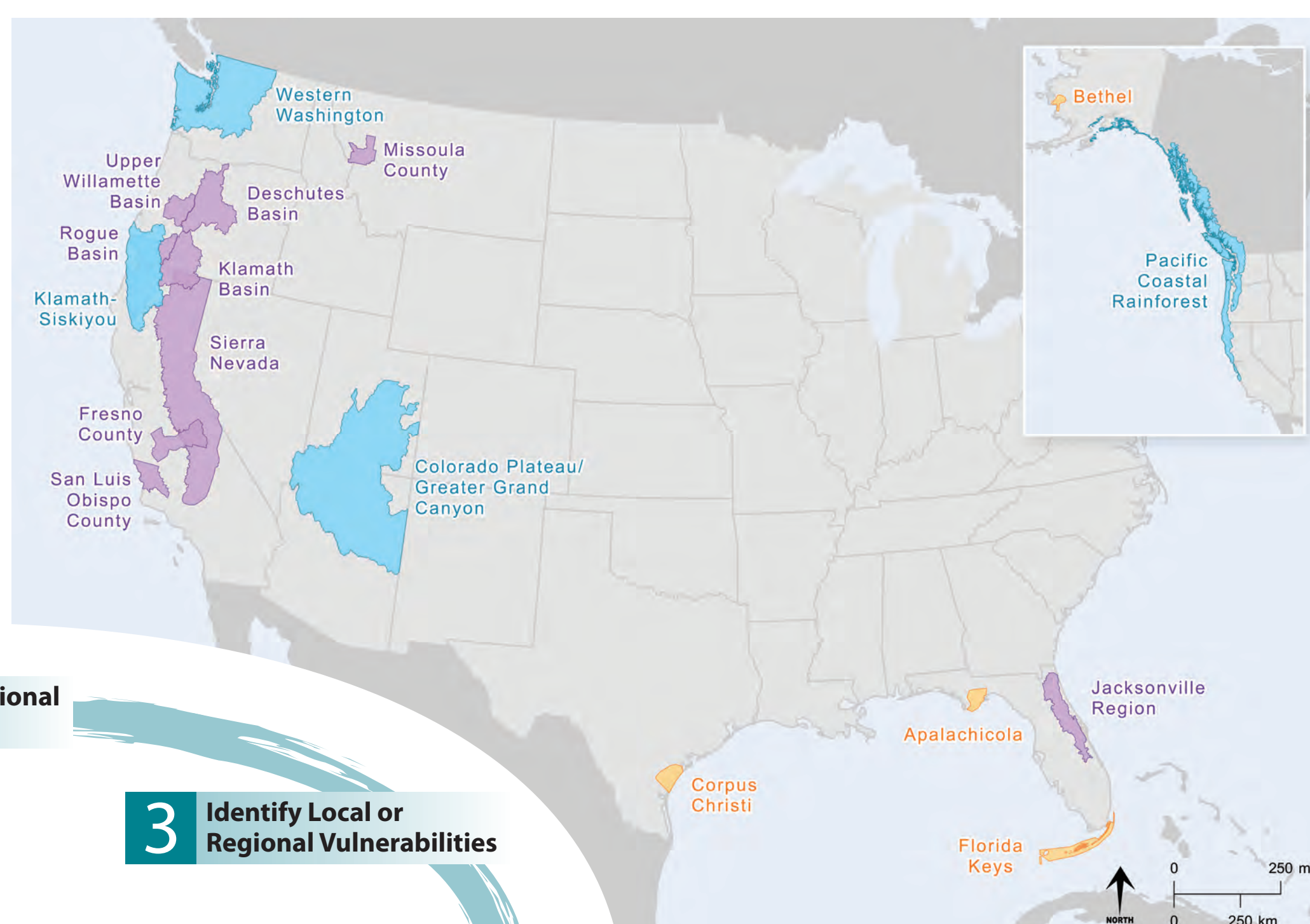


# Creating ClimateWise® Communities:

## Promoting Locally Driven Adaptation to Climate Change

### What is ClimateWise?

ClimateWise is a science-based process developed to address the need to plan for the impacts of climate change. Key to the success of ClimateWise is the integration between planning for natural and human communities in ways that create new synergies and collaborations. Because every area has unique values as well and vulnerabilities, climate change strategies that reduce the impacts of current and projected change are best developed at the local level. ClimateWise helps communities understand the risks associated with climate change and decide what actions to take to protect their community's infrastructure, natural resources, culture, economy, health, and safety.



