



AGROMETEOROLOGICAL UPDATE



HIGHLIGHTS

- Blistering hot temperatures affected much of Yemen, especially Al Kaden, Ataq, Al Jouf, and Aden
- Soaring temperatures to continue affecting these areas in the coming week
- Cooling off, in the shade, and using cold water, from the blistering heat is strongly advised
- Reducing the number of hours livestock are exposed to the sun is also encouraged

I. METEOROLOGICAL REVIEW

A review of agrometeorological conditions shows that the usually dry month of June was characterized by above-normal rainfall, especially in Ibb Governorate (Fig. 1 and Table 1). The above-normal rainfall over much of the highlands was an extension of the Saif rainy season which generally runs from March–May. Due to the experienced wet conditions throughout the past three months, the rainfall recorded in June was sufficient to sustain vegetation conditions, especially across the Highlands (Fig. 1C and 2B). Some vegetation stress was, however, notable along coastal governorates (i.e., Al Hudaydah, Abyan, and Lahj) where rainfall was less (Fig. 1C). Given the sufficient rainfall received across the Highlands, no agricultural stress was observed in the Agricultural Stress Index (ASI) which is used as an indicator of the likelihood of drought conditions across cropped areas (Fig. 6A – C).

High temperatures were dominant across most parts of the country throughout June (Fig. 5A and Table 1). Field weather stations reported the highest temperature in Seiyoun with a high of 44.3°C which was 27 percent higher than the country-level average (34.7°C). Elevated temperatures were also reported in Al Hudaydah (Al Kaden, 42.1°C), Shabwah (Ataq, 41.9°C), Al Jawf (Al Jouf, 41.4°C), and Aden (40.2°C). On the other hand, Dhamar reported the lowest temperatures with a minimum of 8°C, which is 53 percent lower than the average minimum temperatures in June (Fig. 5B and Table 1).

The weather outlook until the end of July 2023 shows that southwestern parts of the country are likely to benefit from moisture influx from the Greater Horn of Africa and cumulative amounts of up to 100 mm are likely to be experienced especially in Ibb, Al Dhale'e, and Dhamar Governorates (Fig. 7). The rest of the country is expected to experience little to no rainfall.

Fig. 1: Performance of monthly rainfall and vegetation conditions A) Observed rainfall (mm) B) Satellite-based rainfall estimates (mm) C) Vegetation Condition Index

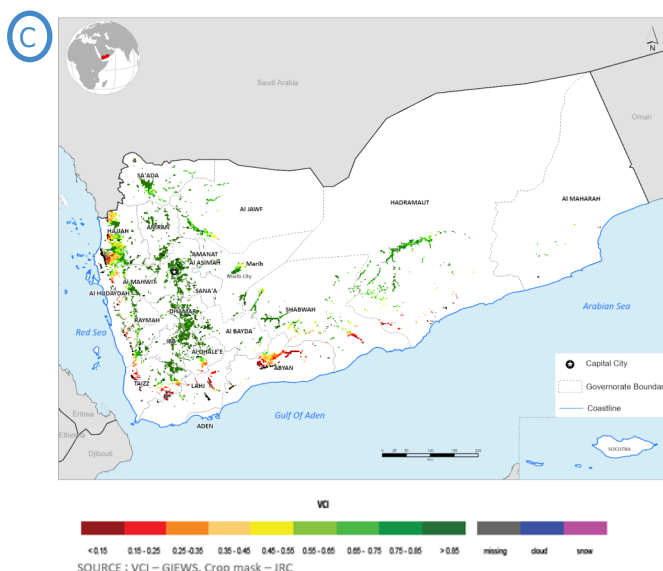
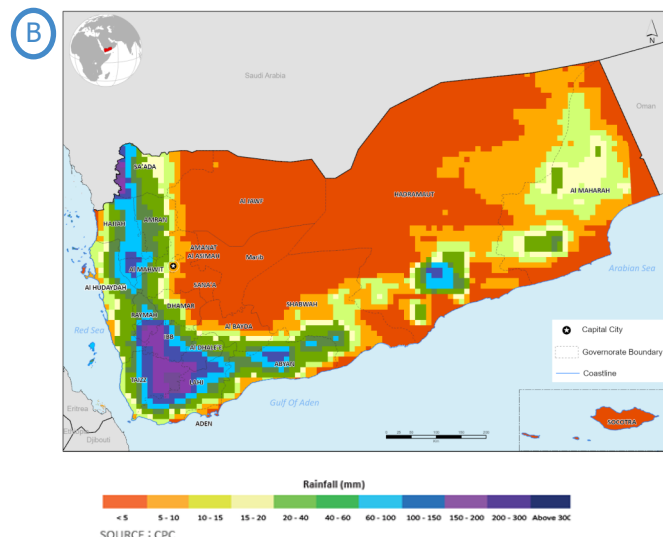
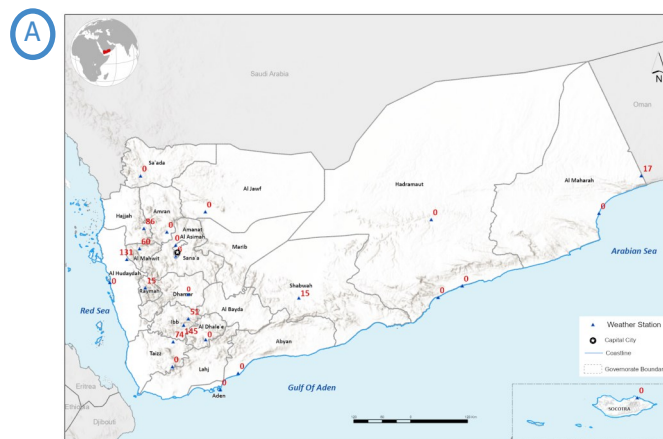


