

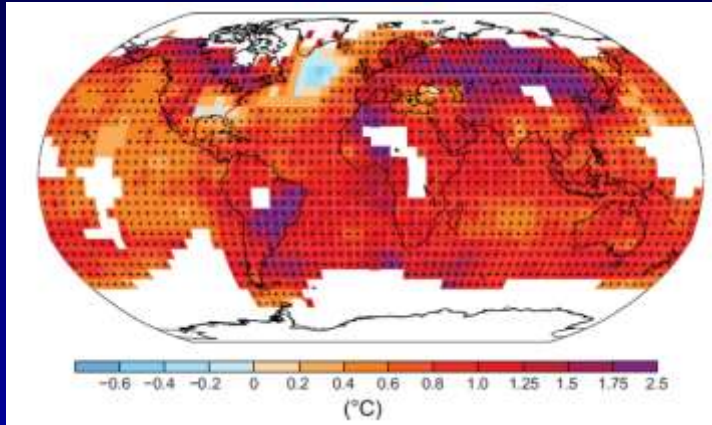
Managing Climate Change Risks in Central Asia

Central and West Asia Department

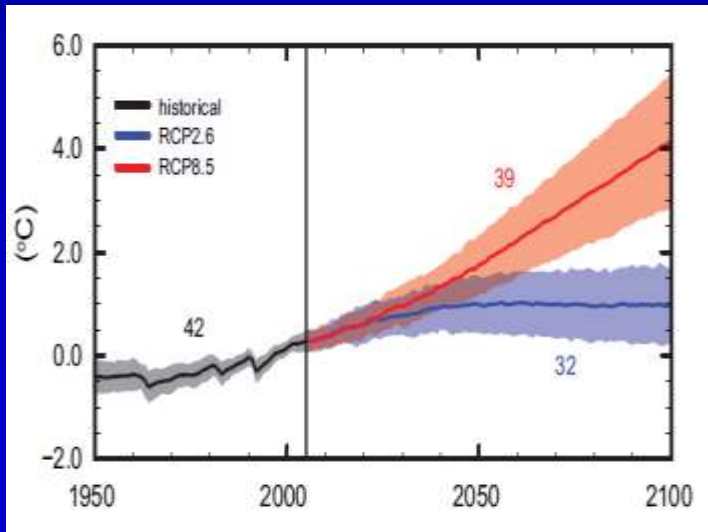
CAREC SOM, 18 June 2015

Climate change is a global problem

Global temperature change 1901-2012¹



Projected surface temperature 2000-2100¹

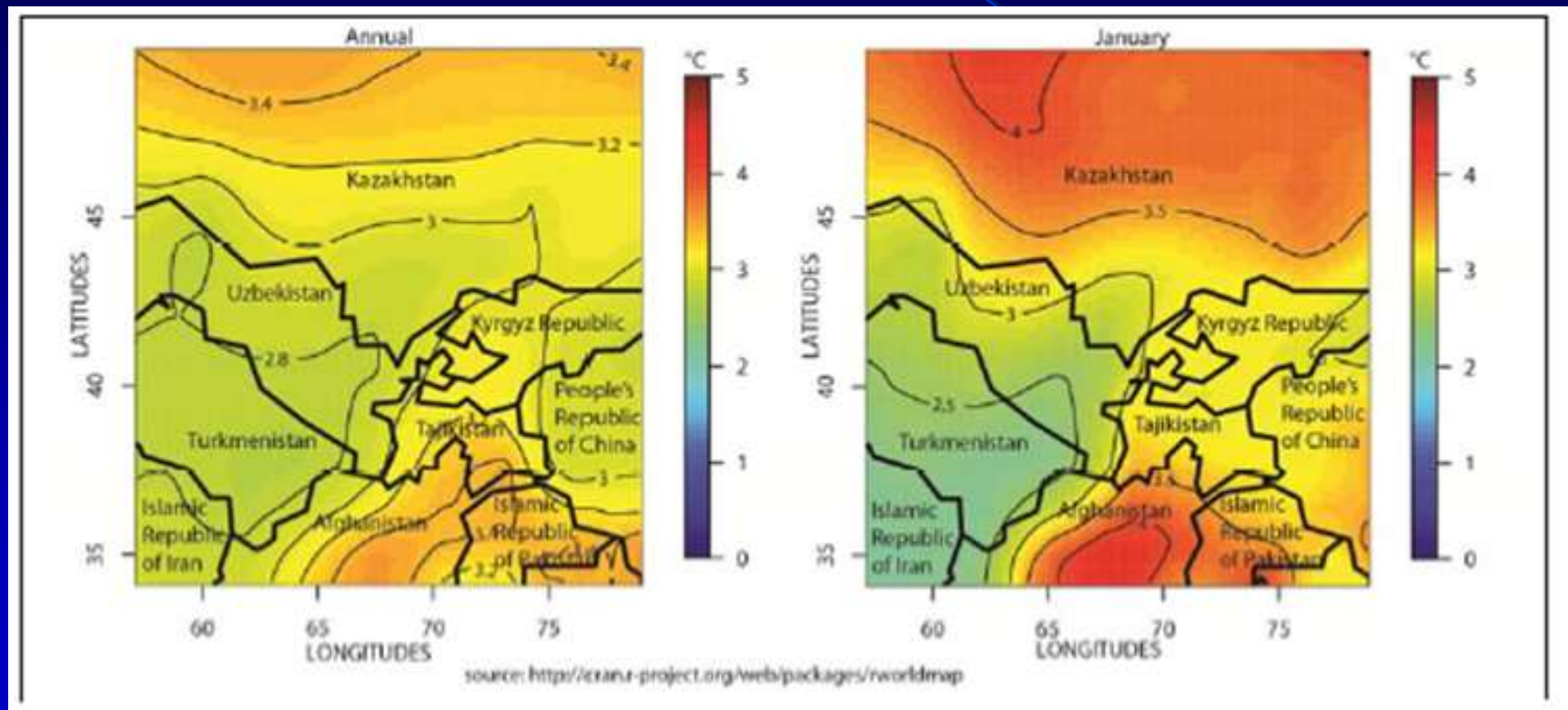


- Up to 5°C warming and 1m sea level rise by 2100
- Increased extreme meteorological events, including droughts and floods
- Climate changes depend on future *global* greenhouse gas emissions
- International climate negotiations held under UNFCCC

¹IPCC (2013) Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Cambridge.

Warming in Central Asia is likely be strongest in the mountains and during winter months

