The impact of climate change on Central Asian hydro-politics

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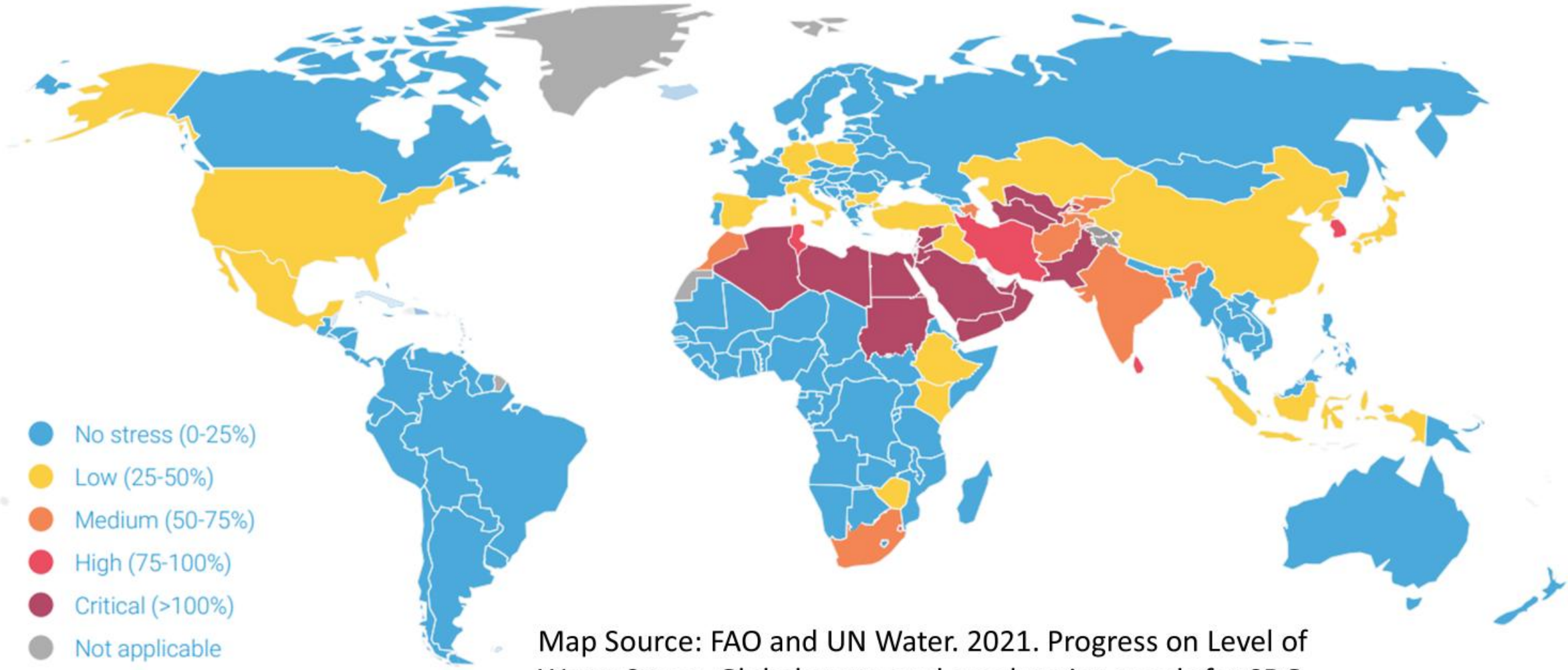
Levels of water stress by country



Map Source: FAO and UN Water. 2021. Progress on Level of Water Stress. Global status and acceleration needs for SDG Indicator 6.4.2, 2021. Rome. https://doi.org/10.4060/cb6241en


Muynak
Karakalpakstan 7.9
Planned collector
Sarygamysh Lake
Dashoguz 6.5
Horezm 4.4 (UZB)
Golden Age Lake (under construction)
Dashoguz Collector (under construction)
Lebap 3.9
UZBEKISTAN
TURKMENISTAN
Great Turkmen Collector (under construction)
Ashgabat
1.5
0.9
Karakum Canal 11
Murgab
Tejen
I.R. OF IRAN
Hari Rud
Syr Darya
KAZ 10
1
Chirchik-Charvak
Tashkent
9
(37)
Aydar Lake
UZB 5.3
UZB 10
Zarafshan
Amu-Bukhara 5.2
Kashkadarya
1.2
5.3
0.3
Karshi 4.19
Sherabad
UZB 1.4
0.2
4
0.5
5.6
Amu Darya
20.2
33.3
Prospective expansion of irrigation
Rivers of Northern Afghanistan: 6.1
AFGHANISTAN
Kunduz
Kabul
Kokcha
Bishkek
KYRGYZ REP.
Naryn
Ahangaran
UZB 10
15
KYR 3
Kara Darya
4
TJK 2
1
2
Rivers of Ferghana Valley: 8
KYR 0.1
CHINA
Kafarnigan
TJK 6.6
0.6
Vakhsh
Dushanbe
TAJIKISTAN
Surhandarya
1.5
Panj
Average river flow and water intake by canals (km³/year)
70 Water discharge
30 (km³/year)
10
5
Mountain regions above 2000 metres
Irrigated lands

- The regional picture of hydro-politics reveals three dynamics, each of them differently vulnerable to conflict risks depending on the power relations between riparian states. Water allocation could be challenged by a hydro-hegemon and so the existence of a legal framework is an important element for conflict prevention.
- Recognition of the adverse effects of climate change at the political level and the assessment of future water stress risks have resulted in a shift in the security landscape. While the primary conflict used to be between upstream and downstream countries, a more complex security situation is now emerging. Conflict risks are increasing in regions most susceptible to water stress, particularly in the southern part of Central Asia, as well as in areas dependent on small rivers.
- Recognition of the threat posed by climate change to the region has improved the negotiating positions of the less powerful upstream countries. It is highly likely that new water agreements will be centred around guaranteed volumes of water collection in the reservoirs of the upstream countries (Kyrgyzstan and Tajikistan). Water allocation in the Amu Darya will depend on the success of the riparian countries' negotiations with Afghanistan.
- The challenges posed by climate change, which also play a role in threat perception discourse, have led to new interdependencies beyond the Aral Sea basin. Kyrgyzstan recently formalized an agreement with China pertaining to the development of the Sary-Jaz cascade of hydropower plants. Kazakhstan, in parallel, has reignited discussions (amongst experts) concerning the diversion of Siberian rivers, a project with significant implications for regional water dynamics. In 2004, Iran and Turkmenistan built the “Friendship” reservoir which broke with Soviet era hydro-political efforts to prevent Iran from building facilities in transborder rivers.