Fig. 2: Monthly anomalies (difference from long-term average, LTA) for A) rainfall (LTA: 1981 – present) B) Normalized Difference Vegetation Index (LTA: 1984 - 2015)

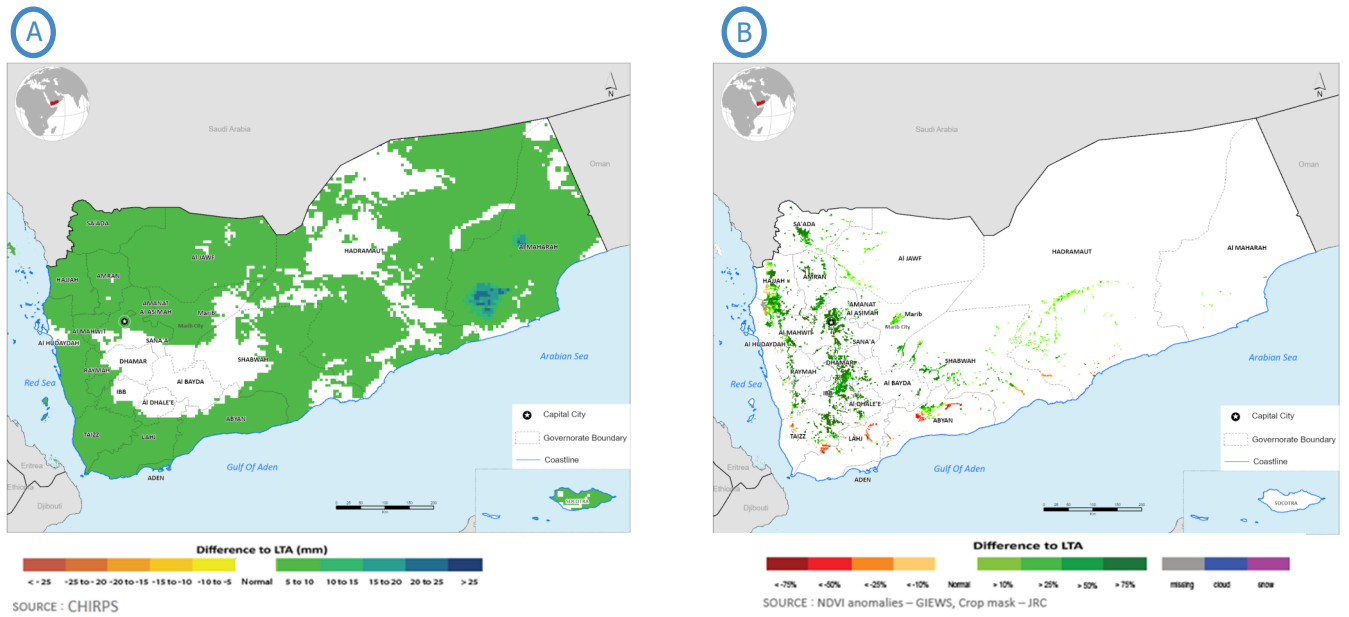


Fig. 3: Progress of rainfall estimates A) 1 to 10 June B) 11 to 20 June C) 21 to 30 June

