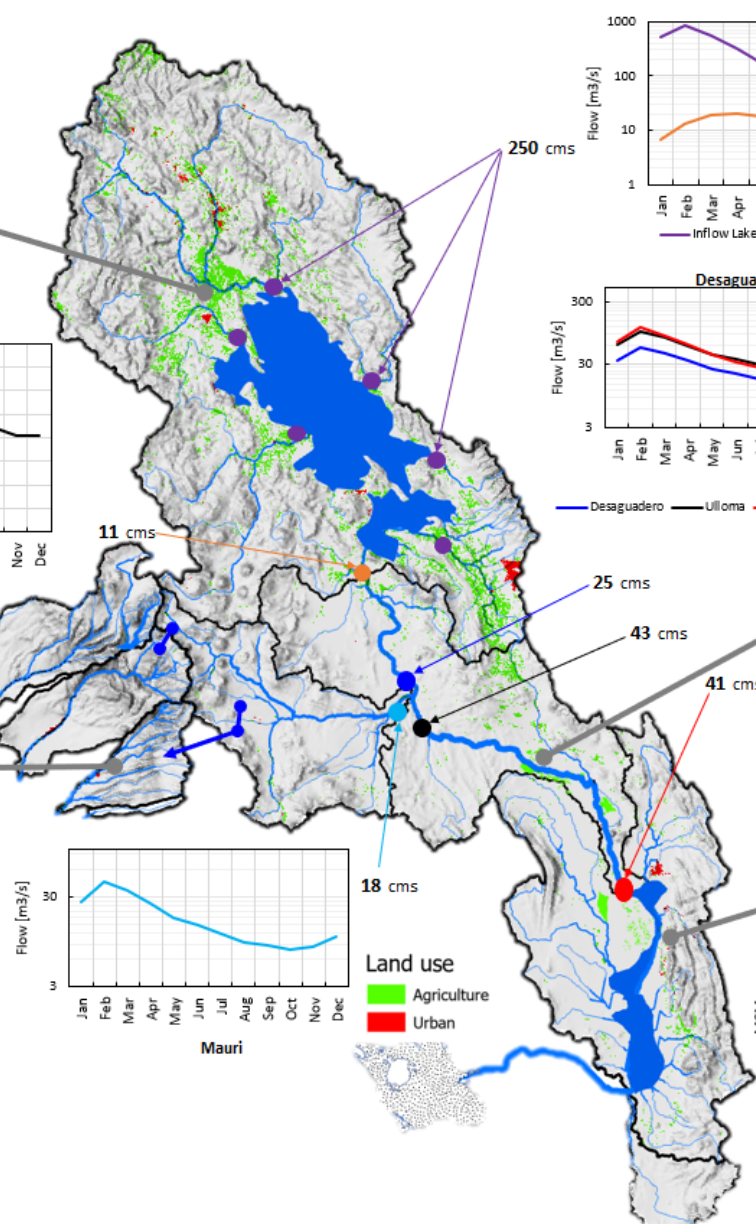


A model in Water Resources Context

Titicaca Water Use				
Type	Capacity of Water	Area [Ha]	Irrigated	Water Use
Agriculture	26%	500000	75%	10 cms
Domestic	3%	2500000	100%	1.5 cms

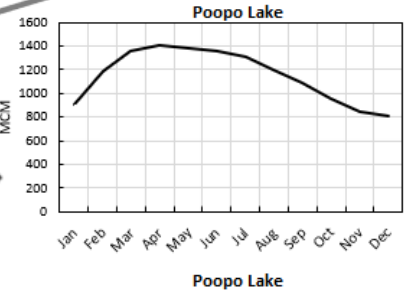


Caplina Water Use				
Type	Capacity of Water	Area [Ha]	Irrigated	Water Use
Agriculture	18%	4300	90%	1.44 cms



