

Sultanate of Oman Seasons

Lecturer: *Mohammed Al Mashaykhi*

30-9-2024

Content

- **Introduction**
- **Geography and Climate Overview**
- **Four Seasons in Oman**
 - **a. Winter** (21st December to 21st March)
 - **b. Spring (premonsoon** 22nd March to 20th June)
 - **c. Summer (monsoon** 21st June to 21st September)
 - **d. Autumn (postmonsoon** From 22nd September to 20th December)
- **Conclusion**

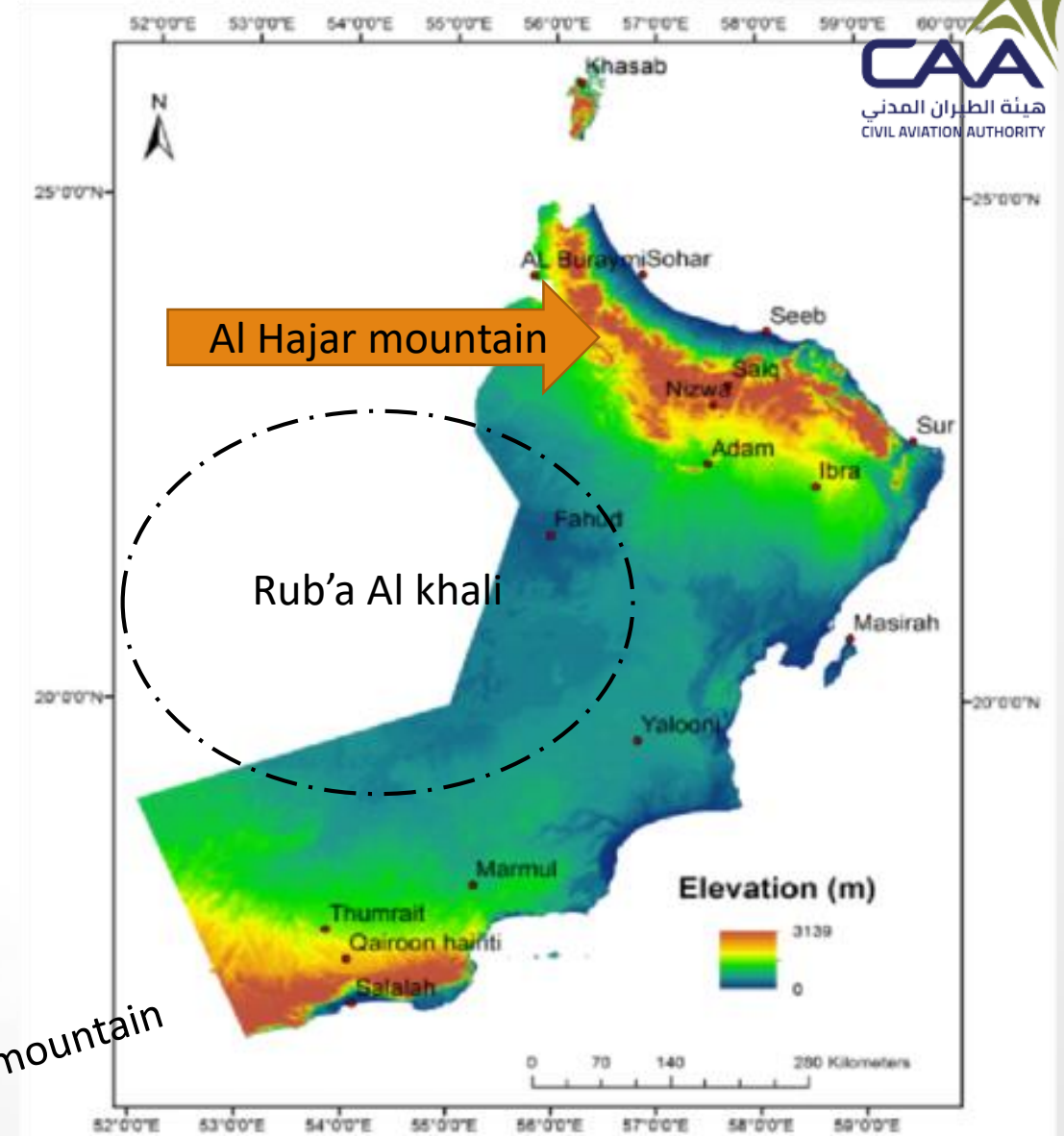
Introduction



Topography and terrain

- Oman is a country located in the southeastern corner of the Arabian Peninsula in Southwest Asia.
- The **climate** is **dry and hot in general**.

