

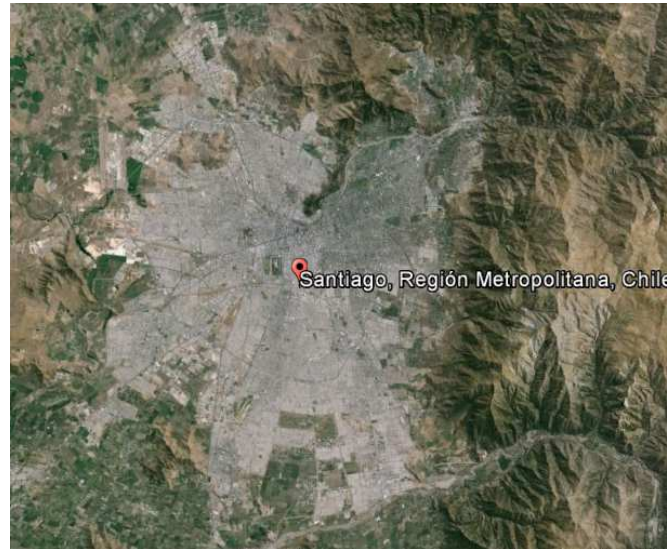
# Partnerships for building a climate change adaptation plan in a highly urbanized basin in Central Chile

S. Vicuna, Centro de Cambio Global, PUC

World Water Congress XV. PS17.2 Climate change, impacts and adaptation: Adaptation in the urban sector