Desaguadero Water Use				
Type	Capacity of Water	Area [Ha]	Irrigated	Water Use
Agriculture	64%	21000	80%	6 cms

Poopo Water Use				
Type	Capacity of Water	Area [Ha]	Irrigated	Water Use
Agriculture	100%	12000	31%	2 cms
Domestic	15%	500000	100%	0.3 cms



MCM
1151 Average
808 Minimum
Ensure Level Never is below 100



Average



Below 100

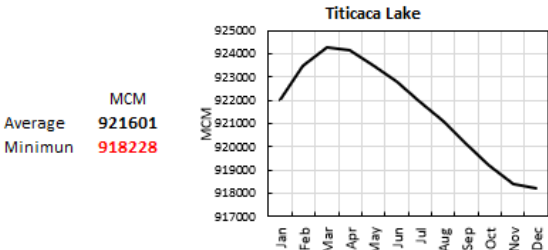


A model in Water Resources Context

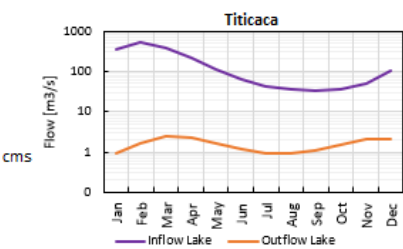
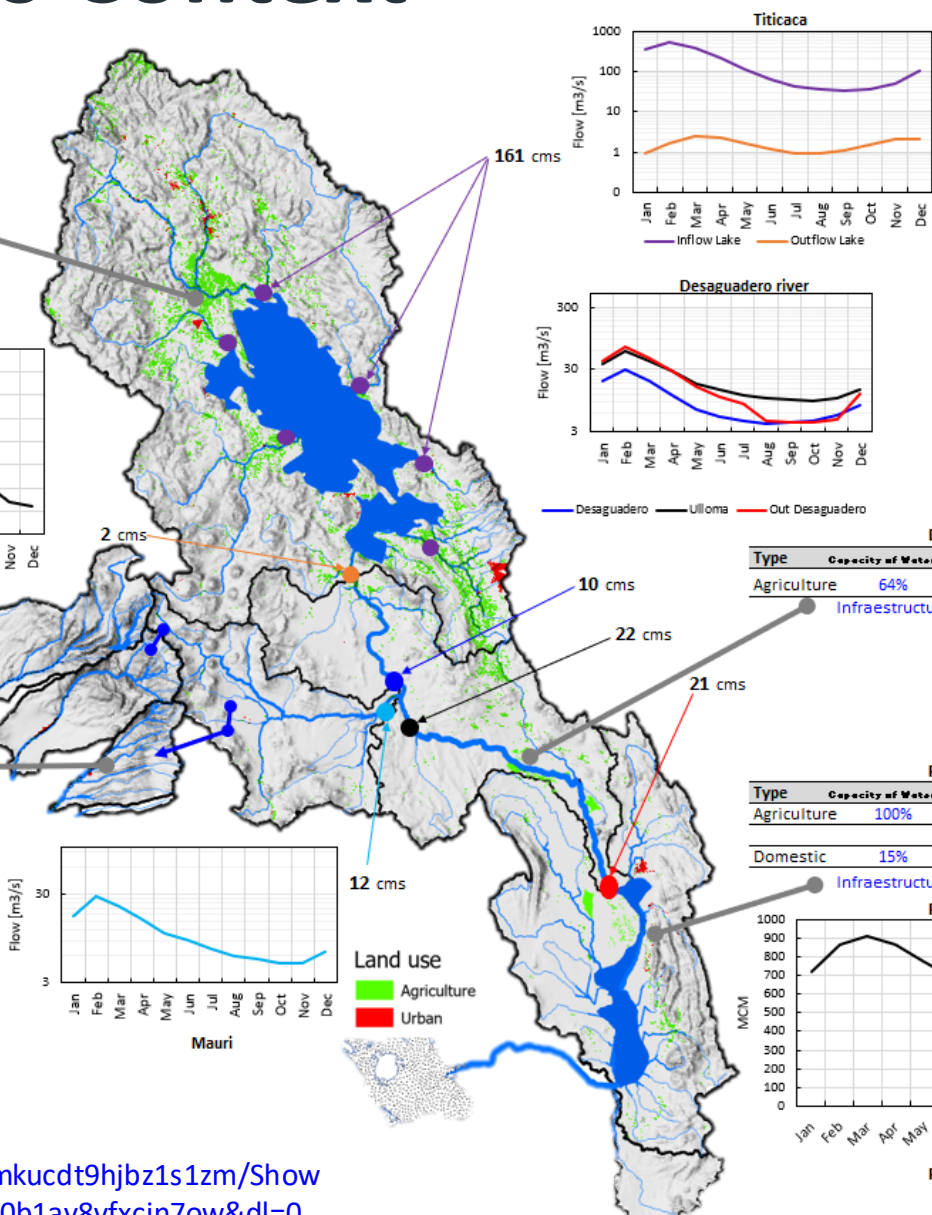
10 minutes