Dohfar mountain

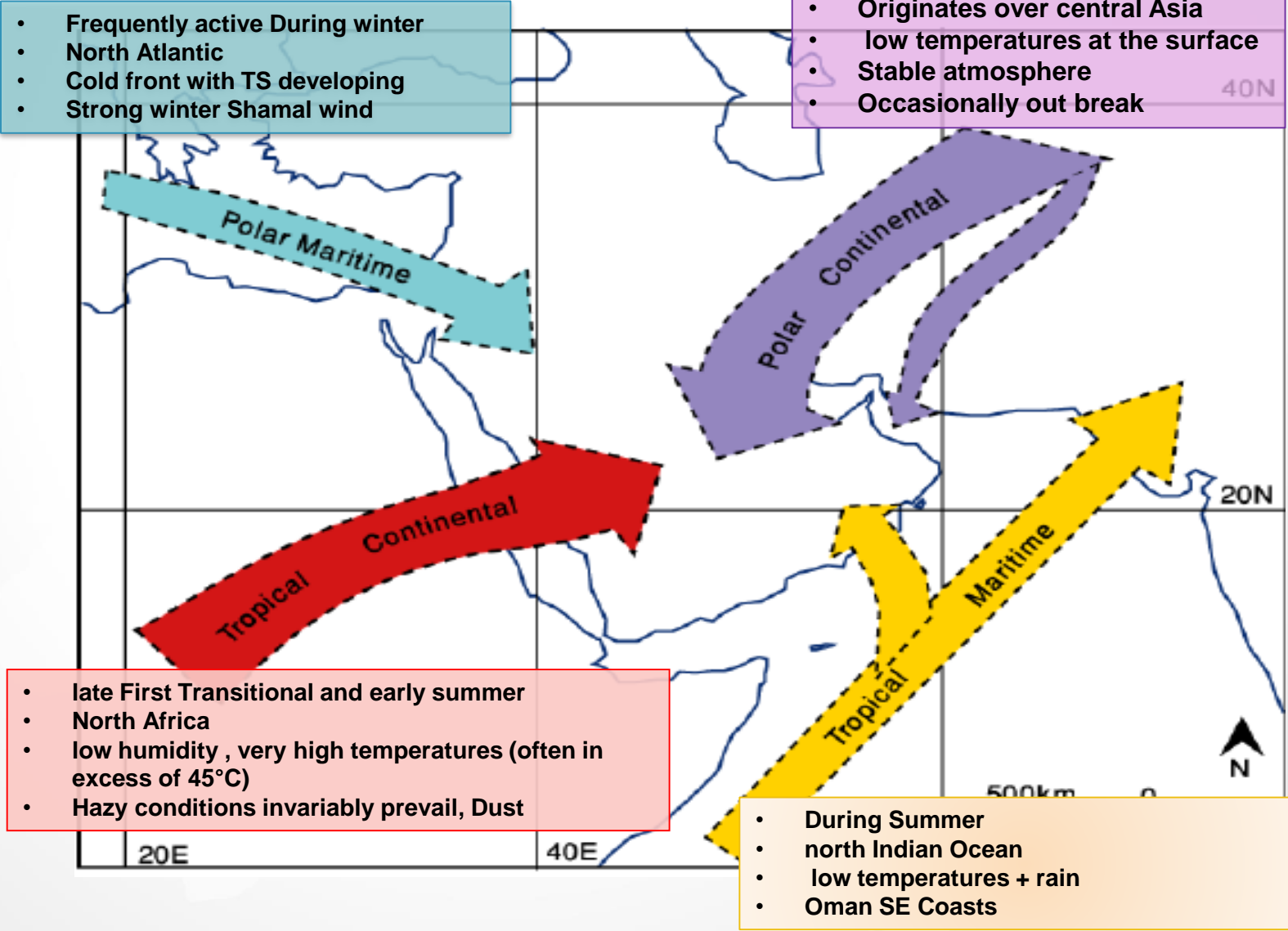


Air mass flow

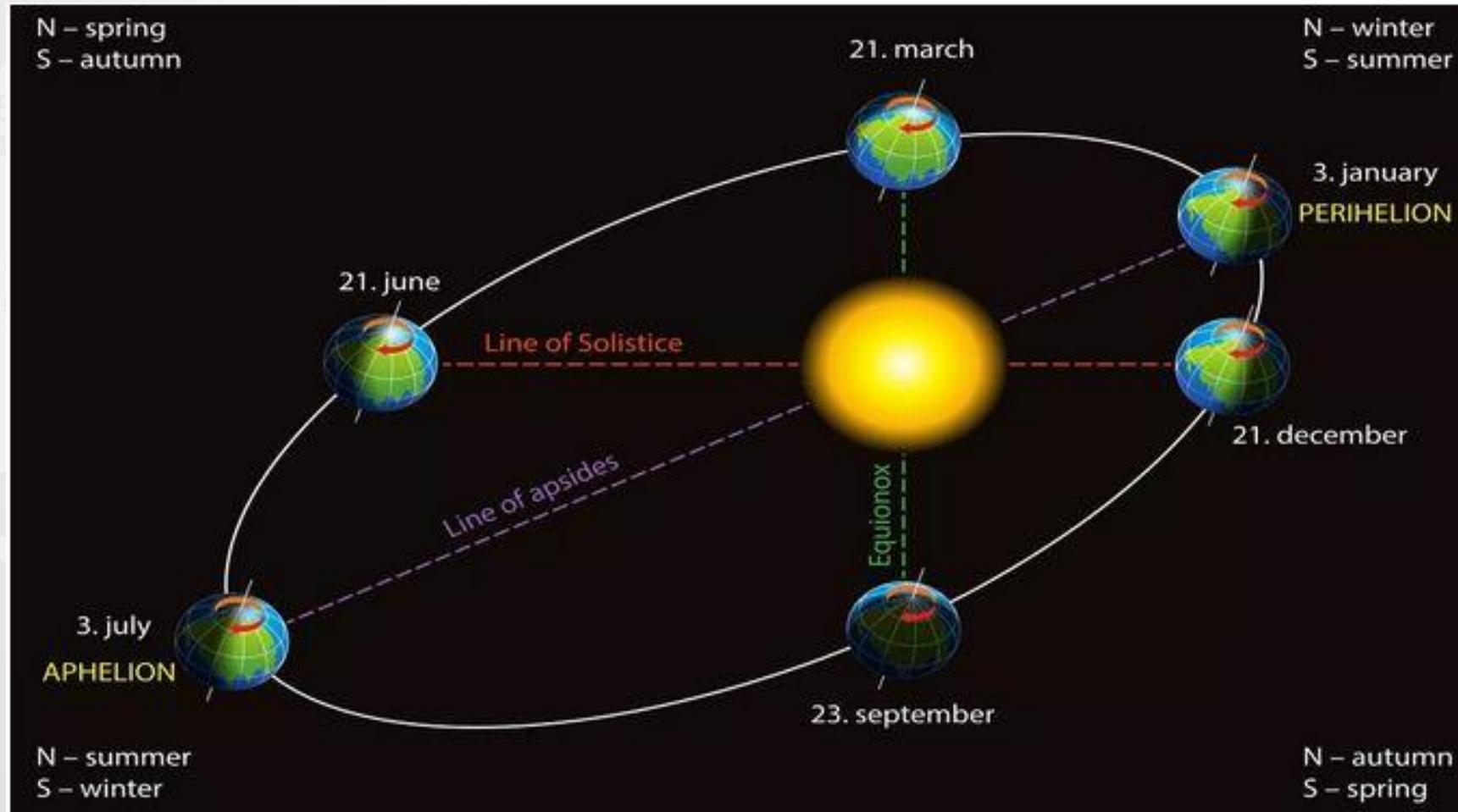
- **Air masses are...**
A large body of air sits over an area of land or water for a long period of time, it will take on the characteristics of the land or water beneath it.