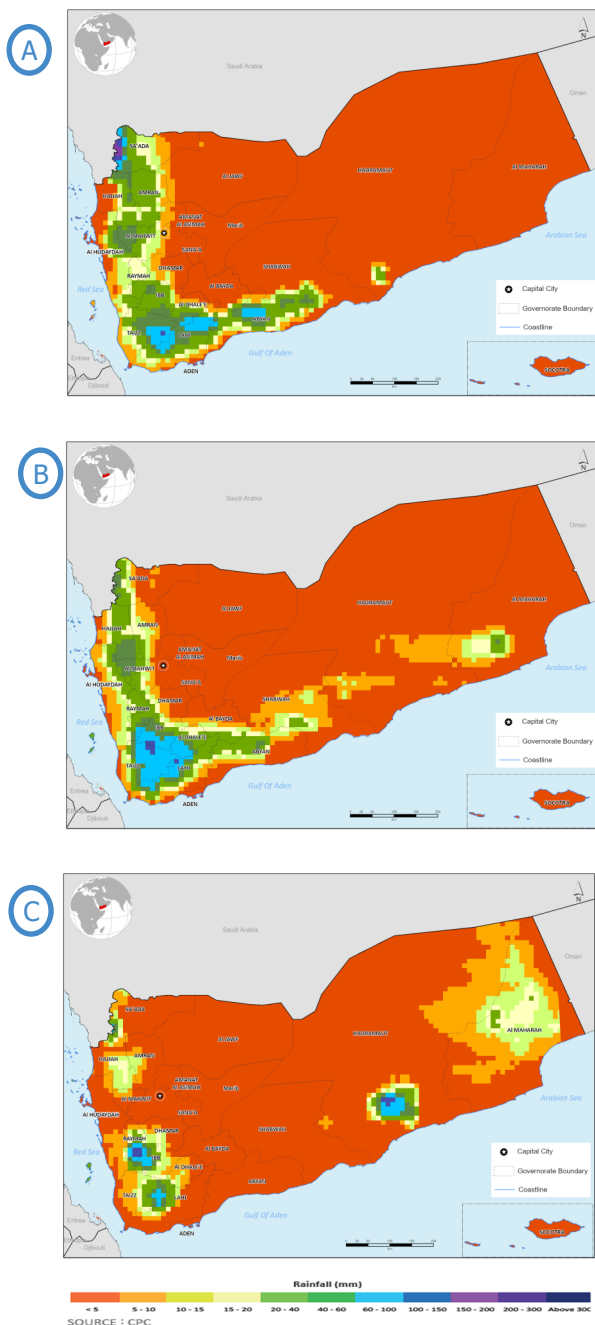
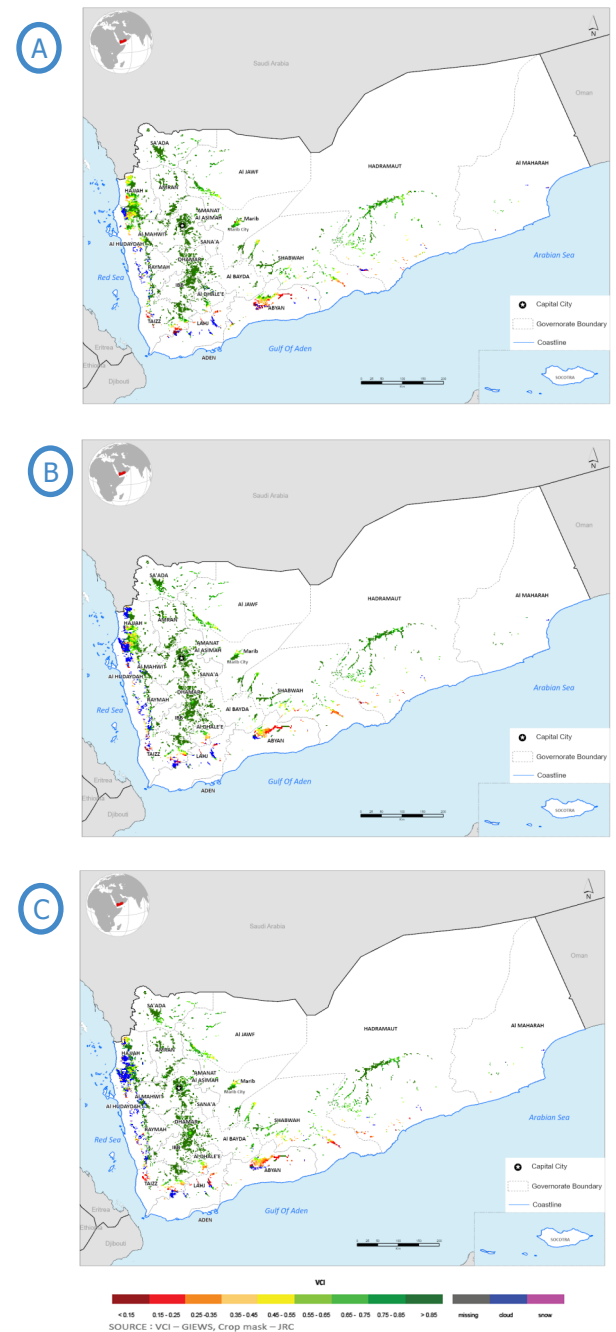


Fig. 4: Progress of vegetation conditions for A) 1 to 10 June B) 11 to 20 June C) 21 to 30 June



