

Roman numbers: Existence (10^{12} ton), **Italics:** Transport (10^{12} ton/year)
 Prepared from Korzun (1978), Xie and Arkin (1996) and ECMWF data

Figure 1. Water Geocycles on the Earth

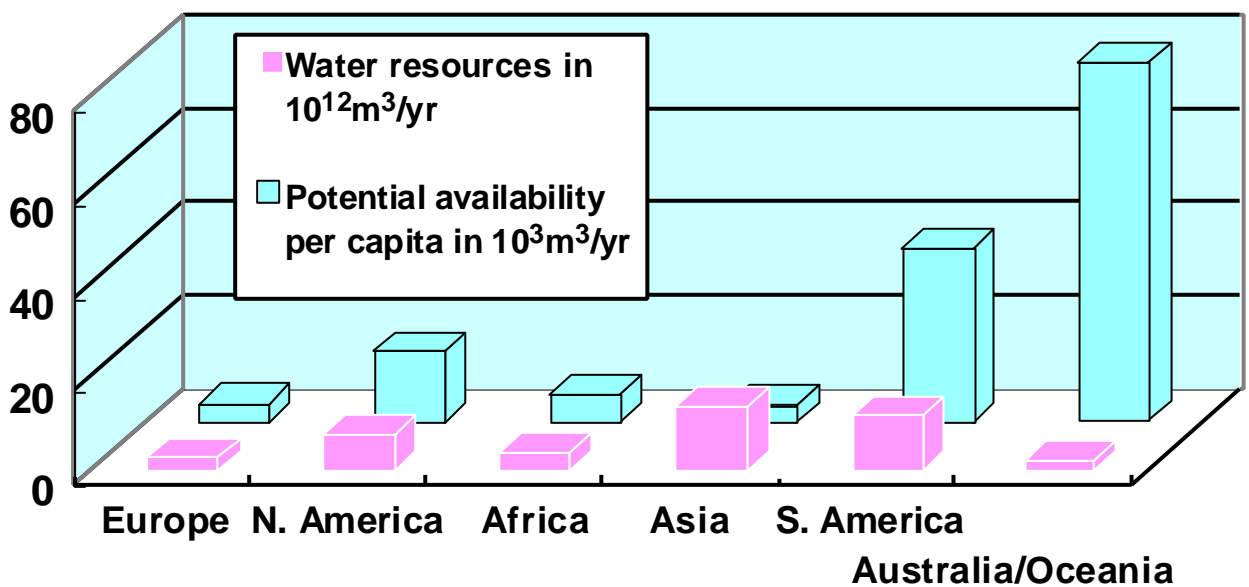
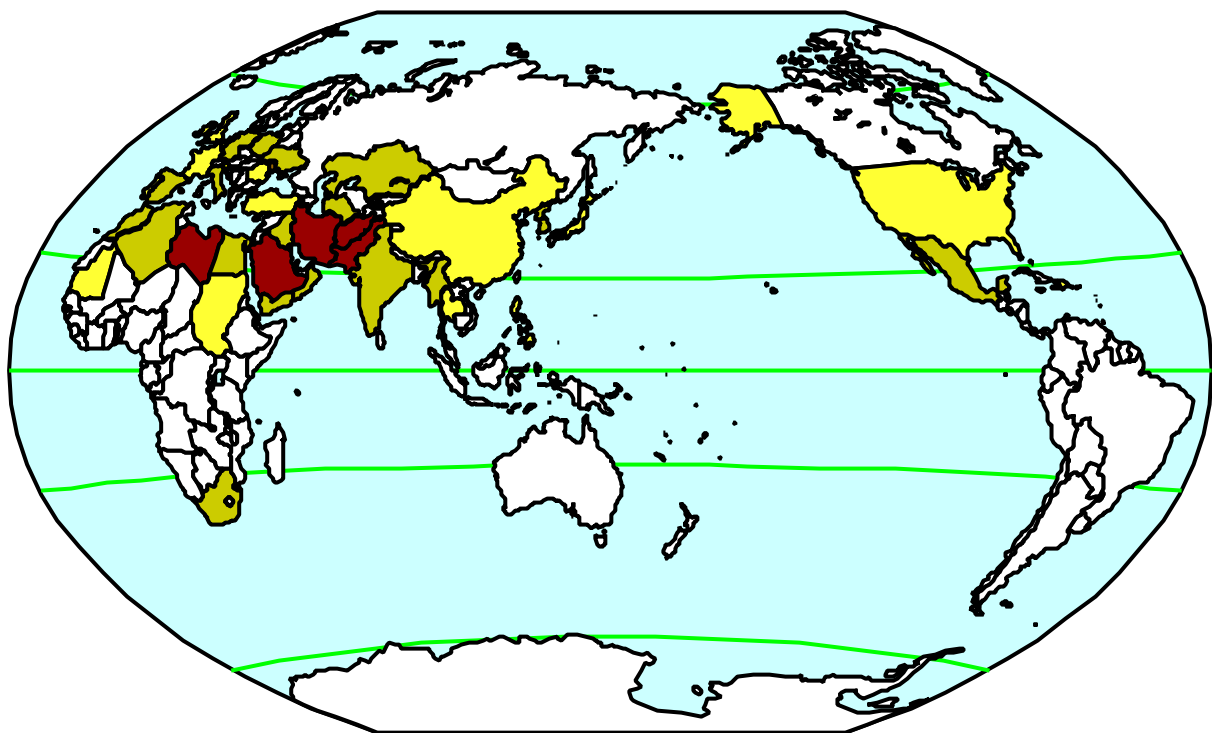