- **Named for their SOURCE REGION**

- Continental (c)
- Maritime (m)
- Arctic (A)
- Polar (P)
- Tropical (T)



Rotation of earth

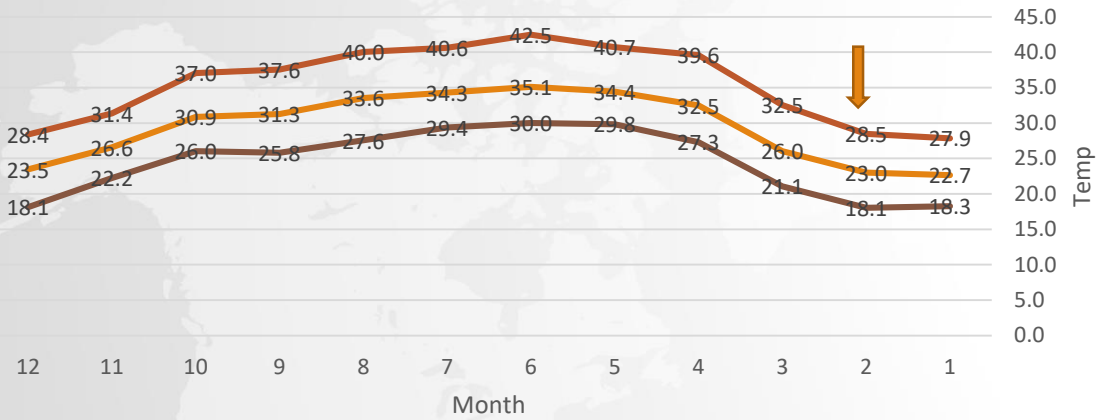


Winter

- Winter is one of the four seasons ,it is characterized by lower temperatures, shorter days, and longer nights.
- Many phenomena are associated with winter season :
 1. Westerly disturbance
 2. Cold front
 3. Cold air over Warm Sea
 4. Shamal wind/Dust
 5. Fog (advection , valley , radiation)
 6. Siberian high

