

COUNTRY PROFILE

SOUTH KOREA

CLIMATE: **MODERATE** 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: SOUTH KOREA

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

LOSSES PER YEAR

CLIMATE CHANGE IMPACT

2010 **0.3%GDP**

2030 **0.4%GDP**

LOSSES PER YEAR

CARBON INTENSIVENESS IMPACT

2010 **NIL**

2030 **NIL**

HUMAN NATIONAL LOSS TOTALS: SOUTH KOREA

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

ADDITIONAL MORTALITY-YEARLY AVERAGE

CLIMATE + CARBON COMBINED

2010 **10,000**

2030 **15,000**

ADDITIONAL PERSONS AFFECTED-YEARLY AVERAGE

CLIMATE

2010 **1,650,000** 2030 **550,000**

CARBON

2010 **450,000** 2030 **850,000**

FULL COUNTRY ASSESSMENT: SOUTH KOREA

| | 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 | - | - | 55 | 250 | | | | | | | | |
| FLOODS AND LANDSLIDES | - | - | 95 | 800 | 5 | 5 | 25 | 20 | | | | |
| STORMS | - | - | 600 | 4,750 | | -1 | 0 | 0 | | | | |
| WILDFIRES | | | | | | | | | | | | |
| TOTAL | | | 750 | 5,800 | 5 | 4 | 24 | 19 | | | | |
| HABITAT CHANGE | | | | | | | | | | | | |
| BIODIVERSITY | | | 500 | 4,000 | | | | | -550 | -1,000 | 100 | 350 |
| DESERTIFICATION | | | -250 | -1,750 | | | -1,000 | -2,000 | -2,000 | -4,000 | | |
| HEATING AND COOLING | | | -150 | -1,250 | | | | | -1,750 | -3,500 | -950 | -2,000 |
| LABOUR PRODUCTIVITY | | | 150 | 1,000 | | | | | 6 | 6 | | |
| PERMAFROST | | | | | | | | | | | | |
| SEA-LEVEL RISE | | | 2,500 | 10,000 | | | 2 | 2 | 10 | 15 | | |
| WATER | | | -85 | -650 | | | | | -0 | -1 | | |
| TOTAL | | | 2,665 | 11,350 | | | -997 | -1,997 | | | | |
| HEALTH IMPACT | | | | | | | | | | | | |
| DIARRHEAL INFECTIONS | | | | | 5 | 0 | 0 | 0 | | | | |
| HEAT AND COLD ILLNESSES | | | | | -1 | 30 | | | | | | |
| HUNGER | | | | | 55 | 90 | 0 | 0 | | | | |
| MALARIA AND VECTOR-BORNE | | | | | 1 | 1 | 0 | 0 | | | | |
| MENINGITIS | | | | | 5 | 5 | 0 | 0 | | | | |
| TOTAL | | | | | 65 | 126 | 0 | 1 | | | | |
| INDUSTRY STRESS | | | | | | | | | | | | |
| AGRICULTURE | | | 550 | 3,250 | | | | | | | | |
| FISHERIES | | | 200 | 1,750 | | | | | | | | |
| FORESTRY | | | 1 | 15 | | | | | | | | |
| HYDRO ENERGY | | | -5 | -40 | | | | | | | | |
| TOURISM | | | -35 | -150 | | | | | | | | |
| TRANSPORT | | | | | | | | | | | | |
| TOTAL | | | 711 | 4,825 | | | | | | | | |
| CLIMATE TOTAL | | | 4,126 | 21,975 | 69 | 129 | -971 | -1,976 | | | | |
| CARBON | | | | | | | | | | | | |
| ENVIRONMENTAL DISASTERS | | | | | | | | | | | | |
| OIL SANDS | | | | | | | | | | | | |
| OIL SPILLS | | | 55 | 250 | | | | | 150 | 150 | | |
| TOTAL | | | 55 | 250 | | | | | | | | |
| HABITAT CHANGE | | | | | | | | | | | | |
| BIODIVERSITY | | | 350 | 2,750 | | | | | 100 | 300 | | |
| CORROSION | + | + | 80 | 450 | | | | | | | | |
| WATER | | | 30 | 150 | | | | | 650 | 850 | | |
| TOTAL | | | 460 | 3350 | | | | | | | | |
| HEALTH IMPACT | | | | | | | | | | | | |
| AIR POLLUTION | - | + | | | 10,000 | 15,000 | 300 | 600 | | | | |
| INDOOR SMOKE | | | | | | | | | | | | |
| OCCUPATIONAL HAZARDS | + | - | | | 200 | 250 | 150 | 250 | | | | |
| SKIN CANCER | - | + | | | 100 | 250 | 0 | 1 | | | | |
| TOTAL | | | | | 10300 | 15500 | 450 | 851 | | | | |
| INDUSTRY STRESS | | | | | | | | | | | | |
| AGRICULTURE | | | -95 | -4,750 | | | | | | | | |
| FISHERIES | + | + | 250 | 2,000 | | | | | | | | |
| FORESTRY | | - | 200 | 1,000 | | | | | | | | |
| TOTAL | | | 355 | -1750 | | | | | | | | |
| CARBON TOTAL | | | 870 | 1,850 | 10,300 | 15,500 | 450 | 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 (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 (1000s)

OIL SPILLS Gallons oil spill (1000s)

BIODIVERSITY Decline in biological richness

WATER Volume of water to treat (millions m³)