

COUNTRY PROFILE

KAZAKHSTAN

CLIMATE: **LOW** CARBON: **MODERATE**

THE MONITOR ASSESSMENT

The Climate Vulnerability Monitor provides a comprehensive national-level assessment of vulnerabilities and impact specifically related to contemporary climate change and carbon intensiveness. This 2012 Monitor assessment was commissioned by the Climate Vulnerable Forum and has been independently developed by DARA. It is grounded in leading and up-to-date scientific studies, research and data assimilated on the basis of an externally reviewed methodology. The assessment spans 34 indicators of impact/vulnerability: 22 for climate change ("Climate") and 12 for carbon intensiveness ("Carbon"). Estimates in human, economic and environmental terms are for 2010 and 2030. Vulnerability at country-level and by indicator is comparative to the 184 countries included in the assessment.

→ For the full report, data & additional info: www.daraint.org/cvm2 - cvm@daraint.org - +34 915310372

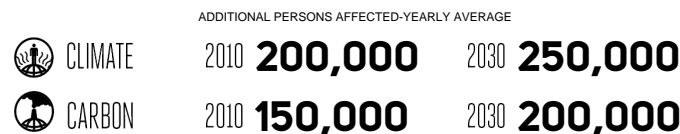
ECONOMIC NATIONAL LOSS TOTALS: KAZAKHSTAN

ADDITIONAL ECONOMIC COSTS (NEGATIVE NUMBERS SHOW POSITIVE EFFECTS) - YEARLY AVERAGE



HUMAN NATIONAL LOSS TOTALS: KAZAKHSTAN

ADDITIONAL HUMAN IMPACTS (NEGATIVE NUMBERS SHOW POSITIVE EFFECTS) - YEARLY AVERAGE



FULL COUNTRY ASSESSMENT: KAZAKHSTAN

	VULNERABILITY LEVEL		ADDITIONAL ECONOMIC COSTS (MILLION USD PPP)		ADDITIONAL MORTALITY		ADDITIONAL AFFECTED POPULATION (1000s)		OTHER VALUE 1*		OTHER VALUE 2*	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
ENVIRONMENTAL DISASTERS												
DROUGHT	+	-	5	20								
FLOODS AND LANDSLIDES			5	30	1	5	10	15				
STORMS												
WILDFIRES												
TOTAL			10	50	1	5	10	15				
HABITAT CHANGE												
BIODIVERSITY	-	+	950	5,000					-5,750	-10,000	50	150
DESERTIFICATION			-5	-45			0	-2	-150	-300		
HEATING AND COOLING			-150	-850					-2,500	-4,750	-2,500	-5,000
LABOUR PRODUCTIVITY			-250	-1,750					40	30		
PERMAFROST			200	800			75	150				
SEA-LEVEL RISE												
WATER			-50	-350					-0	-0		
TOTAL			695	2,805			74	148				
HEALTH IMPACT												
DIARRHEAL INFECTIONS					1	0	0					
HEAT AND COLD ILLNESSES					15	85						
HUNGER												
MALARIA AND VECTOR-BORNE							0	0				
MENINGITIS					40	45	0	0				
TOTAL					56	130	0	0				
INDUSTRY STRESS												
AGRICULTURE			-55	-400								
FISHERIES			5	85								
FORESTRY			5	75								
HYDRO ENERGY			-10	-70								
TOURISM												
TRANSPORT												
TOTAL			-55	-310								
CLIMATE TOTAL			650	2,545	57	135	84	163				
ENVIRONMENTAL DISASTERS												
OIL SANDS												
OIL SPILLS												
TOTAL			0	0								
HABITAT CHANGE												
BIODIVERSITY			350	2,250					15	65		
CORROSION	-	+	1	5								
WATER			1	5					55	75		
TOTAL			352	2260								
HEALTH IMPACT												
AIR POLLUTION	+	+			6,500	7,750	85	150				
INDOOR SMOKE					2,000	2,000	20	20				
OCCUPATIONAL HAZARDS	+	+			300	350	45	45				
SKIN CANCER	-	-			50	100	0	0				
TOTAL					8850	10200	150	215				
INDUSTRY STRESS												
AGRICULTURE	+	+	150	300								
FISHERIES												
FORESTRY												
TOTAL			150	300								
CARBON TOTAL			502	2,560	8,850	10,200	150	215				

VULNERABILITY LEVELS:

- Acute+ High+
- Acute- High-
- Severe+ Moderate
- Severe- Low

+ = Upper tier of vulnerability level
- = Lower tier of vulnerability level

- Environmental disasters
- Habitat change
- Health impact
- Industry stress
- CLIMATE = Impact/Vulnerability to Climate Change
- CARBON = Impact/Vulnerability to Carbon Intensiveness

OTHER VALUE 1 OTHER VALUE 2

- BIODIVERSITY: Contraction of biological zones (km²) (cumulative) / Decline in biological richness
- DESERTIFICATION: Additional land degraded (km²) (cumulative)
- HEATING & COOLING: Change in energy load (GWh)
- LABOUR PRODUCTIVITY: Share of workforce particularly affected (%)
- SEA-LEVEL RISE: Net loss of land (km²) (cumulative)
- WATER: Loss in water runoff 2030 (km³)
- OIL SANDS: Tonnes toxic waste ('000s)
- OIL SPILLS: Gallons oil spill ('000s)
- BIODIVERSITY: Decline in biological richness
- WATER: Volume of water to treat (millions m³)