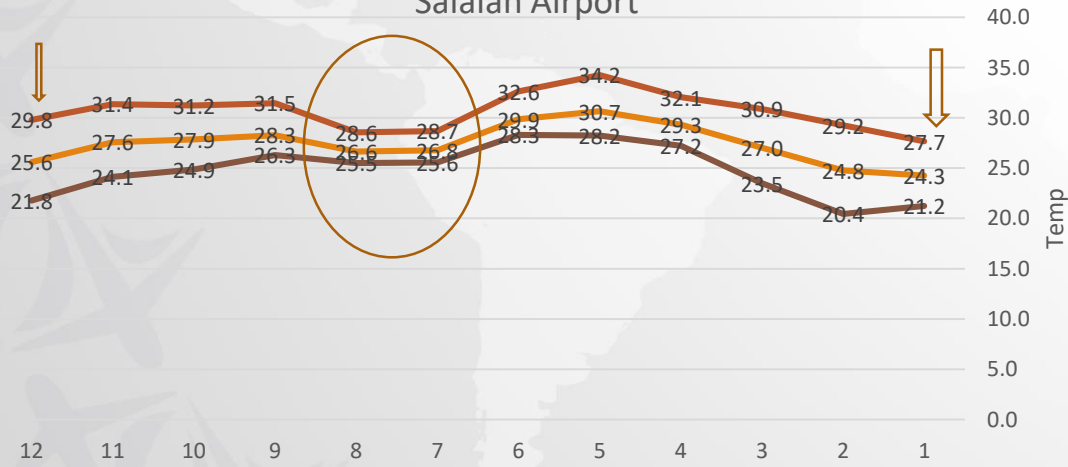
Winter

Sur 2023



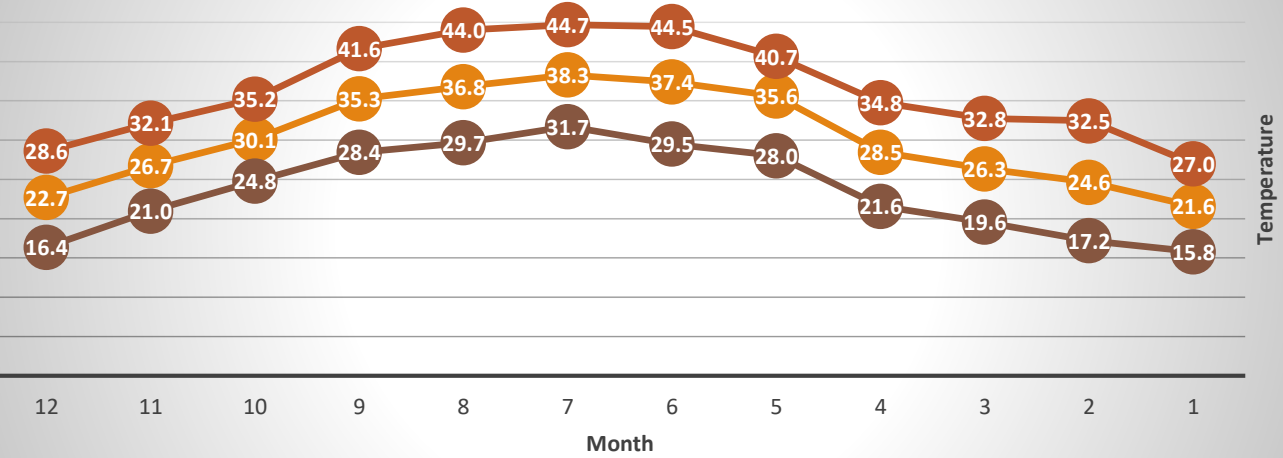
Mean Mean
MeanMax
Mean Min

Salalah Airport



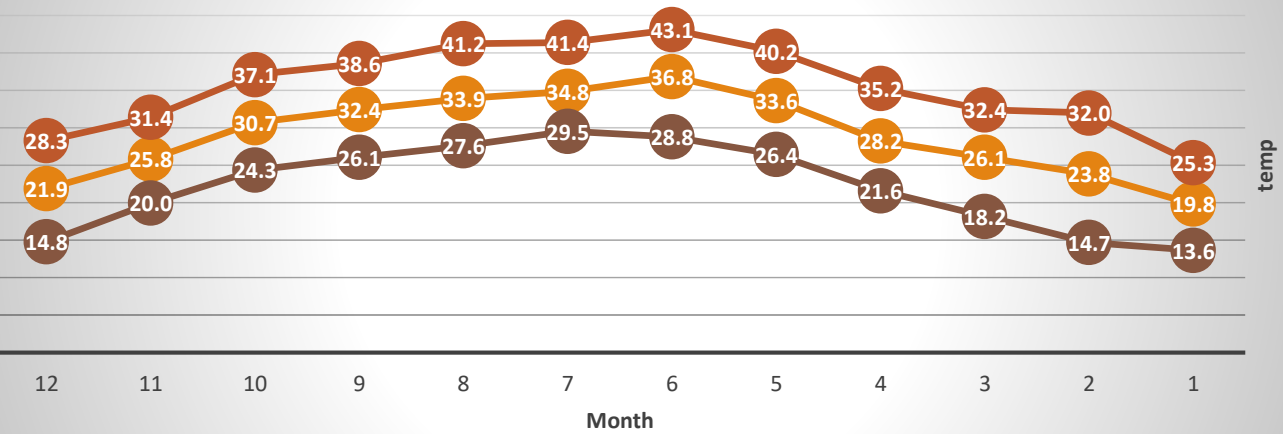