AGROMETEOROLOGICAL UPDATE

Fig. 5: Performance of monthly temperature conditions for A) Maximum B) Minimum

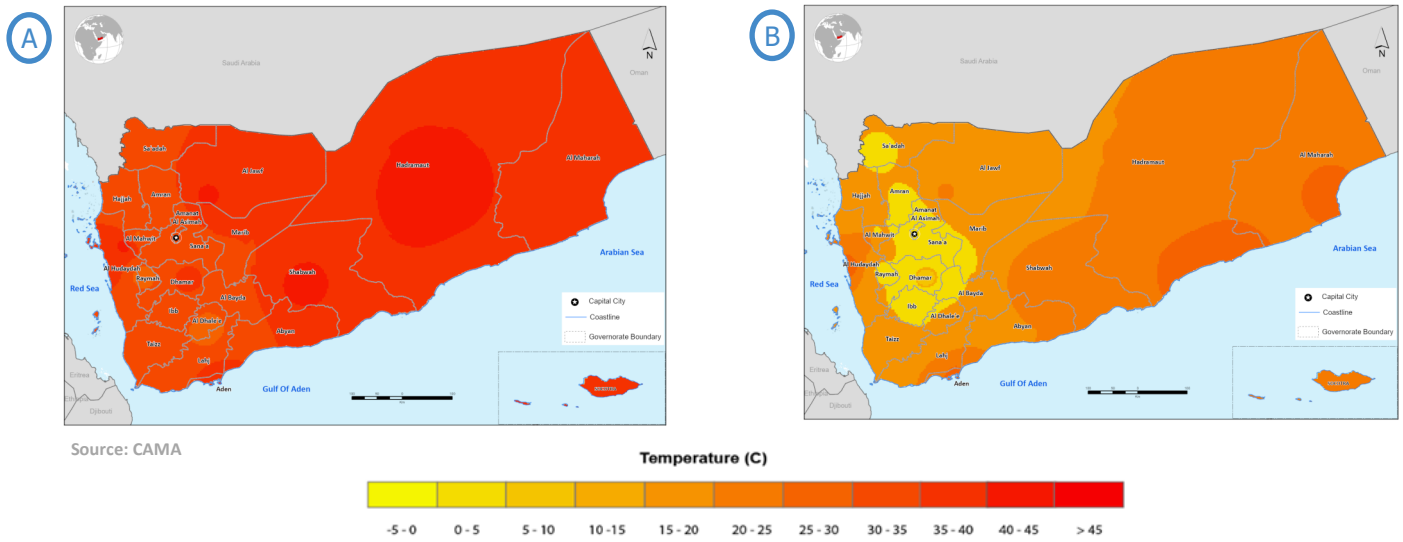
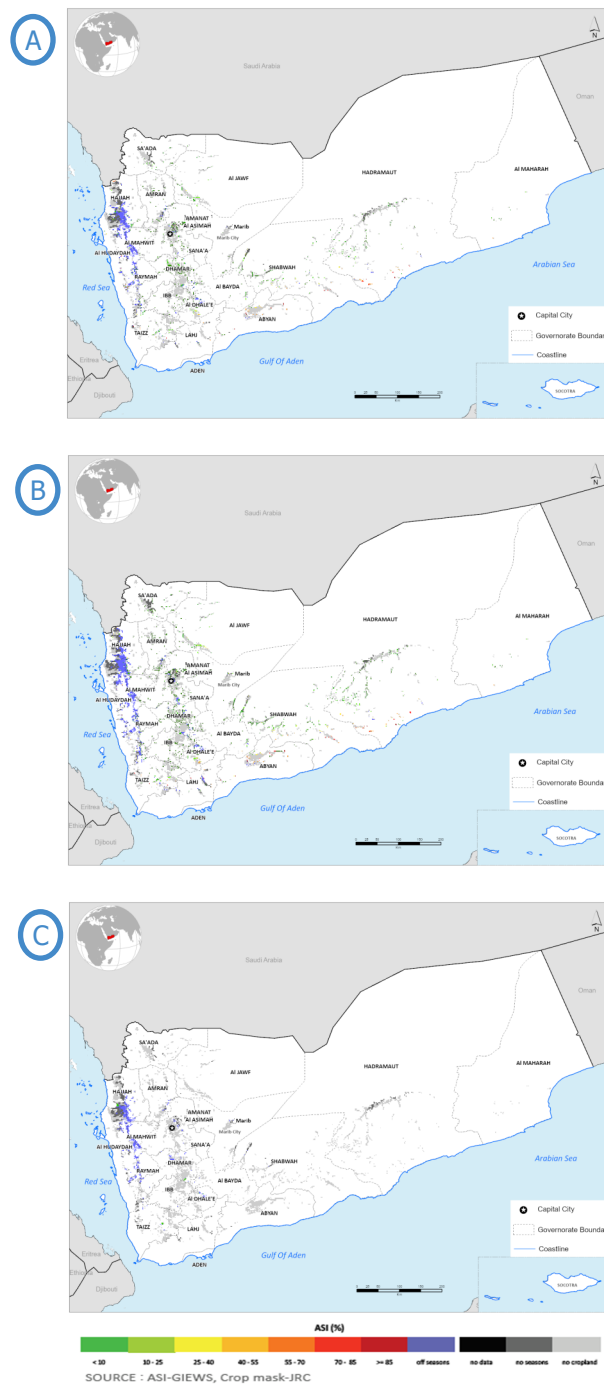