Annual (left) and January (right) average temperature in 2055 vs. 1985



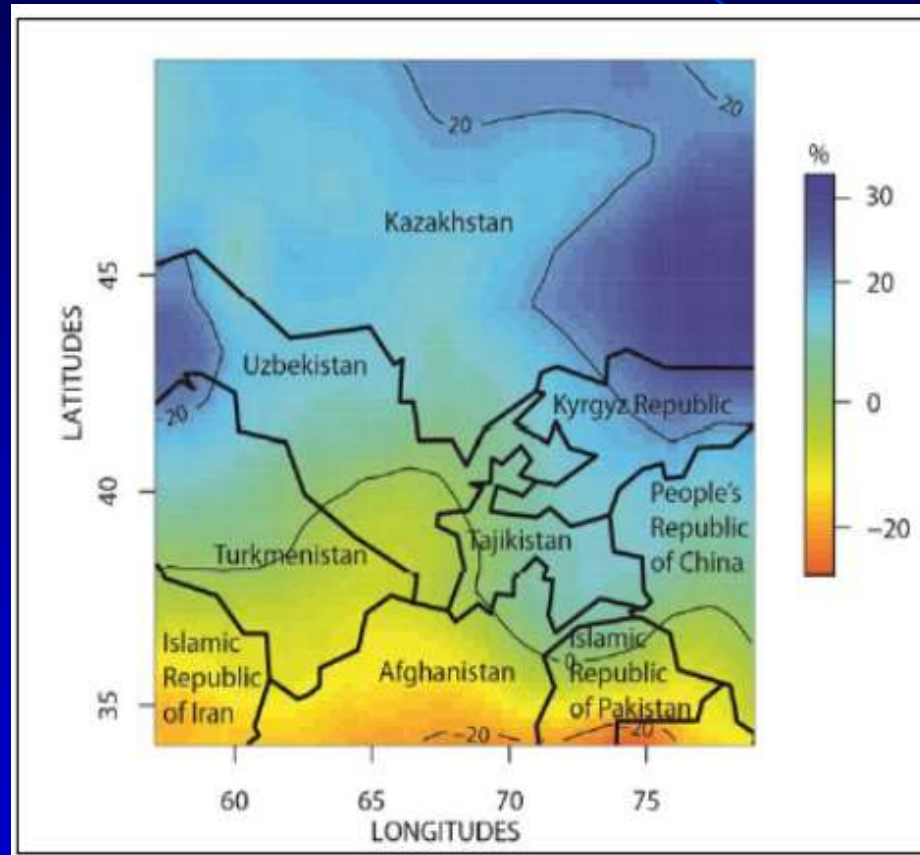
Simulation and map from: ADB (2014) Climate Change and Sustainable Water Management in Central Asia. Manila.

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Southwest areas are likely to become even drier, northern areas may see additional precipitation