Manage the capacity of water use to ensure Lake Poopo Never is below 100 MCM, after comment us about your answer.

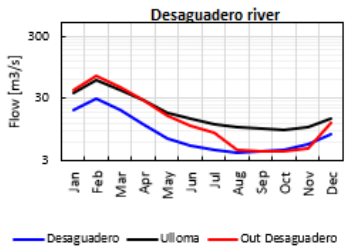
Titicaca Water Use				
Type	Capacity of Water Use	Area [Ha]	Irrigated	Water Use
Agriculture	26%	500000	57%	8 cms
Domestic	3%	2500000	95%	1.4 cms



Caplina Water Use				
Type	Capacity of Water Use	Area [Ha]	Irrigated	Water Use
Agriculture	18%	4300	79%	1.26 cms

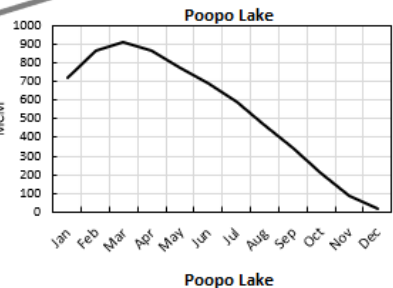


SCENARIO
Extremely Dry



Desaguadero Water Use				
Type	Capacity of Water Use	Area [Ha]	Irrigated	Water Use
Agriculture	64%	21000	51%	4 cms
Domestic	15%	500000	89%	0.3 cms

Poopo Water Use				
Type	Capacity of Water Use	Area [Ha]	Irrigated	Water Use
Agriculture	100%	12000	22%	1 cms
Domestic	15%	500000	89%	0.3 cms