Fig. 6: Progress of Agricultural Stress Index (ASI) for A) 1 to 10 June B) 11 to 20 June C) 21 to 30 June



II IMPACT ON LIVELIHOODS

Scorching heat waves that persisted across much of the country were the dominant modulator of agricultural and livelihood activities throughout June. To adapt to the sweltering heat and avoid heat-related health complications, most people sought to cool themselves using ice blocks, increasing their demand and hence prices¹.

An increase in health challenges in poultry and livestock was also reported among farmers. Notwithstanding the heat, some farmers in the Central and Western Highlands started land preparation in readiness for the return of the Kharif rainy season. Apart from land preparations, most farmers concentrated on vegetable cultivation throughout the month of June.

Field reports indicate the presence of Desert Locusts (DL) in Sana'a especially at night and this can be attributed to cooler temperatures compared to the blistering heat of daytime. Some immature swarms were also spotted in the Highlands of Sa-da'ah and Ibb up to the interior of Al Hazm and Marib. Some were also reported south of Bayhan, Ataq, and eastern Yemen to the boundary with Oman².

The outlook until early August indicates a high likelihood for DL breeding in parts of the interior especially near Al Hazm, Marib, Ataq, Hadramaut, and the Red Sea Coast. Soaring temperatures are expected to continue. Cooling off, in the shade, and using cold water, from the blistering heat that is expected to persistently exceed 40 degrees Celsius and reach 45 degrees Celsius in Hadramaut, is strongly advised. Further, the heatwave may cause livestock discomfort, severe dehydration, and even death. Reducing the number of hours livestock are exposed to the sun is encouraged.

Fig. 7: Rainfall forecast until end of July

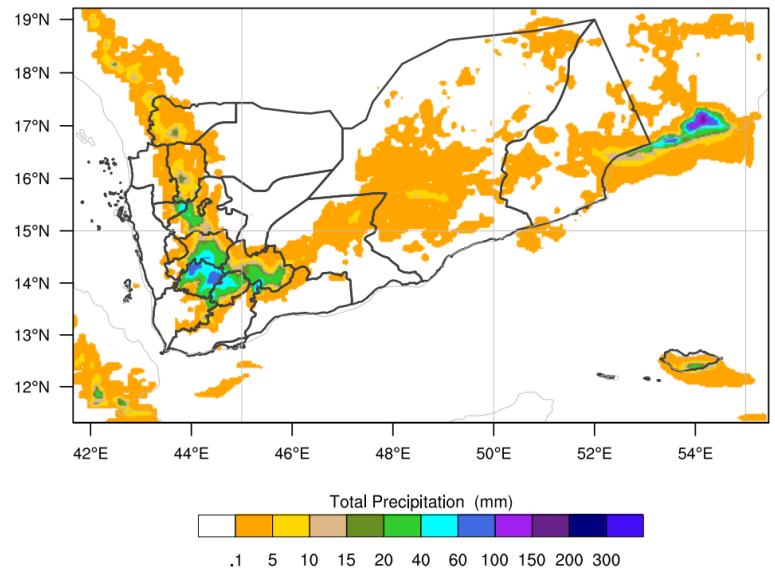
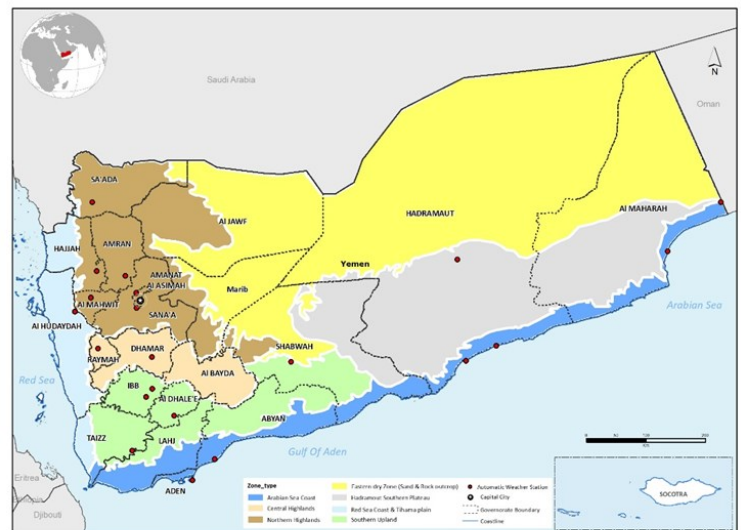


