CLIMATE VULNERABILITY MONITOR

DARA

Climate Vulnerable Forum

COUNTRY PROFILE

SOUTH AFRICA

CLIMATE: MODERATE CARBON: HIGH

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: SOUTH AFRICA

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

CLIMATE CHANGE IMPACT

LOSSES PER YEAR

2010 **0.9%GDP**
2030 **1.9%GDP**

CARBON INTENSIVENESS IMPACT

LOSSES PER YEAR

2010 **0.7%GDP**
2030 **1.0%GDP**

HUMAN NATIONAL LOSS TOTALS: SOUTH AFRICA

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

CLIMATE +CARBON COMBINED

ADDITIONAL MORTALITY-YEARLY AVERAGE

2010 **15,000**
2030 **20,000**

CLIMATE

ADDITIONAL PERSONS AFFECTED-YEARLY AVERAGE

2010 **11,350,000** 2030 **17,450,000**

CARBON

2010 **600,000** 2030 **850,000**

FULL COUNTRY ASSESSMENT: SOUTH AFRICA

		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
CLIMATE	**ENVIRONMENTAL DISASTERS**												
	DROUGHT	-	+	50	250								
	FLOODS AND LANDSLIDES			5	35	1	1	5	4				
	STORMS			5	20								
	WILDFIRES	-	-	0	1								
	TOTAL			60	306	1	1	5	4				
	HABITAT CHANGE												
	BIODIVERSITY	-	+	1,750	10,000					-5,250	-10,000	150	400
	DESERTIFICATION			-5	-25			-3	-7	-90	-200		
	HEATING AND COOLING			-200	-1,000					-3,250	-5,500	-3,000	-5,250
	LABOUR PRODUCTIVITY			1,250	7,250					32	27		
	PERMAFROST												
	SEA-LEVEL RISE			600	3,000			0	0	65	200		
	WATER	-	+	550	3,500					5	5		
	TOTAL			3,945	22,725			-3	-6				
	HEALTH IMPACT												
	DIARRHEAL INFECTIONS	-	+			1,000	2,000	9					
	HEAT AND COLD ILLNESSES					-300	-1,250						
	HUNGER	-	-			1,250	1,750	0	1				
	MALARIA AND VECTOR-BORNE					5	5	2	2				
	MENINGITIS	+	-			700	700	2	2				
	TOTAL					2,655	3,205	13	5				
	INDUSTRY STRESS												
	AGRICULTURE		-	550	3,750								
	FISHERIES		-	300	3,000								
	FORESTRY			-5	-60								
	HYDRO ENERGY			-1	-5								
	TOURISM			-60	-400								
	TRANSPORT												
	TOTAL			784	6,285								
	CLIMATE TOTAL			**4,789**	**29,316**	**2,656**	**3,206**	**16**	**3**				
CARBON	**ENVIRONMENTAL DISASTERS**												
	OIL SANDS												
	OIL SPILLS			5	10					30	35		
	TOTAL			5	10								
	HABITAT CHANGE												
	BIODIVERSITY			1,500	9,000					100	300		
	CORROSION	-	+	10	35								
	WATER												
	TOTAL			1510	9035								
	HEALTH IMPACT												
	AIR POLLUTION	-	+			7,500	8,750	150	400				
	INDOOR SMOKE					5,500	4,000	300	250				
	OCCUPATIONAL HAZARDS	+	+			800	1,250	150	200				
	SKIN CANCER	-	+			350	650	0	1				
	TOTAL					14150	14650	600	851				
	INDUSTRY STRESS												
	AGRICULTURE			40	-300								
	FISHERIES				1								
	FORESTRY	-	+	500	2,000								
	TOTAL			540	1701								
	CARBON TOTAL			**2,055**	**10,746**	**14,150**	**14,650**	**600**	**851**				

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 (km^2) (cumulative)	Decline in biological richness
DESERTIFICATION	Additional land degraded (km^2) (cumulative)	
HEATING & COOLING	Change in energy load (GWh)	
LABOUR PRODUCTIVITY	Share of workforce particularly affected (%)	
SEA-LEVEL RISE	Net loss of land (km^2) (cumulative)	
WATER	Loss in water runoff 2030 (km^3)	
OIL SANDS	Tonnes toxic waste (1000s)	
OIL SPILLS	Gallons oil spill (1000s)	
BIODIVERSITY	Decline in biological richness	
WATER	Volume of water to treat (millions m^3)	