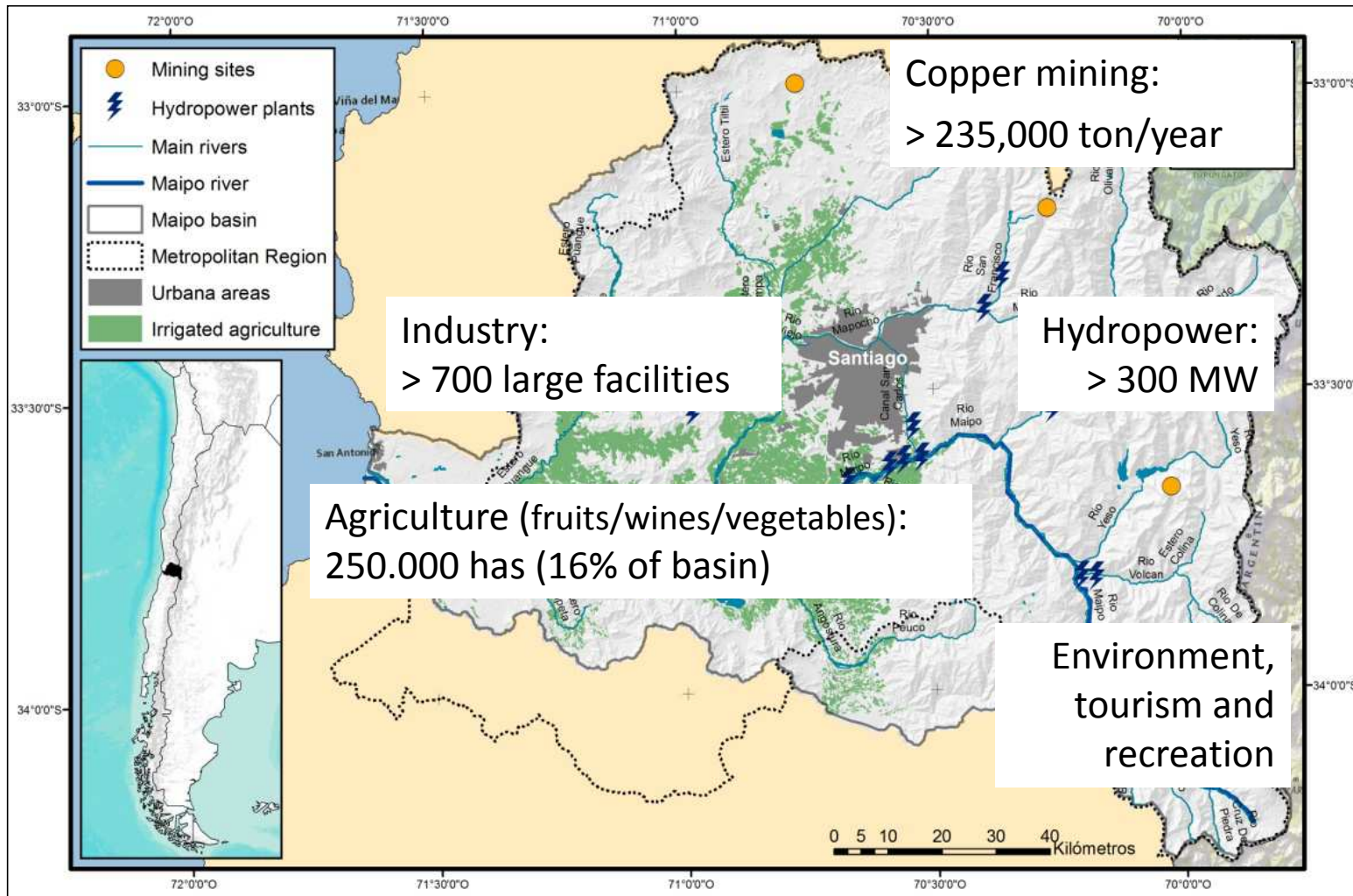


# Santiago de Chile



Largest city in Chile  
Home to nearly 7 million people  
(40% of total population)  