Fig. 8: Agro-ecological zones and location of observatory stations



¹<https://shorturl.at/imnvl>
²<https://www.fao.org/ag/locusts/en/info/info/index.html>

Sources:

- Primary data are sourced from the Civil Aviation and Meteorology Authority (CAMA), Ministry of Agriculture and Irrigation (MAI), and FAO Global Information Early Warning System (GIEWS)
- Vegetation indicators are sourced from FAO GIEWS and are based on 10-day vegetation data from the METOP-AVHRR sensor at 1 km resolution (2007 and after). Data at 1 km resolution for the period 1984-2006 are derived from the NOAA-AVHRR dataset at 16 km resolution <http://www.fao.org/giews/earthobservation/country/index.jsp?lang=en&code=YEM#> and the European Union's anomaly hotspots of agricultural production (ASAP)
- Rainfall estimates (RFE2) are sourced from the Climate Prediction Centre (CPC) of The National Oceanic and Atmospheric Administration (NOAA)

Technical Partners

Food Security and Early Warning Information System Programme

is funded by the European Union and implemented by Food and Agriculture Organization of the United Nations (FAO) and government partners.



Resource Partner



Funded By European Union

For More Information, Please Contact:

FAO Representation

Yemen, Sana'a (YE-FSNIS@fao.org)

Assistant Deputy Chairman, CAMA/YMS

Eng. Mohammed Saeed Hamid (hamid77737@gmail.com)

Director General Ministry of Agriculture, Irrigation Department

Eng. Iskander Thabit Abdullah (iskander.thabet@gmail.com)