Figure 2. Water resources and potential availability per capita in 6 continents



Over 40%
 20-40%
 10-20%
 Under 10%

Under 10%: Low water stress. Countries that use less than 10 per cent of their available freshwater generally do not experience major stresses in respect of the available resources;

10-20%: Moderate water stress. Use in the range of 10-20 per cent of available water generally indicates that availability is becoming a limiting factor, and significant effort and investments are needed to increase supply and reduce demand;

20-40%: Medium-high water stress. When water withdrawals are in the range of 20-40 per cent of the water available, management of both supply and demand will be required to ensure that the uses remain sustainable. There will be a need to resolve competing human uses, and aquatic ecosystems will require special attention to ensure that they have adequate water flows. Developing countries in particular will need major investments to improve water-use efficiency, and the portion of gross national product (GNP) allocated to water resources management can become substantial;

Over 40%: High water stress. Use of more than 40 per cent of available water indicates serious scarcity, and usually an increasing dependence on desalination and use of groundwater faster than it is replenished. This means that there is an urgent need for intensive management of supply and demand. Present use patterns and withdrawals may not be sustainable, and water scarcity can become the limiting factor to economic growth.

Figure 3. Water withdrawal as a percentage of water availability, 1995

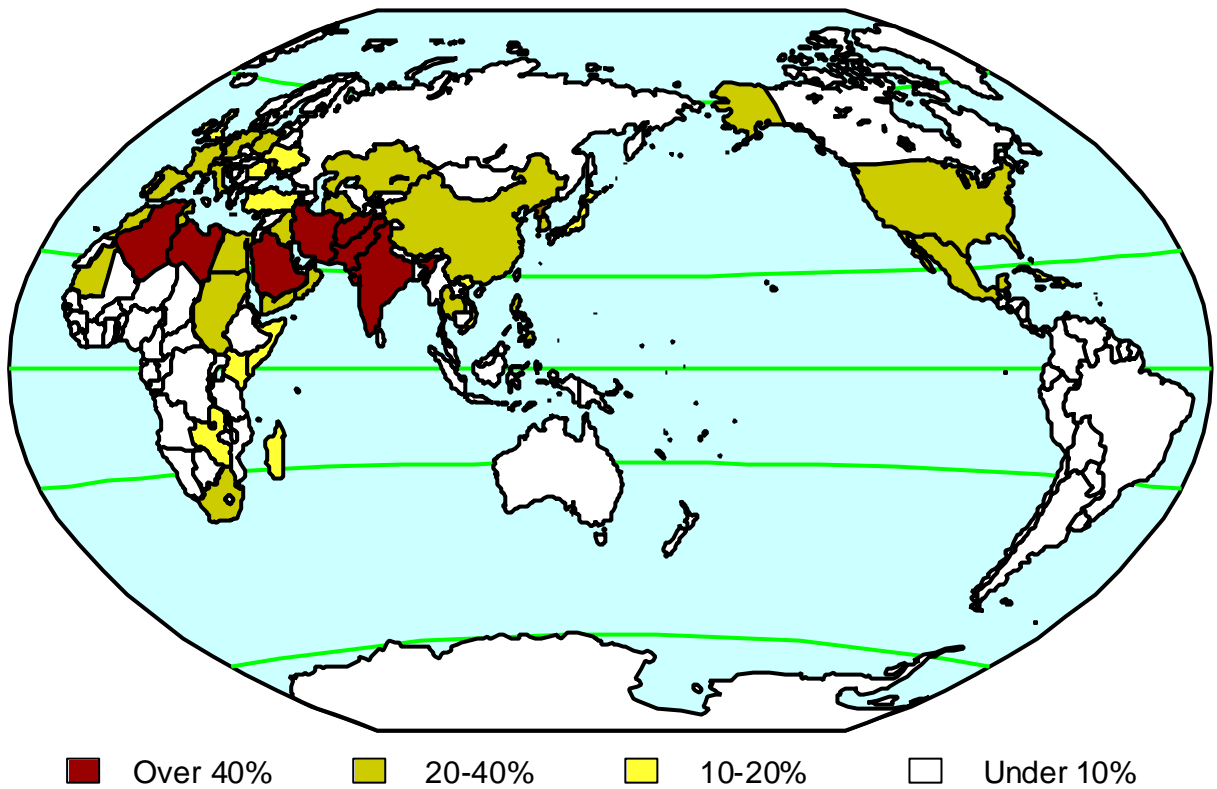
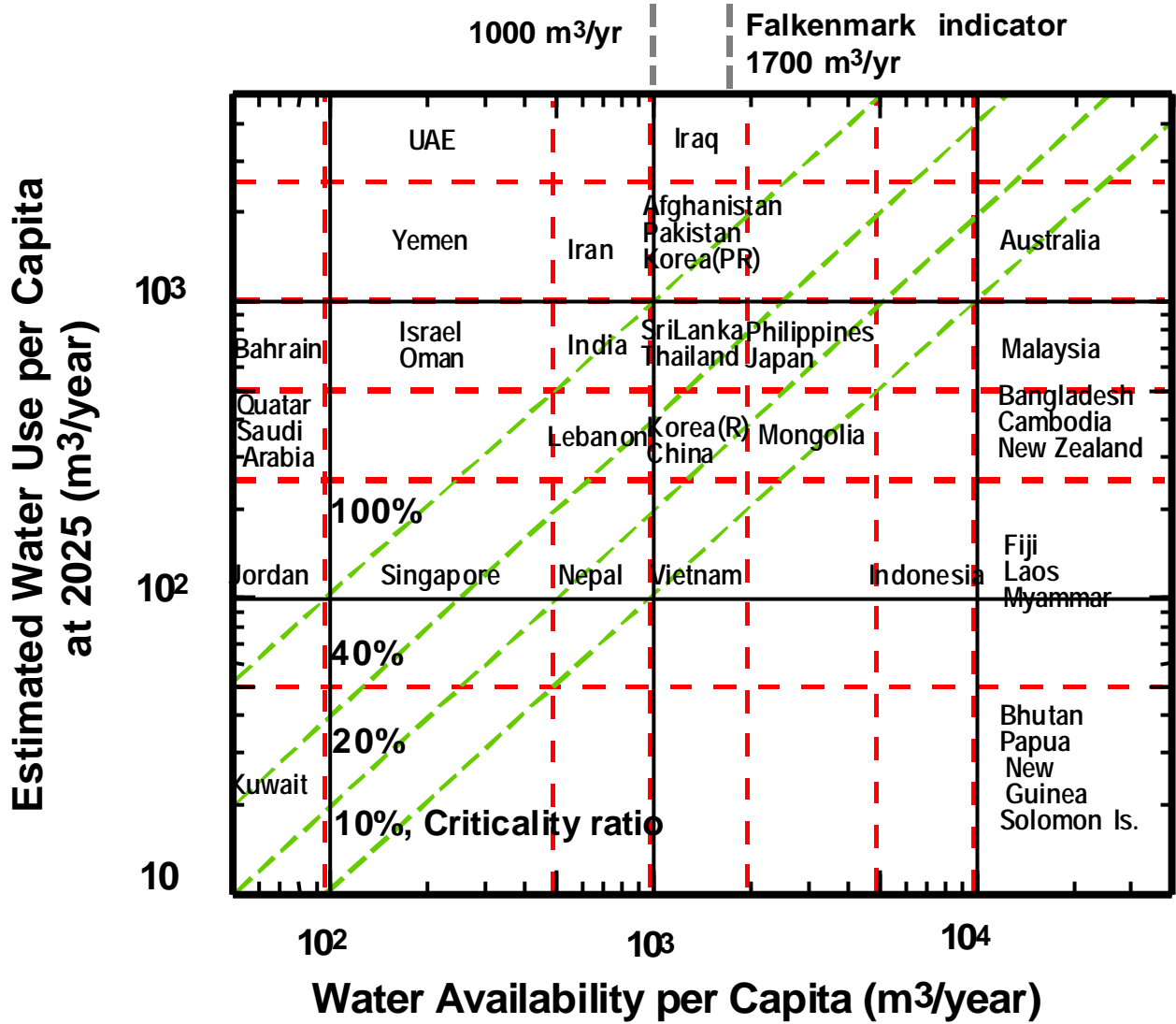


Figure 4. Water withdrawal as a percentage of water availability, 2025



Falkenmark indicator suggests that in the total amount of renewable water resources per capita per year becomes less than 1700 m³, then water stress begins and stress becomes severe when there is less than 1000 m³.

Criticality ratio is used to show that water stress becomes high when water use exceeds 40% of the available water resources

Figure 5 Water use and availability per capita in Asian countries in 2025