Produces nearly 50% of total GDP

# Santiago: one of many users in the Maipo basin

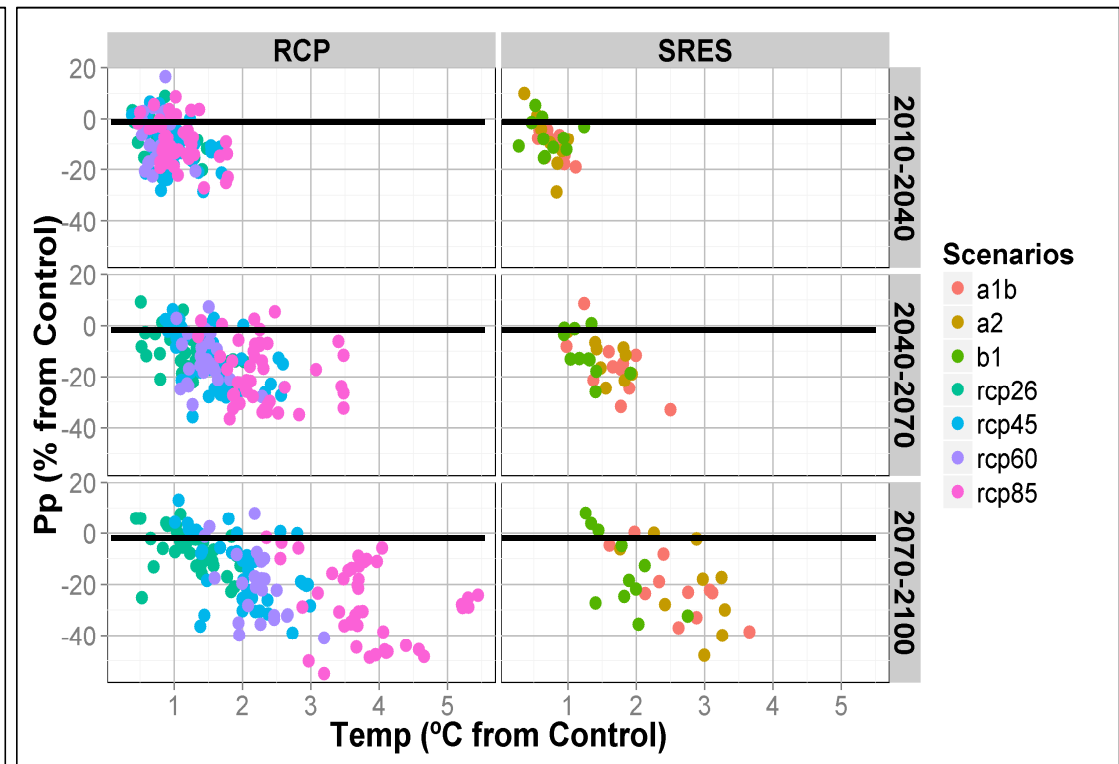
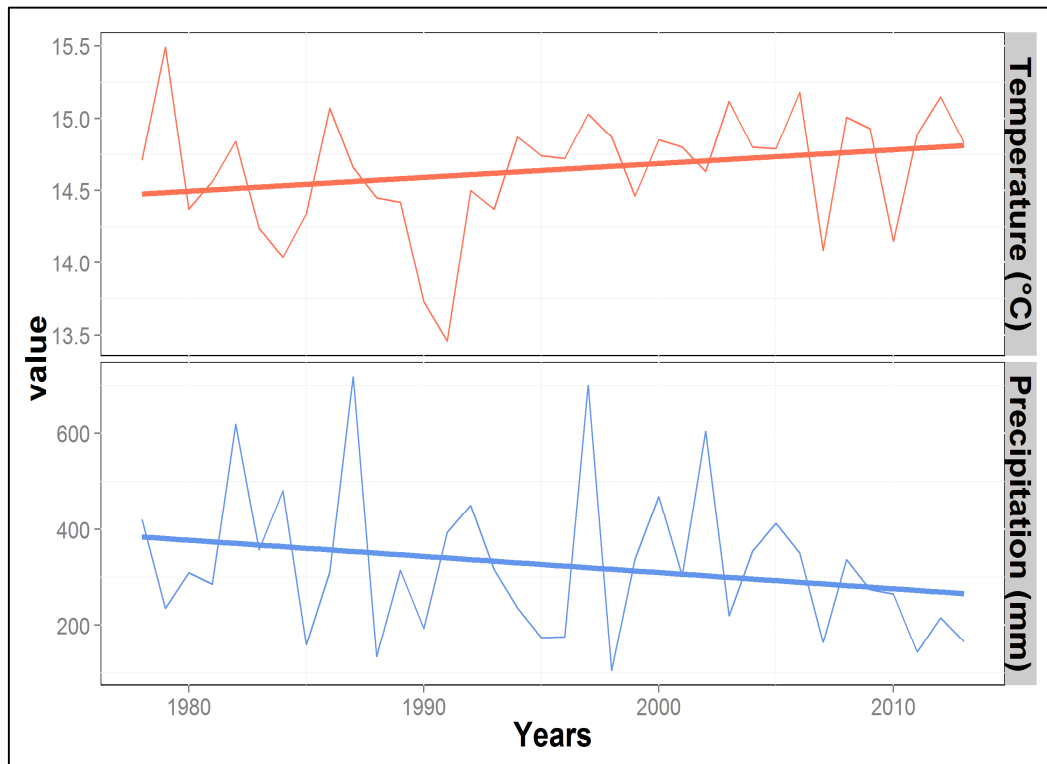