**Geos Institute Project Areas**  
 ■ Adaptation Blueprints  
 ■ Completed ClimateWise Projects  
 ■ New ClimateWise Projects

### Community Planning

ClimateWise works by bringing together leaders, experts, and decision makers from many important sectors of the community. Together, this group identifies important local values, explores climate change science, and assesses where their community is most vulnerable. They proceed to develop strategies that work across sectors to increase their resilience under changing conditions. The process is guided by a local steering committee of leaders with diverse interests.

Through ClimateWise facilitated workshops, participants develop a suite of recommended actions intended to:

- ▶ Improve the health and resilience of natural systems
- ▶ Protect people from increasing flood, fire, and severe storm risk
- ▶ Support local energy and food security
- ▶ Prepare for changes in disease and natural disasters
- ▶ Protect cultural resources
- ▶ Develop new partnerships and ways to work effectively across sectors



### Resource Planning

Natural systems provide us with clean water, flood control, recreation, and many other services. Traditional strategies that rely on static protected areas for conserving important systems and species are insufficient in the face of climate change. Our adaptation blueprints take into account not only current areas of conservation importance, but also potential future stability and the need for species to move in response to a changing climate. The blueprints pull together available spatial data on climate change impacts, landscape condition, current and future land use threats, and important habitat for focal species.

**Adaptation blueprints can help:**

- ▶ Guide resource management decisions
- ▶ Prioritize strategies for resilience, resistance, and transition
- ▶ Identify potential refugia for wildlife species
- ▶ Improve planning for energy development and transmission

### Preparing for Climate Change in San Luis Obispo

Through a series of collaborative, cross-sector workshops and meetings, local leaders identified climate change impacts and vulnerable resources and populations throughout San Luis Obispo County. Likely changes included:

- ▶ Longer, hotter summers
- ▶ Lower stream flow in late summer/fall
- ▶ Less groundwater recharge and increasing demand
- ▶ Increased risk of flooding and dam failure
- ▶ Loss of native species and habitats, including pines, vernal pools, and marine life
- ▶ Declines in forage for cattle
- ▶ Loss of wine grape-growing climate over time
- ▶ Erosion of beaches and bluffs
- ▶ Risk to extensive coastal infrastructure, including a waste treatment plant and nuclear power plant
- ▶ Salt water intrusion into coastal wells
- ▶ Increased severe heat risk to outdoor workers
- ▶ Declines in tourism

San Luis Obispo County prepared a Climate Action Plan (CAP) that included both mitigation (reducing emissions) and adaptation (preparing for change). They included all of the recommendations from the ClimateWise process in their CAP, which is currently being implemented with support from the state and other sources.

**Recommended strategies included:**

- ▶ Prioritize water conservation, especially in agriculture, by providing support for new equipment
- ▶ Monitor groundwater pumping to determine sustainable levels
- ▶ Encourage low impact development, natural filtration, and storm water catchments
- ▶ Identify populations at risk due to limited road access during emergencies
- ▶ Provide education and incentives for land management that reduces runoff and erosion
- ▶ Encourage rolling easements along the coast rather than coastal armoring (sea walls)
- ▶ Increase habitat buffers and connectivity for wildlife
- ▶ Increase maintenance of dams, culverts, and roads
- ▶ Provide support for agriculture to increase crop diversity and flexibility