Average annual precipitation in 2055 vs. 1985

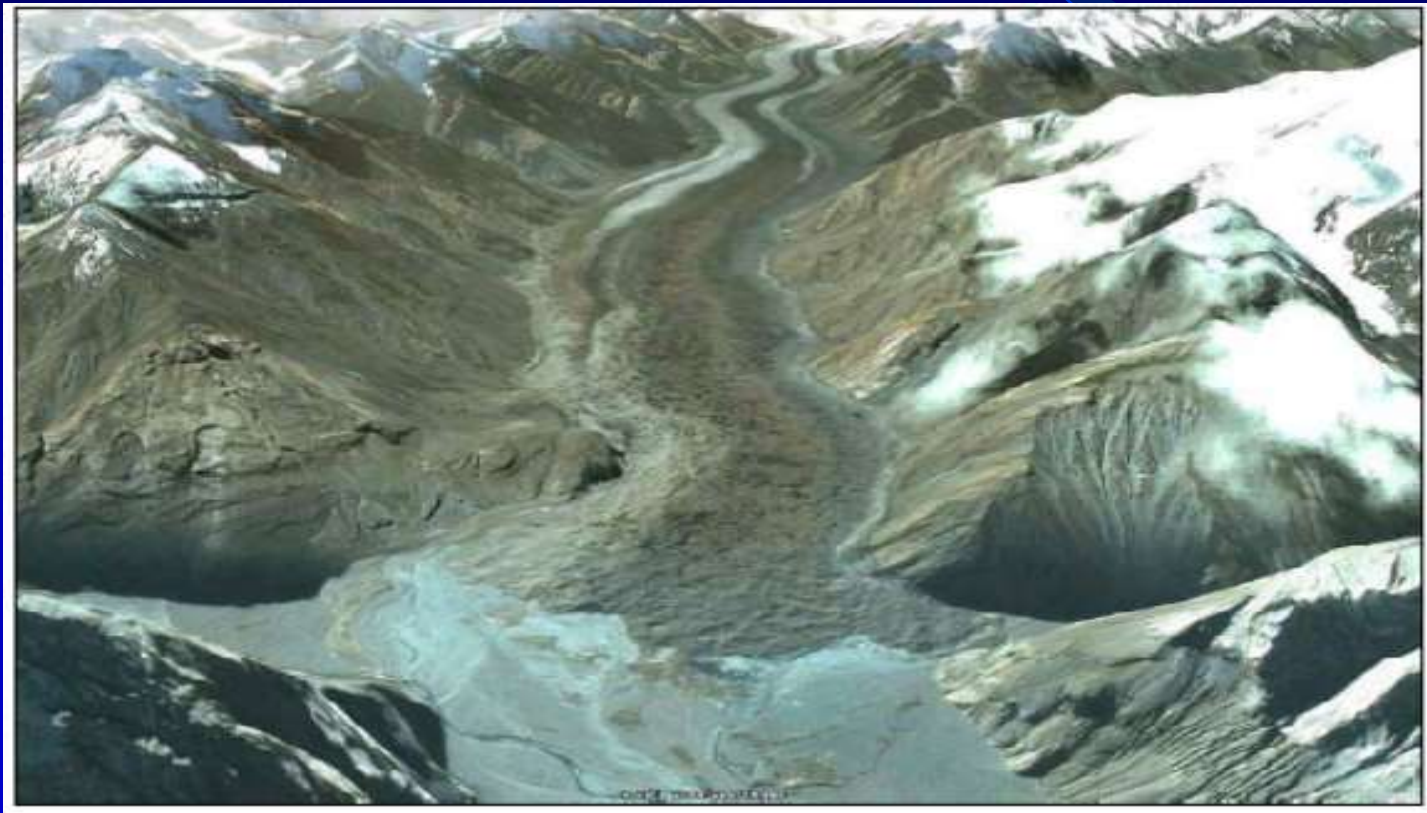


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Glacial loss is likely to increase, leading to water stress and glacial lake outbursts and flooding

The Fedchenko Glacier in Tajikistan has thinned by 1 meter per year in recent decades and its surface area has decreased by 11 sq km.



Central Asia faces unique impacts from climate change

Agriculture: Some areas will benefit from longer growing season, others face risk of drought and desertification.