...that don't get along very well



...with current and future climate concerns

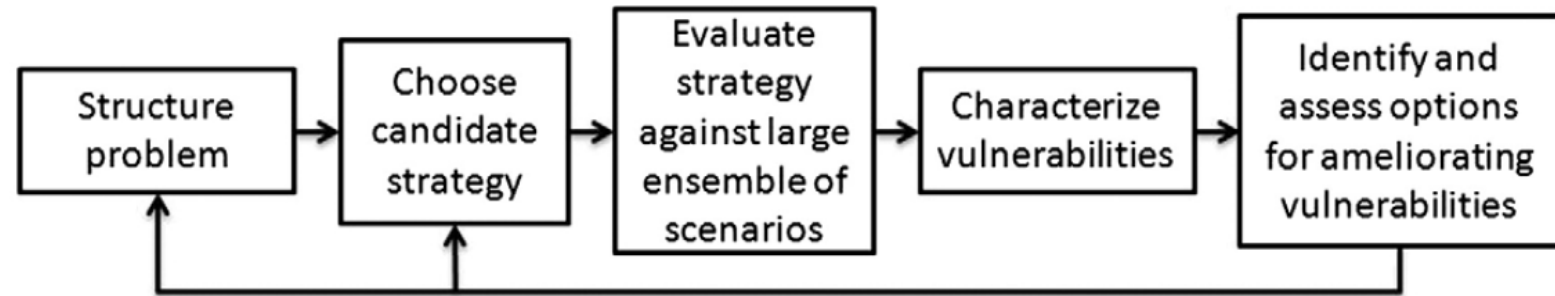


# Climate variability and Climate change adaptation in the Maipo Basin

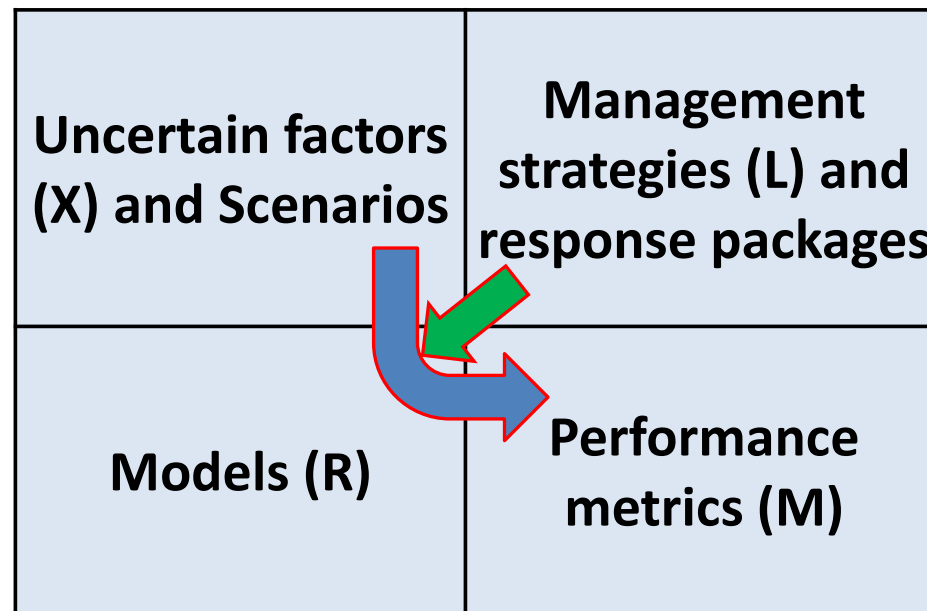
## Key questions

- Which are the adaptation needs?
  - Which are the effects of climate on water supply and demand? Which is the effect of other drivers (e.g. city growth)?
  - Which are the key vulnerabilities of productive activities, livelihoods, ecosystems in terms of water access (quality and quantity)?
- Which are the adaptation options to reduce these vulnerabilities?
- How to select and implement this adaptation options?

# Adaptation framework based on RDM



Lempert and Groves, 2010



Lempert et al, 2003

# Need of a Co-Production Process - Partnerships

Regional/ National /  
International

Regional Government / State Department /  
ECLAC

Urban

- Housing Ministry
- Water Utility regulatory Agency
- Public Works Ministry – Water resources agency
- Urban water provider
- Industrial facility

Rural

- Agriculture Ministry
- Irrigation Commission
- Public Works Ministry – Water resources agency
- Rural Municipalities
- Water User Organizations
- Agriculture Association
- Rural water provider

Mountain

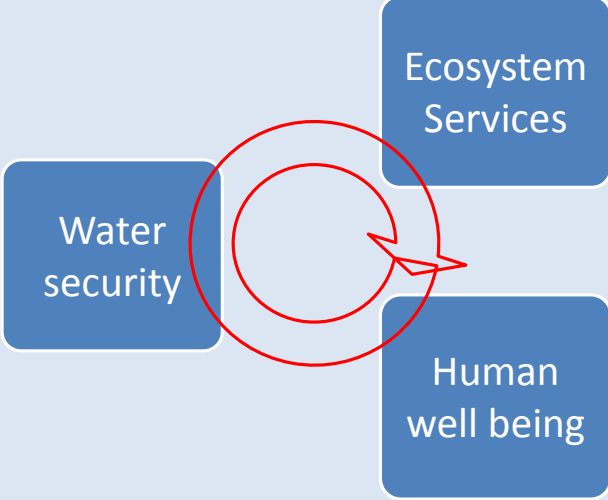
- Environmental Ministry
- Public Works Ministry – Water resources agency
- Mining company
- Electricity generator
- Environmental NGO

