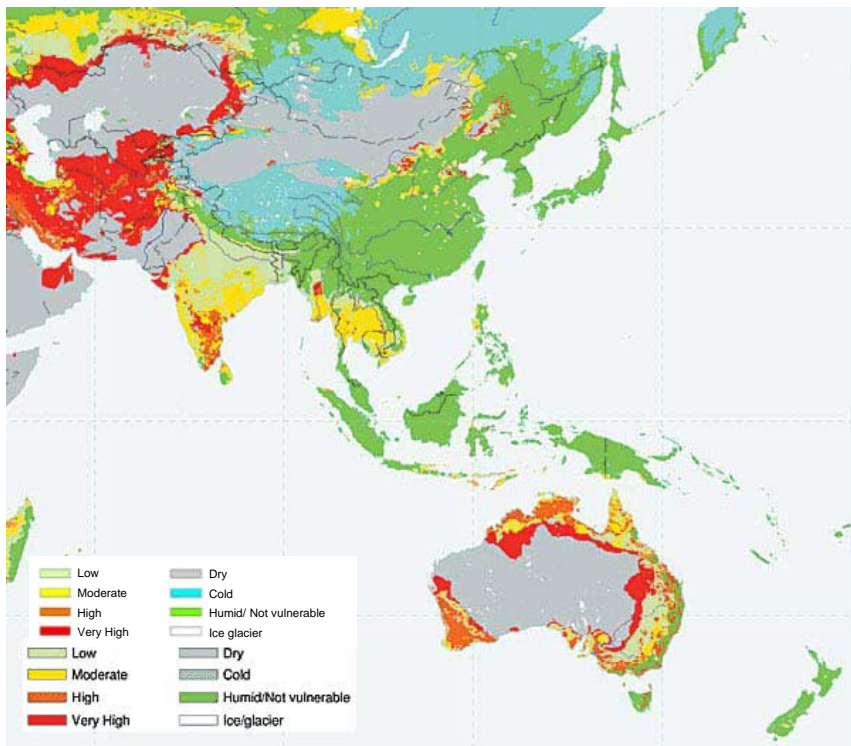




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Desertification vulnerability in Asia (Reich et al. 2001)

Area classified as drylands:

| | | |
|----------------|----------------|------------------------|
| UNDP/UNSO 1997 | total: | 1,840 million ha (39%) |
| | arid: | 616 million ha (14%) |
| | semi-arid: | 765 million ha (16%) |
| | dry sub-humid: | 459 million ha (9%) |

Degraded drylands in Asia and Oceania excluding Western Asia: (Zika & Erb 2009)

| Region | Degraded area (million km ²) | Percent of dryland area |
|-----------------------------------|--|-------------------------|
| Central Asia & Russian Federation | 1.432 | 19.5 |
| Eastern Asia | 1.887 | 45.3 |
| Southern Asia | 1.437 | 30.9 |
| Oceania & Australia | 0.866 | 13.2 |

Degraded crop land in the drylands of Asia and Oceania excluding Western Asia: (Zika & Erb 2009)

| Region | Degraded area (million km ²) | Percent of crop land area |
|-----------------------------------|--|---------------------------|
| Central Asia & Russian Federation | 0.418 | 37 |
| Eastern Asia | 0.214 | 52 |
| Southern Asia | 0.698 | 43 |
| Oceania & Australia | 0.057 | 15 |

Selected statistics of degrading areas 1981-2003 China and Russia including humid areas: (Bai et al. 2008)

| Country | Degraded area 1981-2003 (million km ²) | Territory (%) | Global degrading area 1981-2003 (%) | Total NPP loss (T C/23 yr) | Total population (%) | Affected people |
|---------|--|---------------|-------------------------------------|----------------------------|----------------------|-----------------|
| China | 2.194 | 22.85 | 7.627 | 58,840,237 | 34.71 | 457,202,031 |
| Russia | 2.802 | 16.41 | 16.519 | 56,663,083 | 6.20 | 8,588,604 |

