Assessment of agricultural drought severity in Afghanistan for 2022

Assessing agricultural drought severity is critical for food security. Remote sensing data, particularly the Vegetation Condition Index (VCI) from MODIS product[1], helps evaluate drought extent. Monthly VCI maps from January to April are merged to create a comprehensive growing season map, categorized into five drought severity classes. This map is then visualized using a hexagon grid with cells of approximately 350 square kilometers. The 2022 drought severity assessment reveals that numerous provinces in Afghanistan experienced higher levels of drought, especially in the extreme and severe classes. These findings are important for the Afghanistan Emergency Food Security Project (OSRO/AFG/213/WBK), providing essential information to address food security challenges and implement appropriate interventions.
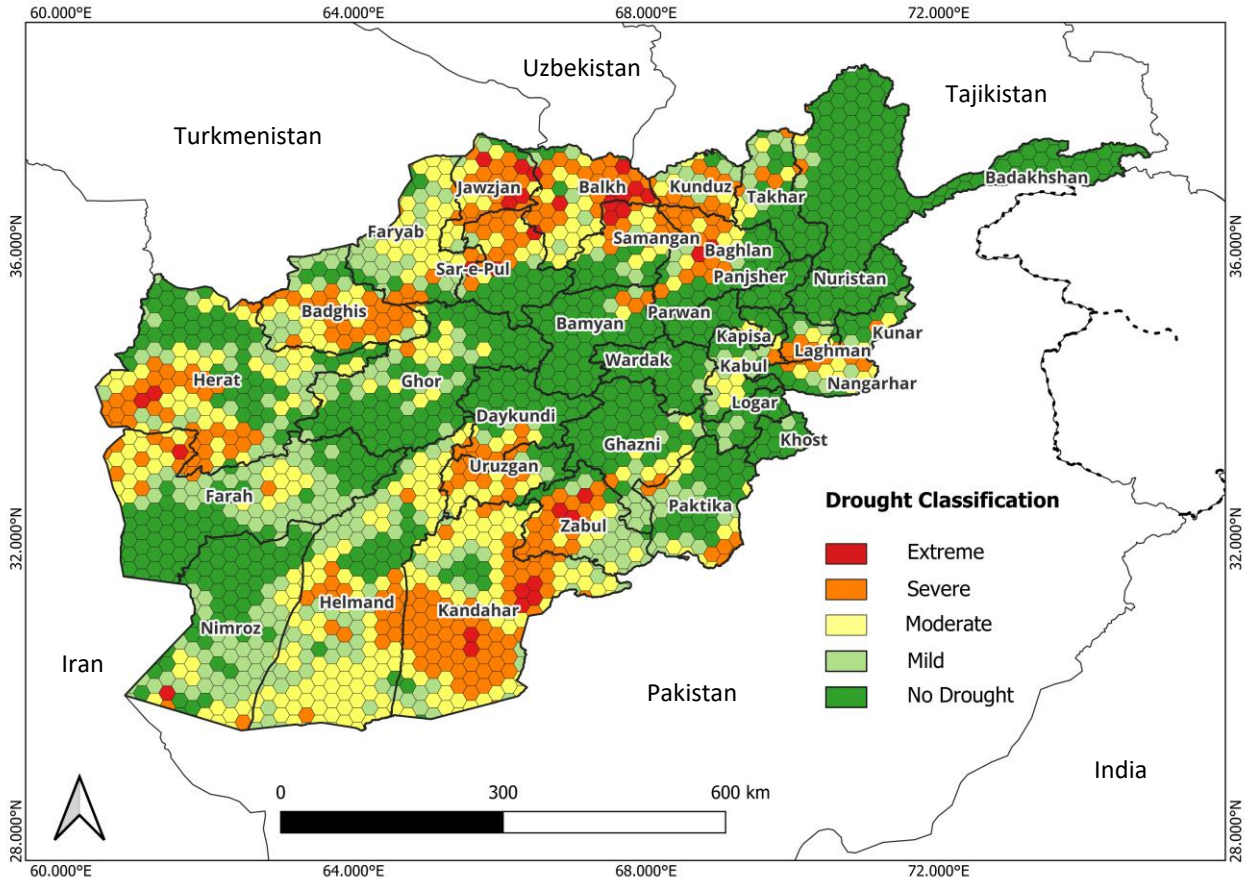

Drought Classification
- Extreme
- Severe
- Moderate
- Mild
- No Drought

Figure 1: Spatial distribution of drought classification in 2022 in Afghanistan.[2]

Key Finding:

The results indicate that significant drought conditions were observed across various regions, including southern, northern, and western. These conditions were classified into five classes, including extreme (6 percent), severe (17 percent), moderate (17 percent), mild (14 percent), and no drought (45 percent). Table 1 shows the provinces that were most affected by extreme and severe drought.

Table 1: Example of five top most provinces affected by extreme and severe drought (percentage of the province and extent in km[2]) in 2022.

Province	Extreme km²	(%)	Province	Severe km²	(%)
Herat	5 915	12	Kandahar	25 107	19
Farah	4 904	10	Helmand	15 664	12
Jawzjan	4 687	10	Herat	13 469	10
Faryab	3 548	7	Badghis	8 059	6
Balkh	2 753	6	Farah	6 531	5