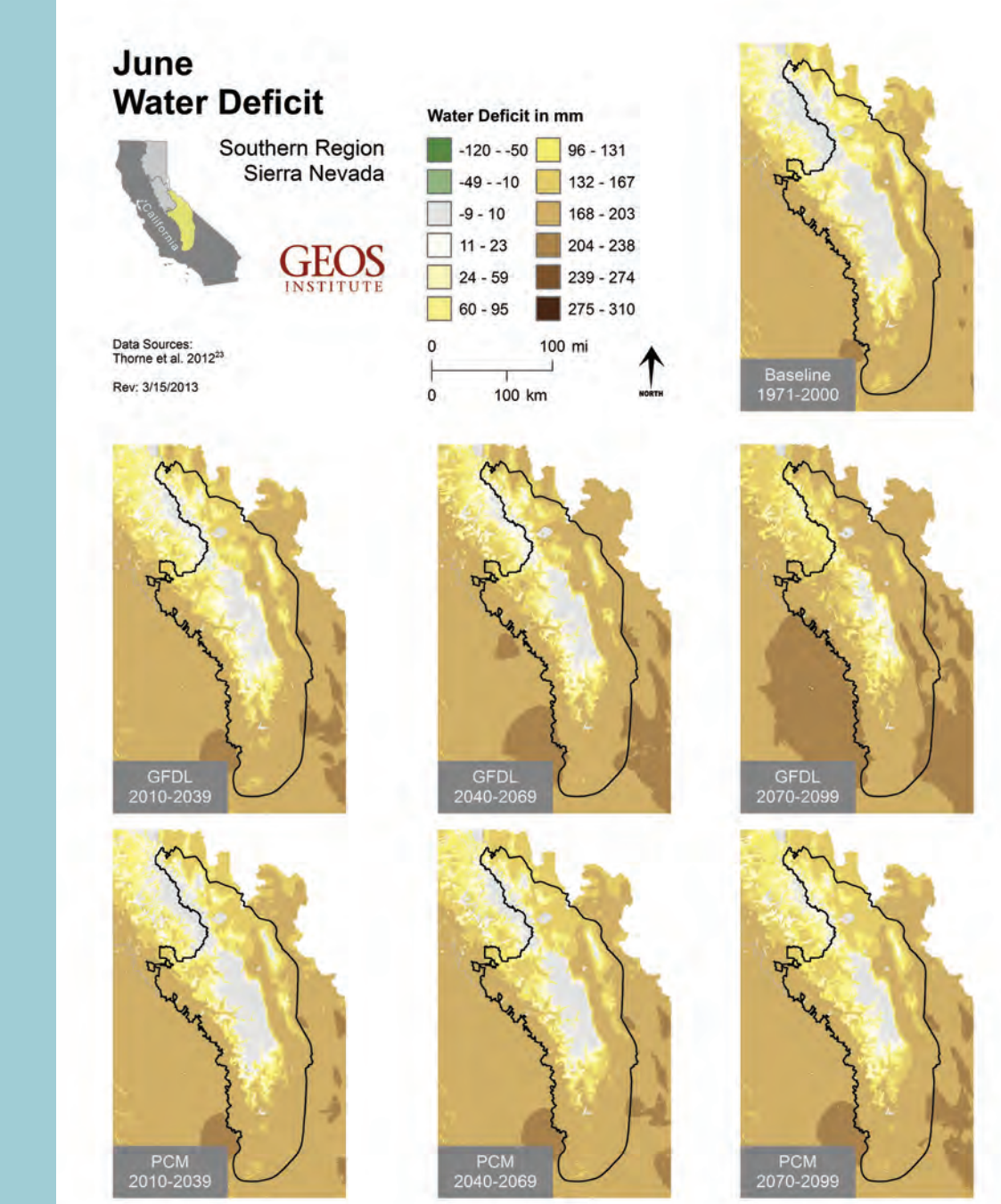
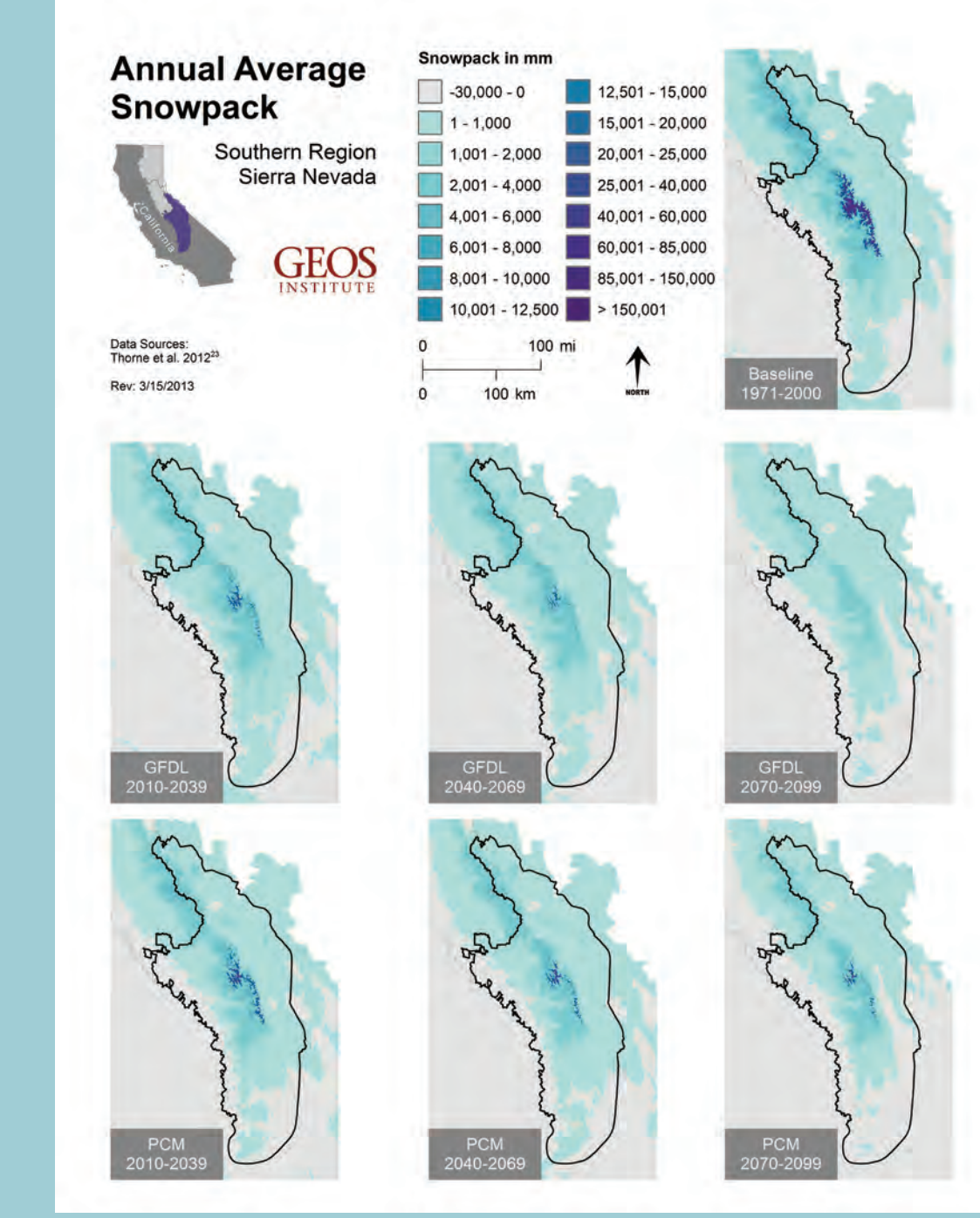
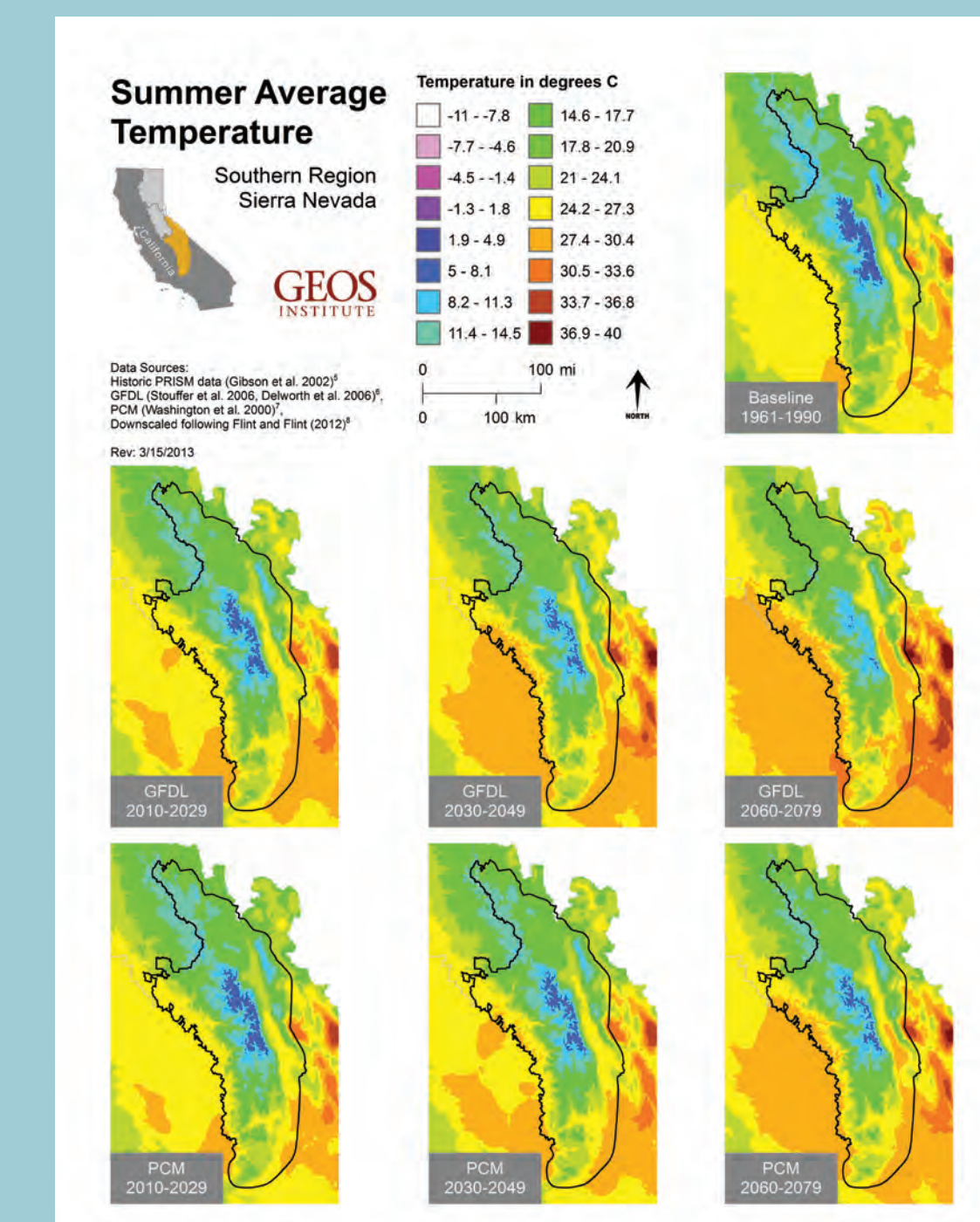
"The ClimateWise process organized by the Geos Institute was marvelous in the way it brought together decision makers and citizens to share information about climate change. San Luis Obispo's decision process toward grassroots sustainability was made a whole lot easier by this. Two aspects really gave a jump start to helping city and regional planners: getting the Geos scientific expertise input early on; and getting the major stakeholders on board. The outcome of this process also helped fuel a successful grant for the city and region."

