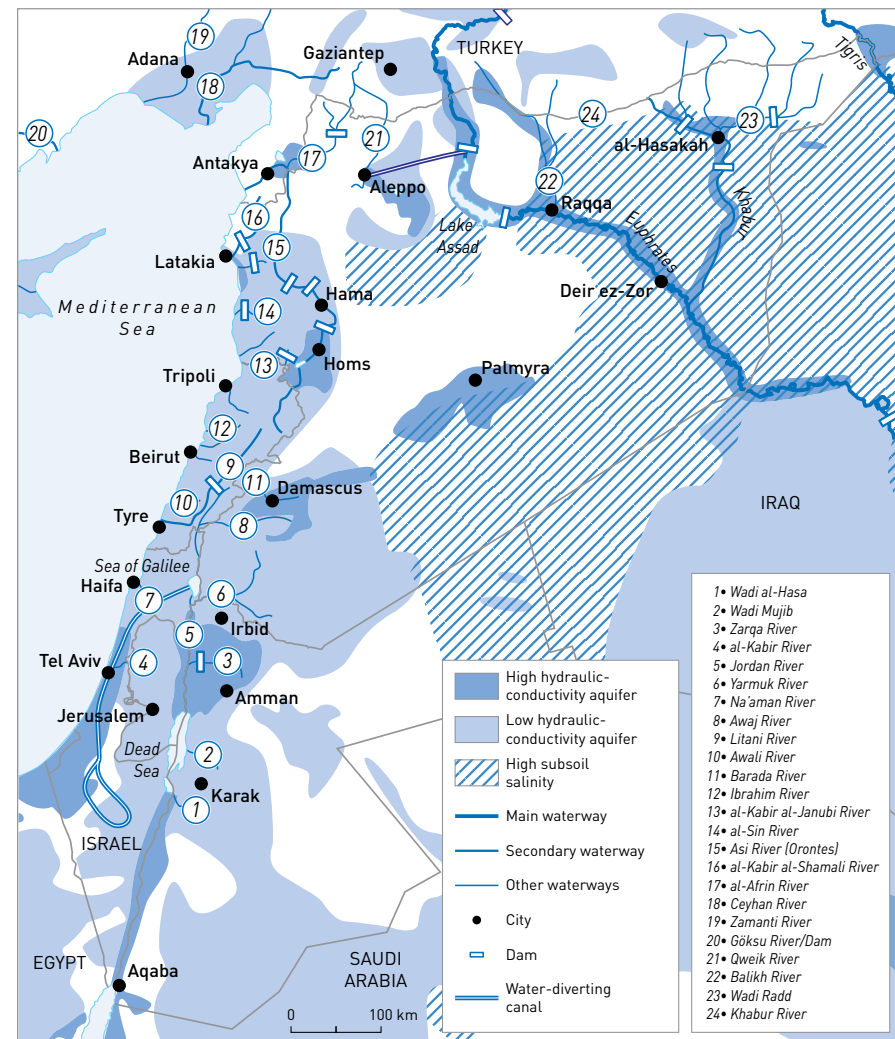


Overexploited Water Resources

The Near East is disadvantaged due to a poor distribution of rainfall over time and space. The coastal mountains receive a great deal of rain during the winter but these water courses are captured by the great tectonic disturbance of the Levant and rarely turn east. The waters of the Jordan River descend to the depression of the Dead Sea where the heat and sun lead to intense evaporation. The waters of the Litani River, al-Sin River, al-Kabir al-Shamali River, and other small coastal rivers empty into the sea after a few dozen kilometres. Only the Orontes River, more than 500 kilometres in length, meanders through the inland plains of Syria before reaching the Ghab Depression and then rejoining the Mediterranean beyond Antioch. Some rivers flow down directly to the east, the most famous one being the Barada River, which has its source in the Anti-Lebanon and which created the Ghouta (an oasis born from an endorheic river) at Damascus. In the Anti-Lebanon and Jordanian mountains, small water sources captured by man create many *ghoutas* in a steppe environment.

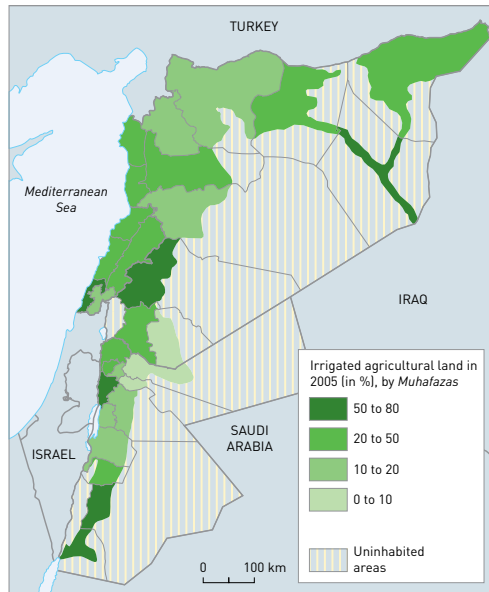
Northern Syria benefits from non-indigenous water courses, notably the Euphrates and its tributaries, the Balikh, which originates just south of the Syrian-Turkish border, and the Khabur, which originates in springs in Turkey. Syria draws two-thirds of its water supply from this basin, especially water used to irrigate the immense agricultural areas in the northeast of the country. However, the Euphrates is not the Nile; its flow volume is less than one-third that of the great African river and the inter-annual irregularity varies from 1 to 4 versus only 1 to 2 for the Nile. Attempts are made to control the variation and retain water by means of dams, but holding it in artificial lakes in an arid and hot climate leads to high levels of evaporation (15 per cent of the available water). The Euphrates runs through an area that is not suited for the retention of underground water because of its geological structure and the high degree of salt in the soil. The cereal-based agriculture of northeast Syria requires extremely large quantities of water as the soil demands considerable drainage to keep the fields from becoming unsuitable for farming. The west and east of the Near East are more propitious for the formation of aquifers, but they must still be supplied by rivers and abundant rainfall. In southern Jordan, the weak water recharge, together with the intensity with which it is drawn, leads to