Mean Mean
MeanMax
Mean Min

Air Temperture Mean Ibri



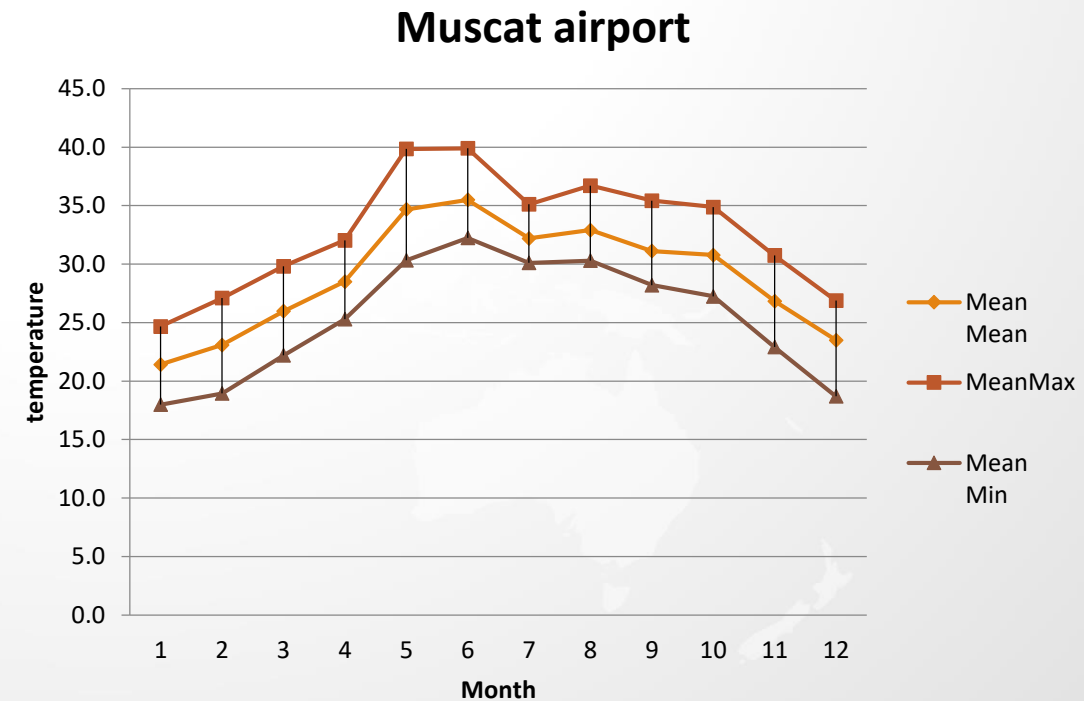
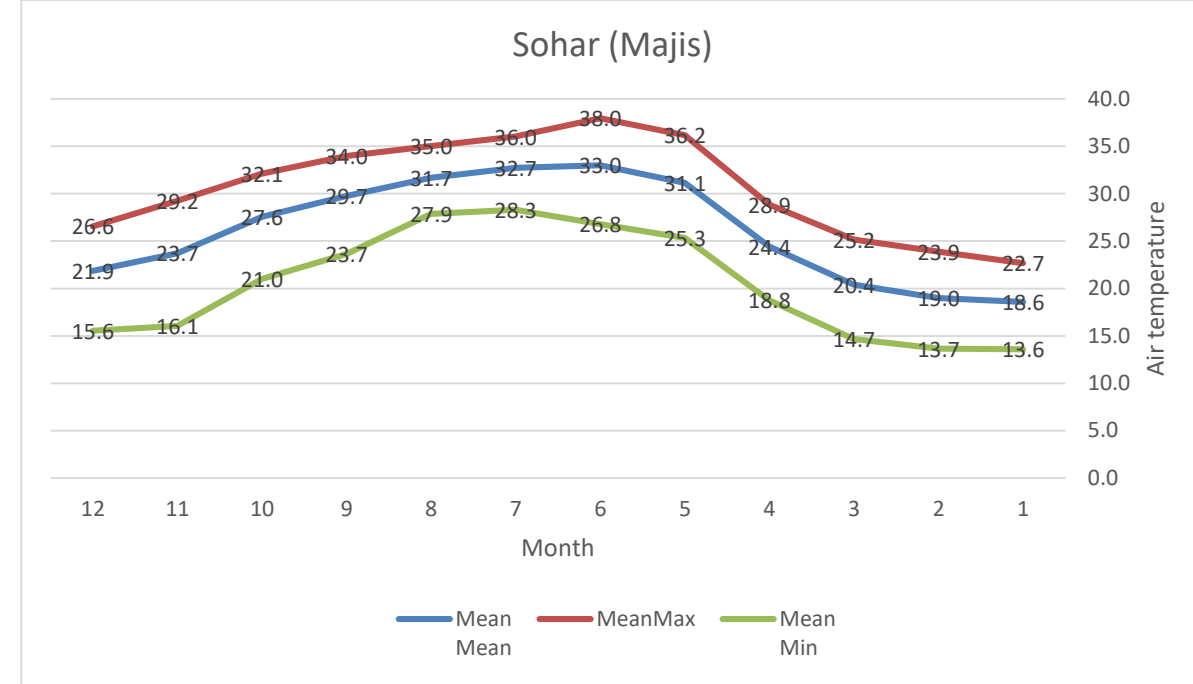
Mean Mean
MeanMax
Mean Min