III. VARIATIONS OF RAINFALL AND NDVI

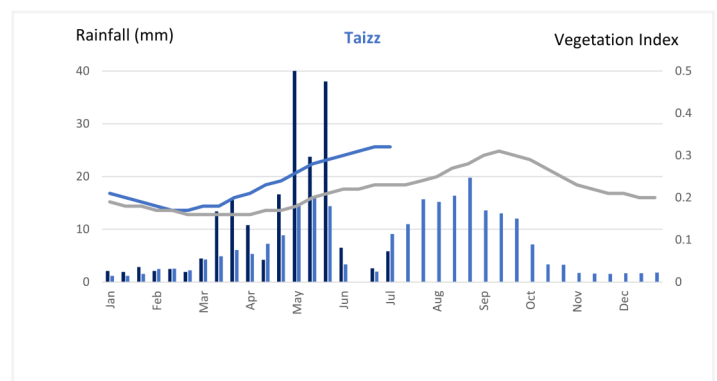
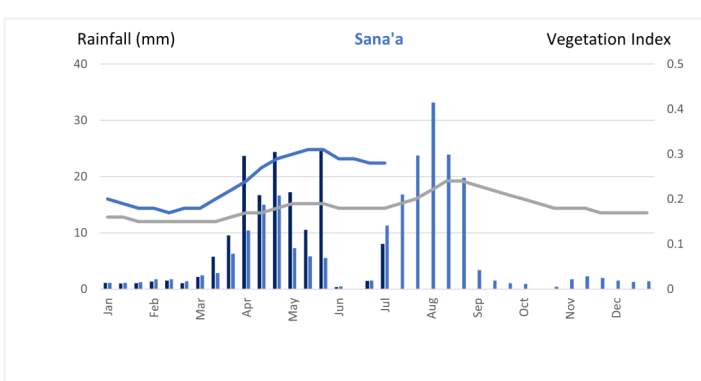
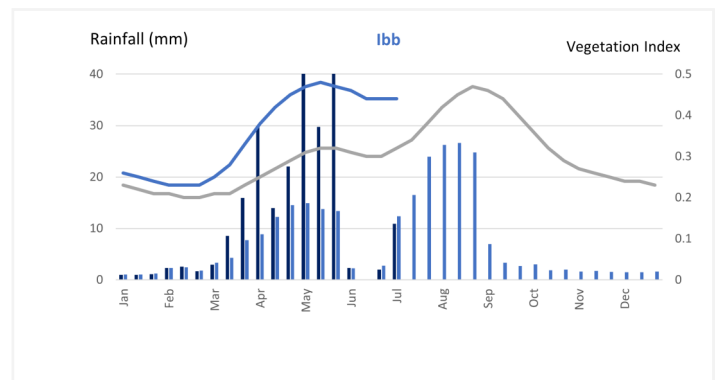
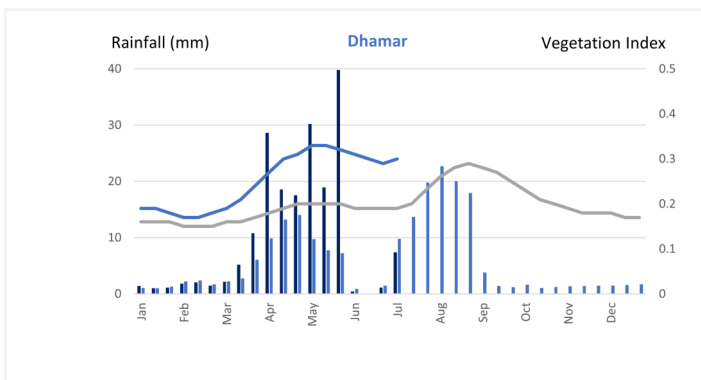
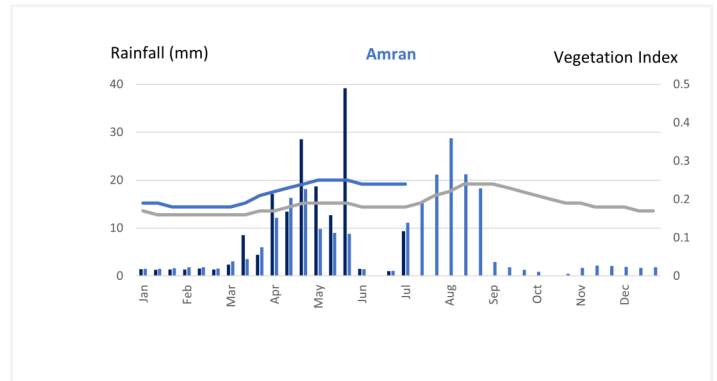
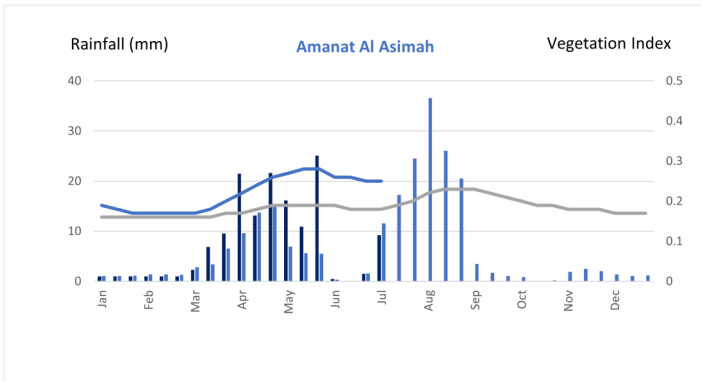
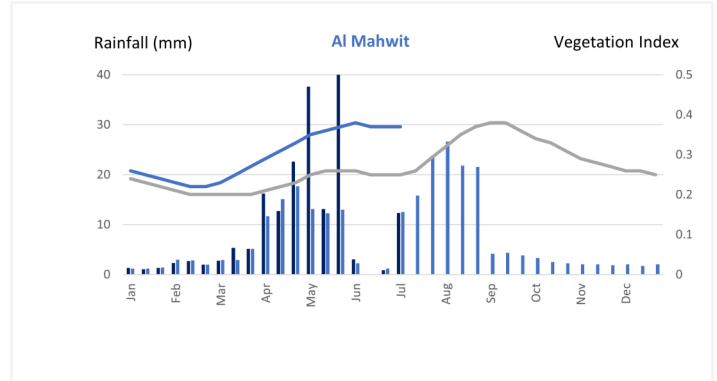
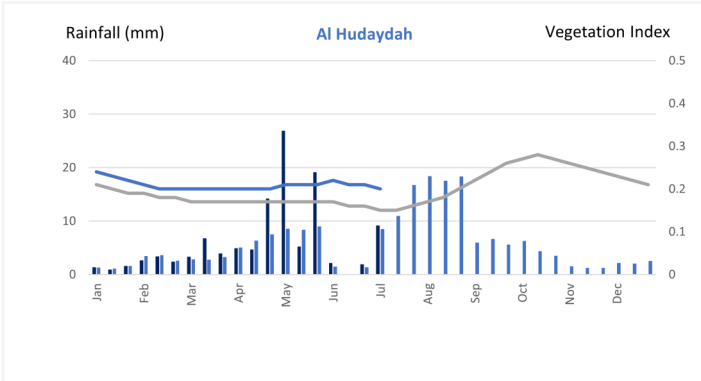
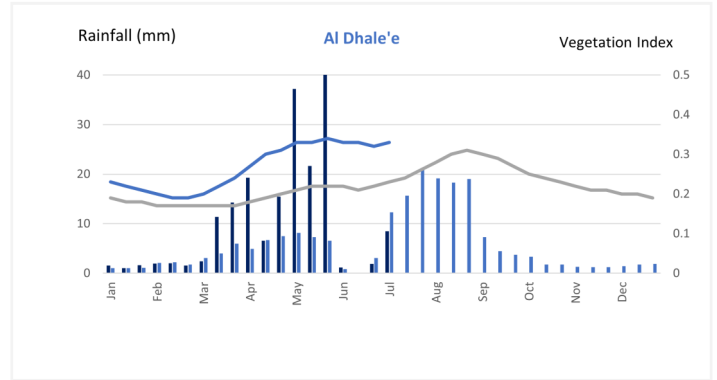
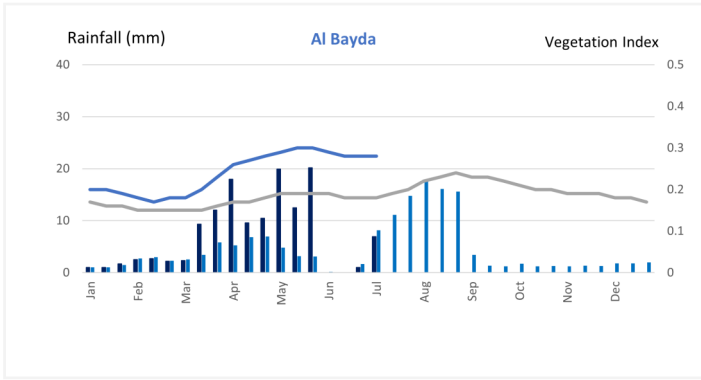
AGROMETEOROLOGICAL UPDATE