HYDROGRAPHY AND HYDROGEOLOGY



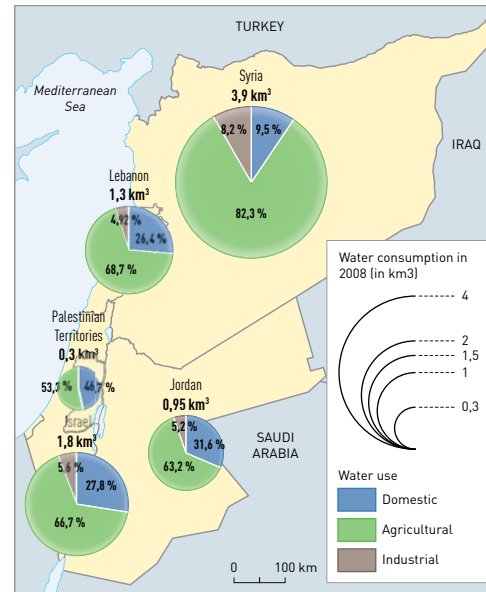
Source: Tübinger Atlas des Vorderen Orients.

IRRIGATED AGRICULTURAL LAND (2005)



Source: statistical yearbooks from various countries.

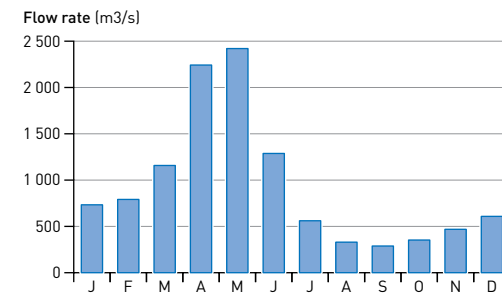
BREAKDOWN OF WATER CONSUMPTION



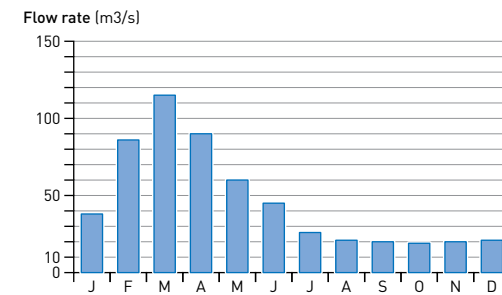
Source: Blue Plan and the Jordanian Ministry of Water.

VERY IRREGULAR FLOW RATES

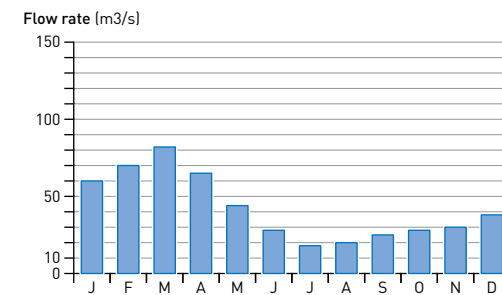
EUPHRATES (on the Syrian-Turkish border)



ORONTES (at Homs)



JORDAN (upstream from the Sea of Galilee)



Source: FAO, Aqustat, 2008.

the depletion of the resource. In the case of coastal aquifers, like the one located between Gaza and Haifa, intrusions of seawater lead to groundwater salinisation.

The supply of water from the Jordan River Basin to the Israeli coastline is no longer sufficient to offset the deficit. Israel is obliged to increase the number of desalination plants.

Practically all natural hydraulic resources in the Near East have been implemented. In Lebanon there remains a certain margin to establish facilities, but this has not happened because the absence of a public policy since the civil war (1975–90) limited the construction of hydraulic structures. Everywhere the consumption of water is constantly

increasing as a result of the expansion of irrigated areas and the growth of the population and its needs. To satisfy domestic consumption the states reduce the amount of water available for agriculture, the largest consumer sector, and force farmers to modernise their irrigation techniques. However, quite often the costs of modernisation are so prohibitive that the land is simply abandoned to urbanisation or to the steppe. The reprocessing of used water would increase the available water, but once again the costs are very high. Conservation of water resources demands more realistic water prices which many states cannot enforce without risking the social peace.