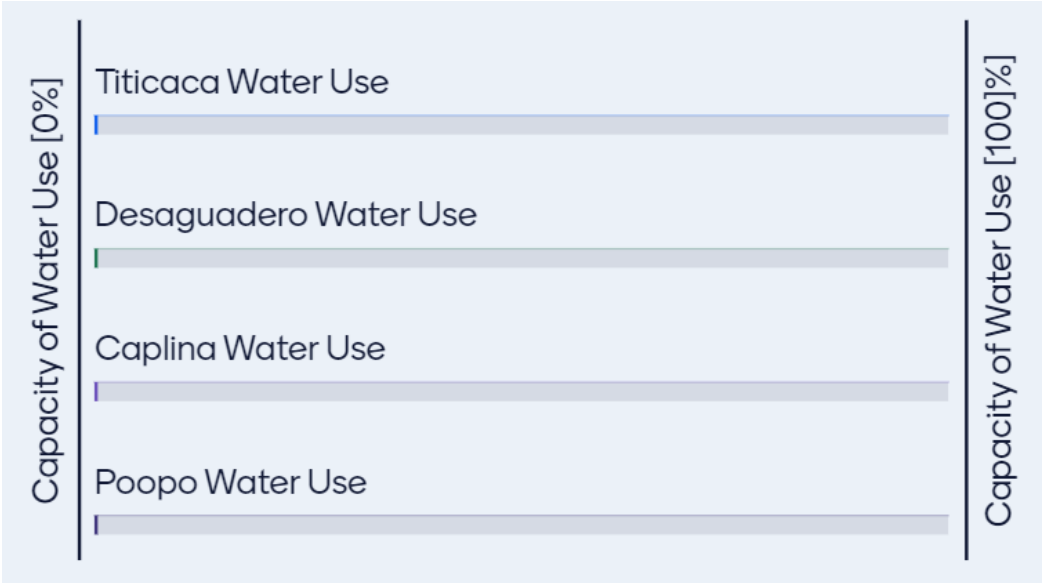


A model in Water Resources Context



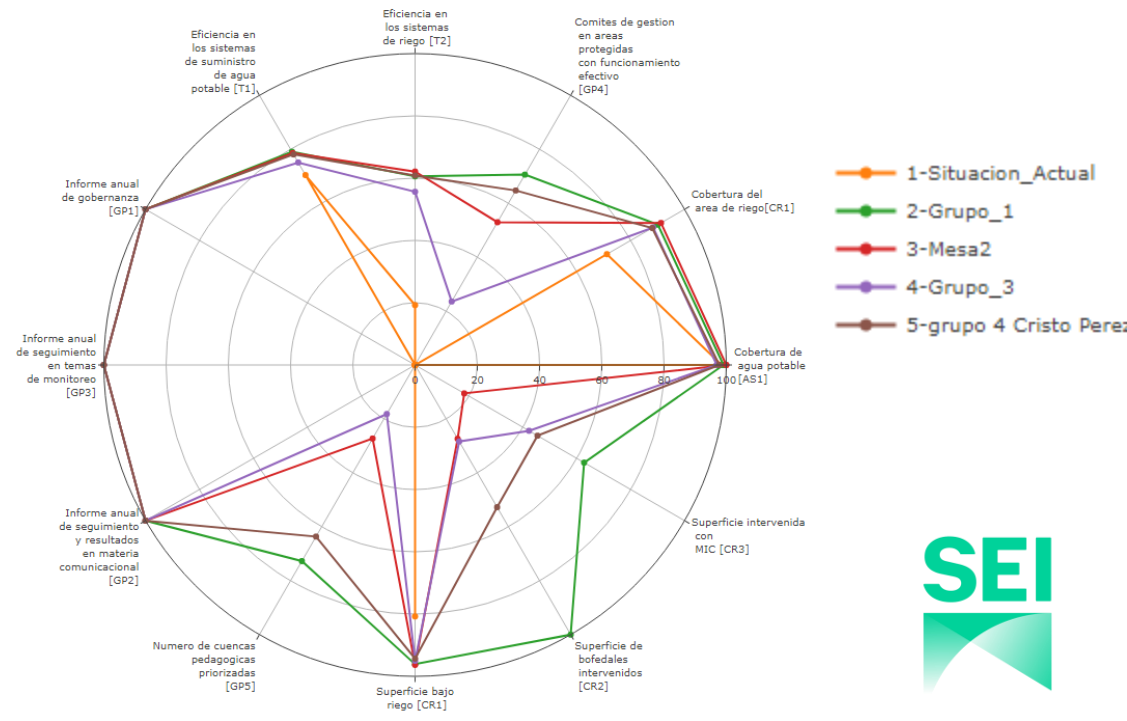
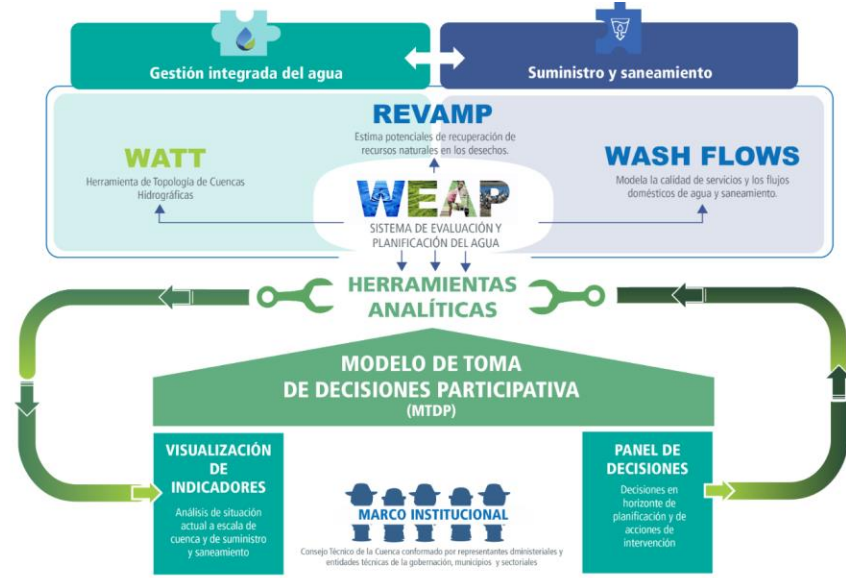
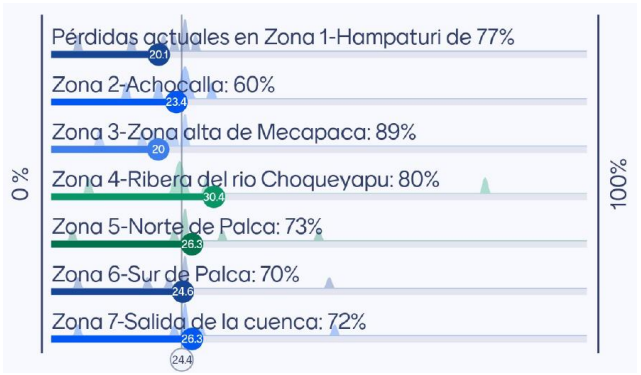