Nizwa 2023



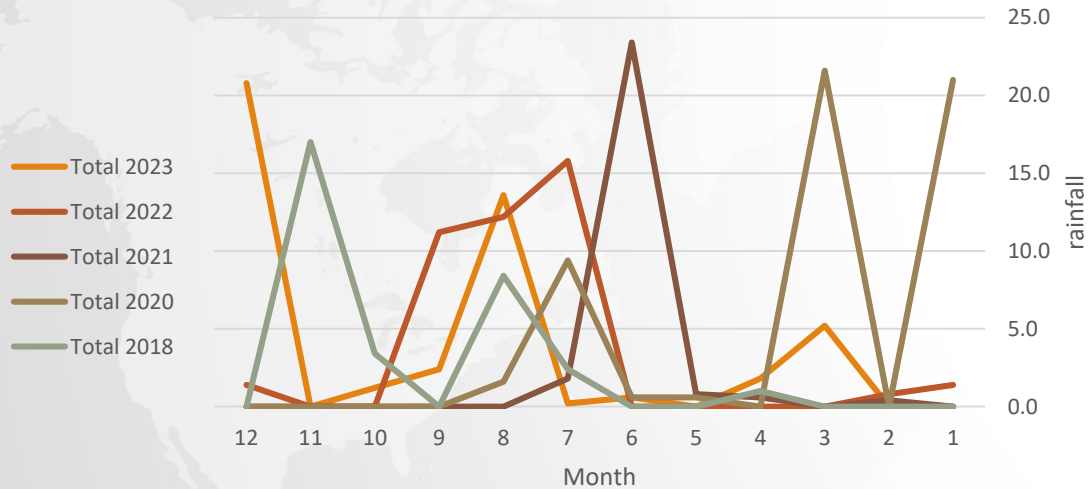
Mean Mean
MeanMax
Mean Min

- The lowest temperatures for most of stations recorded (December , January , February) (**winter**)
- **Salalah** winter_on December and January with around 7 degrees difference between minimum mean and maximum mean .
- Al Hajar mountains rainfall peaks in winter season due the westerly disturbance and fronts. (northward)