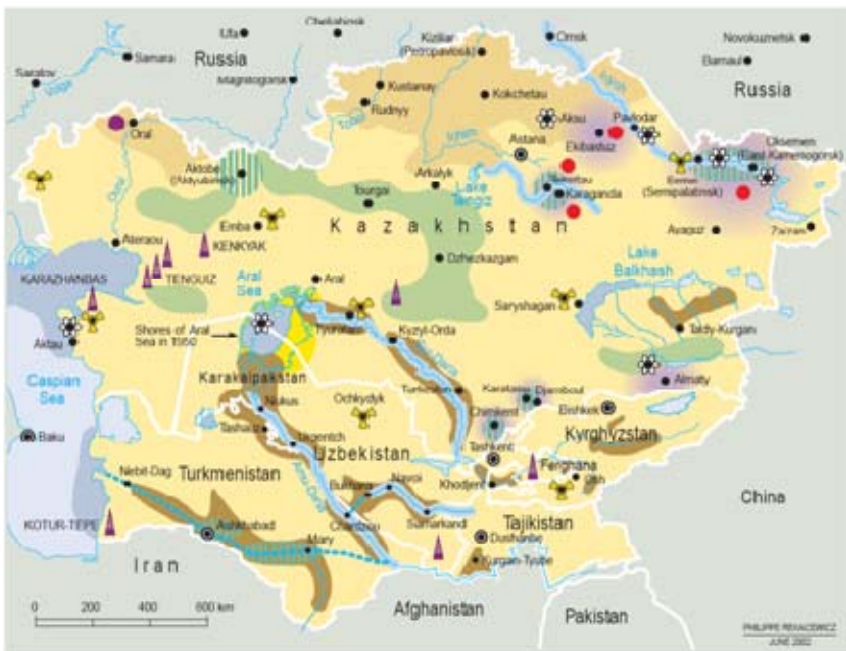
Note: Reliability, validity and accuracy of the presented data are subject to debate. Objective of this data compilation is to provide a brief overview of the most significant facts on the magnitude and dimension of desertification-related problems. For more detailed information see the referenced literature.



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Schematic Map of Environmental Degradation in Central Asia (UNEP/GRID Arendal 2002)



CENTRAL ASIA IN PERIL

- Wind erosion
 - Overgrazing
 - Salinization
 - Desertification
 - Serious atmospheric pollution
 - Radioactive contamination
 - Dangerous defence industries (chemical, nuclear and biological)
 - Oil exploration
 - Dangerous industrial waste storage
 - Lakes, seas (1),
 - rivers (2) and
 - groundwater (3) contaminated by industrial or agricultural pollution
- Sources: Ruben Mnatsakanian, *L'Héritage écologique du communisme dans les républiques de l'ex-URSS*, Frison-Roche, Paris, 1994; *Atlas of the USSR* (in Russian), Moscow, 1985.

Type of human-induced soil degradation in drylands: UNEP/GLASOD 1997

| Type of soil degradation | Degraded (million ha) | Percentage of degraded drylands |
|--------------------------|-----------------------|---------------------------------|
| water erosion | 158 | 42 |
| wind erosion | 153 | 41 |
| chemical deterioration | 50 | 14 |
| physical degradation | 10 | 3 |

Status of desertification in agriculturally used drylands: (Dregne 1991)

| Type of land use in drylands | Total (million ha) | De-graded (million ha) | De-graded (%) |
|------------------------------|--------------------|------------------------|---------------|
| irrigated lands | 92 | 32 | 35 |
| rainfed croplands | 218 | 122 | 56 |
| rangeland | 1,881 | 1,311 | 70 |

Economic costs of desertification: *AGDP = Agricultural Gross Domestic Product, GDP = Gross Domestic Product

| Selected region/ country | Gross annual income loss (US\$ billion) |
|--------------------------------------|---|
| Asia (total) | 20.9 (direct costs) <i>Dregne 1991</i> |
| South & Southeast Asia (8 countries) | 9.8 - 11(7% of AGDP*) <i>Young 1994</i> |
| China | 7.7 direct costs 31 indirect costs (4% of GDP*) <i>Berry et al. 2003, referring to the year 1999</i> |
| Turkmenistan | Cumulative losses: Direct: 112 million Indirect: 234 million <i>NAP Turkmenistan 1996</i> |