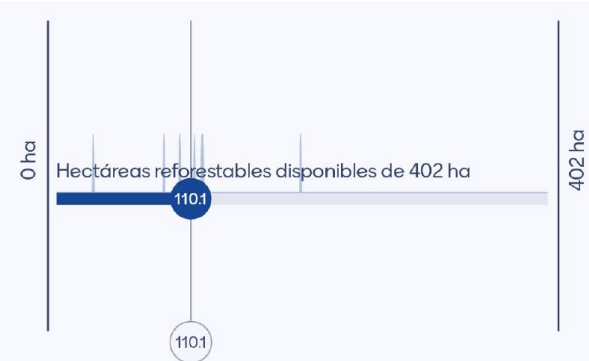
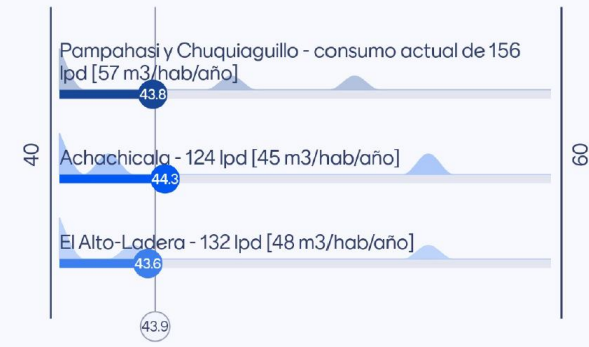
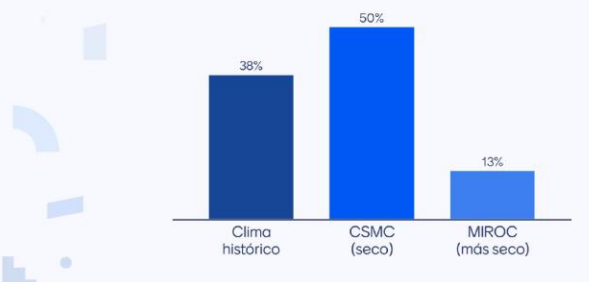
Manage the capacity of water use to ensure **Lake Poopo Never is below 100 MCM** after, comment us about your answer.