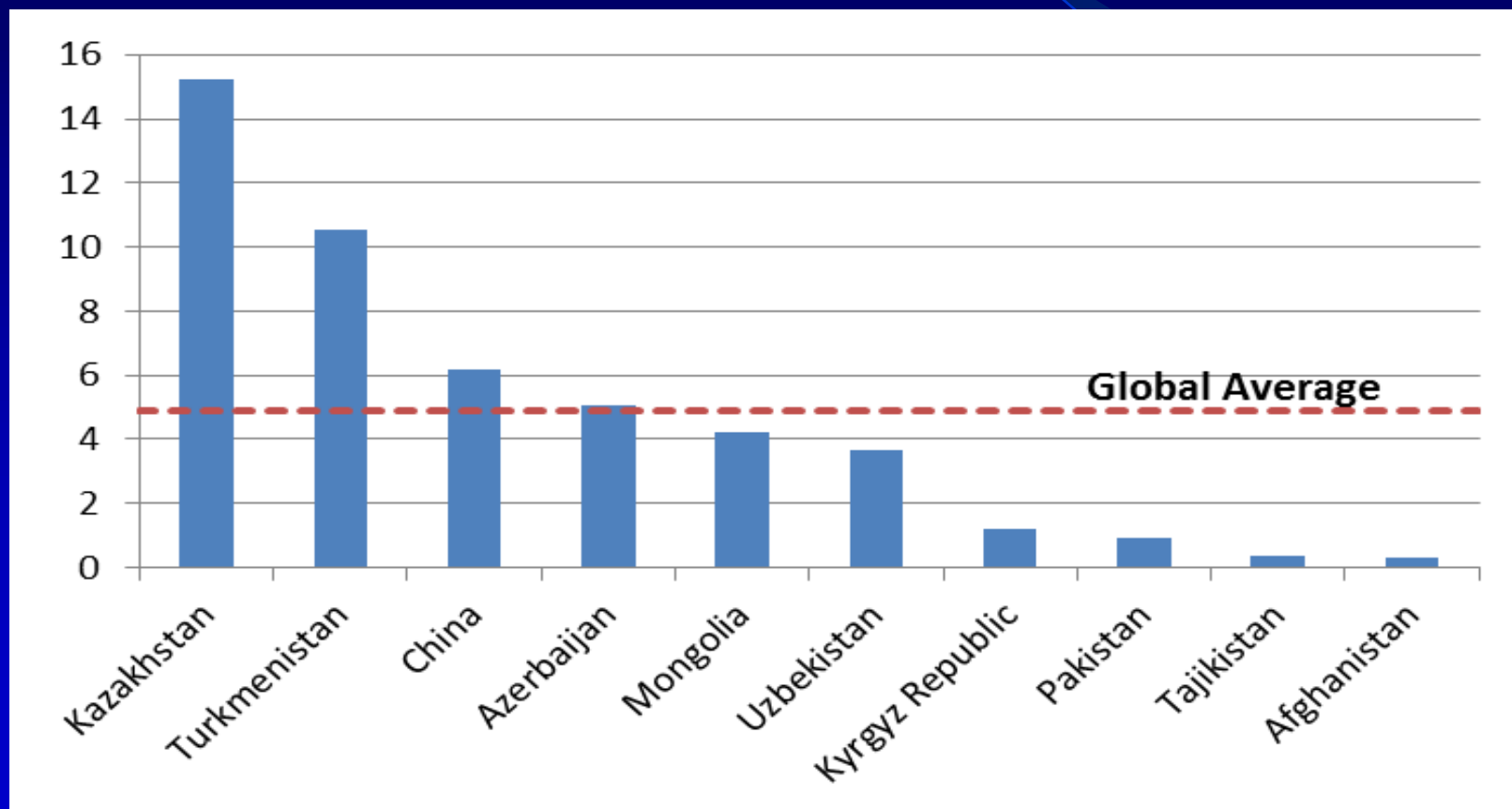
Water availability: Risk of shortages in Syr Darya and Amu Darya Basins due to higher demand, lower precipitation, and reduced glacial extent.

Energy generation: Thermal generation is at risk to higher and more extreme air temperatures.

Transport: Increased risk of flooding and landslides from extreme precipitation events, permafrost melt, and glacial lake outbursts.

Countries in Central Asia have a wide range of CO₂ emissions

Annual CO₂ emissions per capita in 2010 (tCO₂)



Price Tag of Climate Mitigation and Adaptation in Developing Countries

**\$140-
\$175
billion**

- Annual **mitigation costs** in developing countries by 2030¹

**\$40
billion**

- Annual **adaptation costs** in developing countries in Asia and the Pacific until 2050²

¹IBRD/WB (2010) World Development Report.

²IBRD/WB (2010) Economics of Adaptation to Climate Change (Synthesis Report).

ADB supports climate change activities in Central Asia

Climate finance: First MDB accredited to implement projects funded by the >\$10b Green Climate Fund

Adaptation: >\$25m in adaptation finance in 2014
>\$25m investments in Tajikistan under the Pilot Program for Climate Resilience (2013-2020)

Mitigation: >\$350m in mitigation finance in 2014
>\$300m Samarkand Solar Power Project in Uzbekistan (2013-2017)

Opportunities for cooperation on climate change

- Project development and climate finance
- UN FCCC climate negotiations
- Addressing cross-border cross-sector impacts
- Hydrometeorological monitoring
- Research and forecasting
- Mitigation and adaptation technology transfer
- Emissions trading

Key Points

Climate change is real.

Climate change costs money.

Business as usual development is out.

Low carbon and climate resilient
development is in.

THANK YOU

Nathan Rive
Climate Change Specialist
CWER

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