Rainfall STA (2009 - 2022)

Rainfall 2022

NDVI 2023

NDVI STA (2009 - 2022)



AGROMETEOROLOGICAL UPDATE

Table 1: Observed Station Data: Rainfall and Temperature

Governorate	Station	Rainfall (mm)	Temperature (°C)	
		Monthly	Max	Min
Abyan	Al Kood	0	-	-
Aden	Aden	0	40.2	28.2
Al Dhale'e	Al Dhala	0	-	-
Al Hudaydah	Al Kaden	131	42.1	22.8
Al Hudaydah	Al Hudaydah	0	38.2	29.4
Al Jawf	Al Jouf	-	41.4	20.9
Al Maharah	Algaidha	0	36.7	26.2
Al Maharah	Serfeet	17	36.2	20.1
Al Mahwit	Almahweet	60	29.7	14.7
Amanat Al Asimah	CAMA/YMS Office	-	-	-
Amanat Al Asimah	Al-Asbahi	1	-	-
Amanat Al Asimah	Aljamaah	-	33.0	12.0
Amanat Al Asimah	Alhasba	-	-	-
Amanat Al Asimah	Baghdad	18	-	-
Amanat Al Asimah	Shamlan	0	-	-
Amanat Al Asimah	Sawan	0	-	-
Amanat Al Asimah	Al Erah	-	-	-
Amran	Amran	0	33.0	12.0
Amran	Hamdah	--	-	-
Amran	Qa'a Alboon	0	33.0	12.0
Amran	Amran Gov.	-	-	-
Amran	Eial Sourih	-	-	-
Dhamar	Dhamar	0	38.0	8.5
Dhamar	AREA-HQ	-	-	-
Dhamar	Rosabh	4	-	-
Dhamar	Dhamar (MAI)	0	30.0	10.0
Dhamar	Maqar-Alhya'a	0	28.0	8.0
Dhamar	Qa'a Shrah	-	-	-
Hadramaut	Al Mukalla	0	-	-
Hadramaut	Al Shaher	0	33.7	-
Hadramaut	Seiyoun	0	44.3	22.1
Hadramaut	Assom	-	-	-
Hadramaut	Tarim	-	-	-
Hadramaut	Sah	-	-	-
Hadramaut	Aliotoof	-	-	-
Hadramaut	Seyun Pr	0	-	-
Hadramaut	Seyun Re	-	-	-
Hadramaut	Hawrah	-	-	-
Hadramaut	Doaan	-	-	-
Hadramaut	Shibam	-	-	-
Hadramaut	Ard Makharsh	-	-	-
Hadramaut	Brom	-	-	-
Hajjah	Hajjah	86	30.4	15.6
Ibb	Alsaddah	60	30.0	12.6
Ibb	Ibb	135	31.0	12.6
Ibb	Ibb (MAI)	307	30.0	14.0
Raymah	Al Jabeen-Rimah	15	27.3	13.7
Sa'ada	Sadah	-	34.5	14.4
Sana'a	Sana'a	0	33.4	11.2
Sana'a	Al Erah	-	-	-
Sana'a	Sanhan	0	-	-
Shabwah	Ataq	15	41.9	24.4
Socotra	Socatra	0	37.4	25.6
Taizz	Al Maafer	74	-	-
Taizz	Mashra and Hadnan	21	-	-
Taizz	Al Modafar	18	-	-
Taizz	Al Qahera	21	-	-
Taizz	Wadi Arafat	41	-	-
Taizz	Hawban Qadas	21	-	-
Taizz	Al Akahel	44	-	-
Taizz	Sabar almoadhmi	-	-	-
Taizz	Airport	83	33.6	20.8