10 minutes



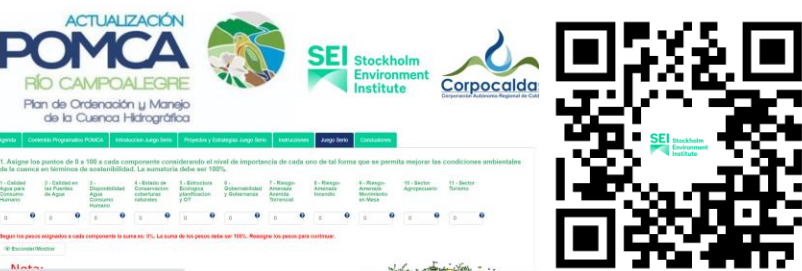
Scenathons for modeling needs identification

Escenario climático



Serious Games SEI

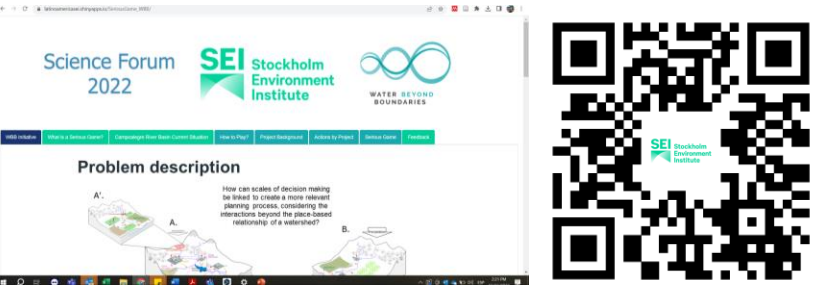
Formulación del POMCA del río Campoalegre, Colombia



Articulación PEM-POMCA Cuenca del río Chinchiná. Plataforma del agua, Colombia



Iniciativa Agua más allá de las fronteras.



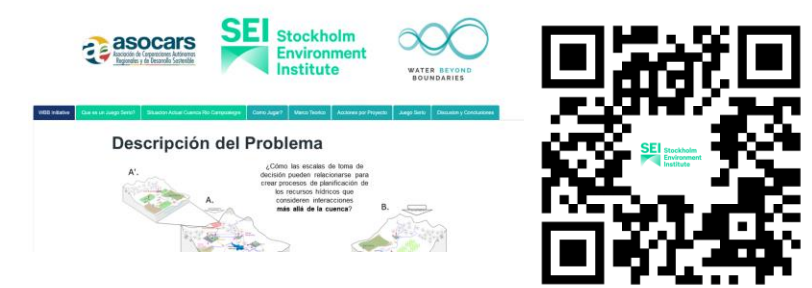
Modelo para la toma de decisiones participativas MTDP Pampahuari, Bolivia



Modelo para la toma de decisiones participativas. Cuenca La Paz-Choqueyapu, Bolivia



Juego serio para Corporaciones Autónomas Regionales- ASOCARS. Colombia



Break out groups to discuss the modelling blueprint and applications

Question: 1. What do you consider to be the gaps in your living lab regarding modeling and monitoring?

Question: 2. What access do you have to the monitoring data and models of your study case?

Question: 3. Have you been involved in the co-design of the models?

Question: 4. What are the main challenges for the use of information (modelling and monitoring) in decision-making?