*Jan Marx, Mayor of San Luis Obispo*



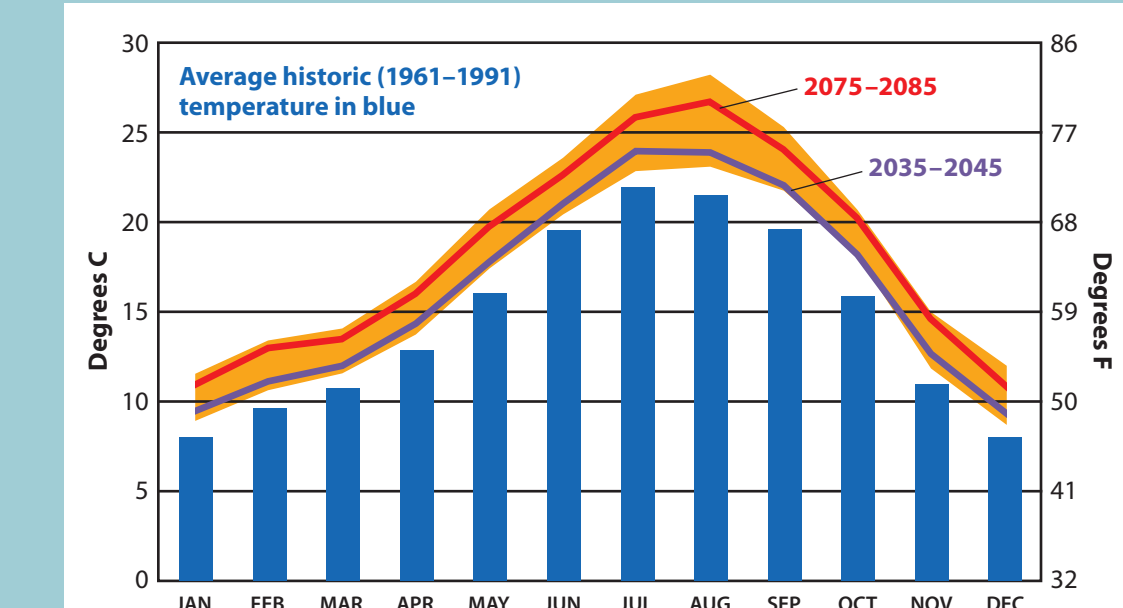
### Sample Local Projections

Climate change science assessments include the most up-to-date climate projections, presented in maps, graphs, and language appropriate for scientists and non-scientists alike. The Geos Institute provides custom and locally specific analysis of spatial data on land use, climate change, carbon storage, energy corridors, intact ecosystems, and hydrology.



Projected average annual runoff, snowpack, and water deficit (and percent change from historic) across the three regions of the Sierra (North, Central, and South), based on output from two different global climate models (GFDL and PCM) under the A2 emissions scenario.

	Historic	2010-29	2030-49	2060-79
<b>Annual Runoff</b>				
North	165mm	-5 to -14%	-5 to -12%	-31 to +10%
Central	386mm	-3 to -10%	-2 to +3%	-31 to +15%
South	140mm	-10 to +1%	-4 to 0%	-41 to +12%
<b>Annual Snowpack</b>				
North	751mm	-39 to -41%	-39 to -59%	-73 to -87%
Central	1153mm	-38 to -40%	-47 to -53%	-64 to -77%
South	2237mm	-58 to -64%	-67 to -70%	-72 to -86%
<b>Annual Water Deficit</b>				
North	500mm	+6 to +13%	+6 to +25%	+25 to +44%
Central	530mm	+6 to +8%	+12 to +21%	+22 to +35%
South	698mm	+6 to +8%	+12 to +16%	+19 to +33%



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