• Public

• Private/Civil Society



# MAPA Project

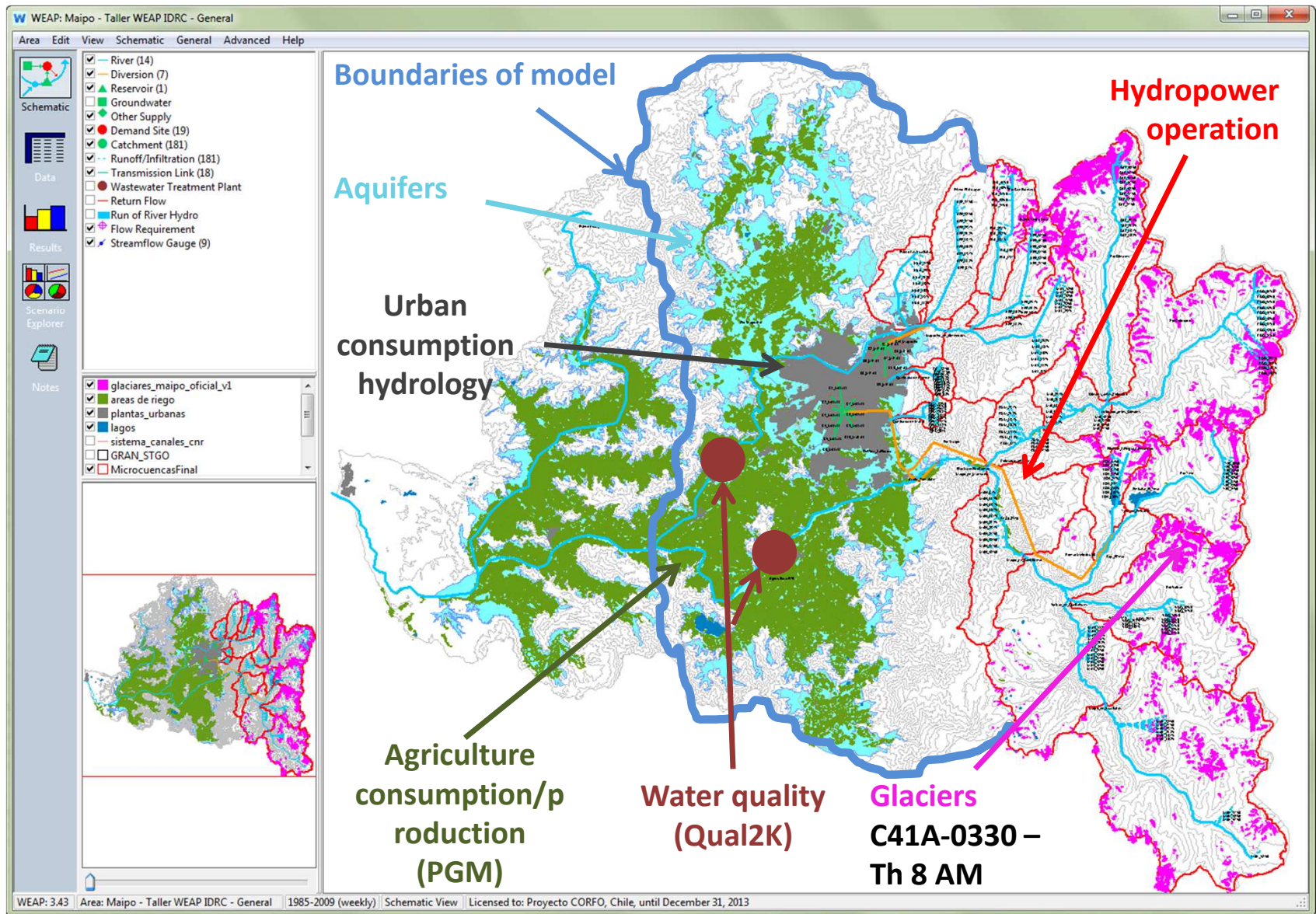
<p>Uncertain factors (X) and Scenarios</p>	<p>Management strategies (L) and response packages</p>
<p>Models (R)</p>	<p><b>Performance metrics (M) – Vulnerability assessment</b></p>  <p>(PS11.2 Tue 14-45)</p>

# MAPA Project

<p><b>Uncertain factors (X) and Scenarios</b></p> <p><b>Climate variability and climate change scenarios</b> <b>Land use scenarios</b> <b>Technological developments</b></p>	<p>Management strategies (L) and response packages</p>
<p>Models (R)</p>	<p>Performance metrics (M)</p>

# MAPA Project

Uncertain factors (X) and Scenarios	Management strategies (L) and response packages
<b>Models (R)</b>  <b>Water supply, distribution and consumption (WEAP Model)</b> <b>Flooding, erosion, turbidity</b>	Performance metrics (M)





# MAPA Project

<p>Uncertain factors (X) and Scenarios</p>	<p><b>Management strategies (L) and response packages</b></p> <p><b>Quantitative assessment of benefits and costs</b></p> <p><b>Implementation issues (who, when, why)</b></p>
<p>Models (R)</p>	<p>Performance metrics (M)</p>

# **Preliminary lessons, challenges, and the way forward for Maipo Basin Adaptation Plan**

- Two years building trust and a framework for long term planning that overcome current institutional constraints
- Agreeing on metrics of performance arises as the key output in the first stage of the project – Water Security
- Transfer and co-development of models keep expectations alive and level the playing field
- The challenge is how to live up to expectations
- Next phase is work on the governance issues of the process: how are metrics, adaptation measures decided?

# Muchas gracias!