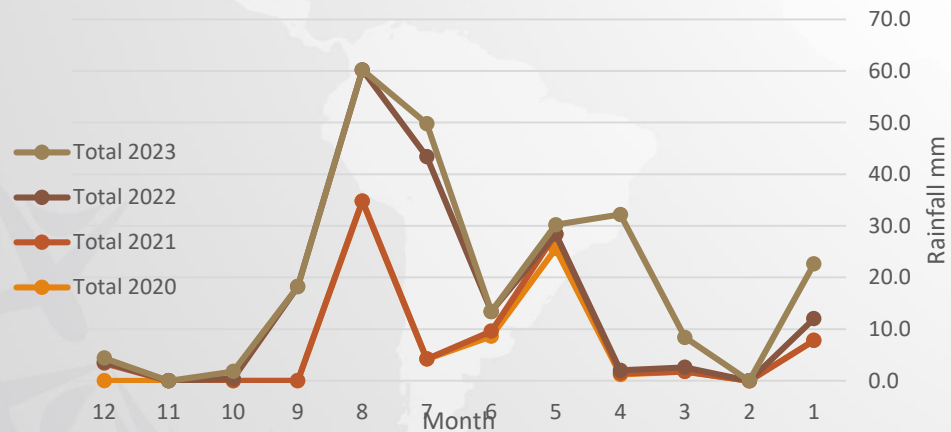


Rainfall yearly

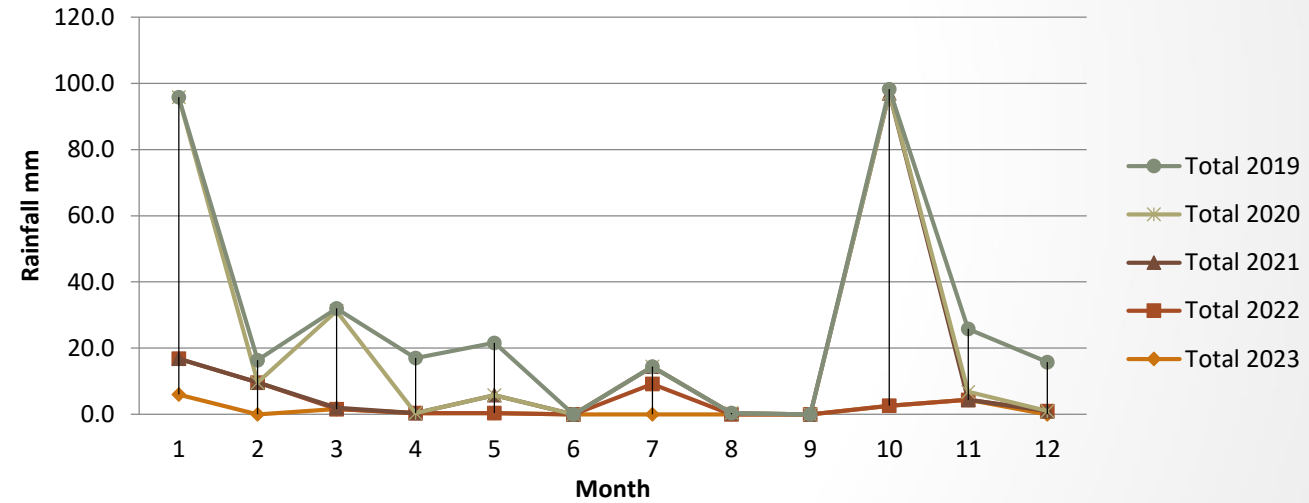
Ibri rainfall



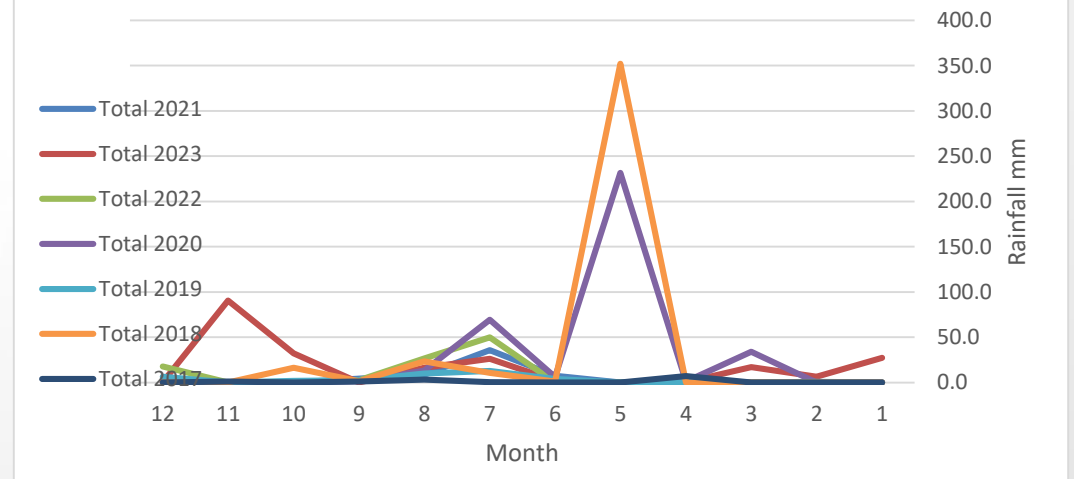
Nizwa rainfall



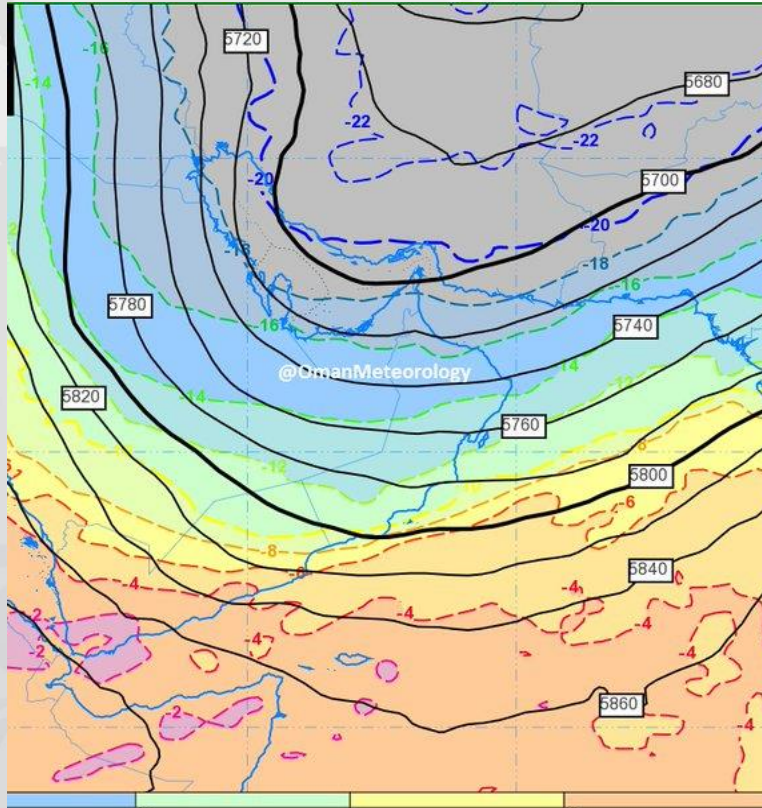
Muscat airport



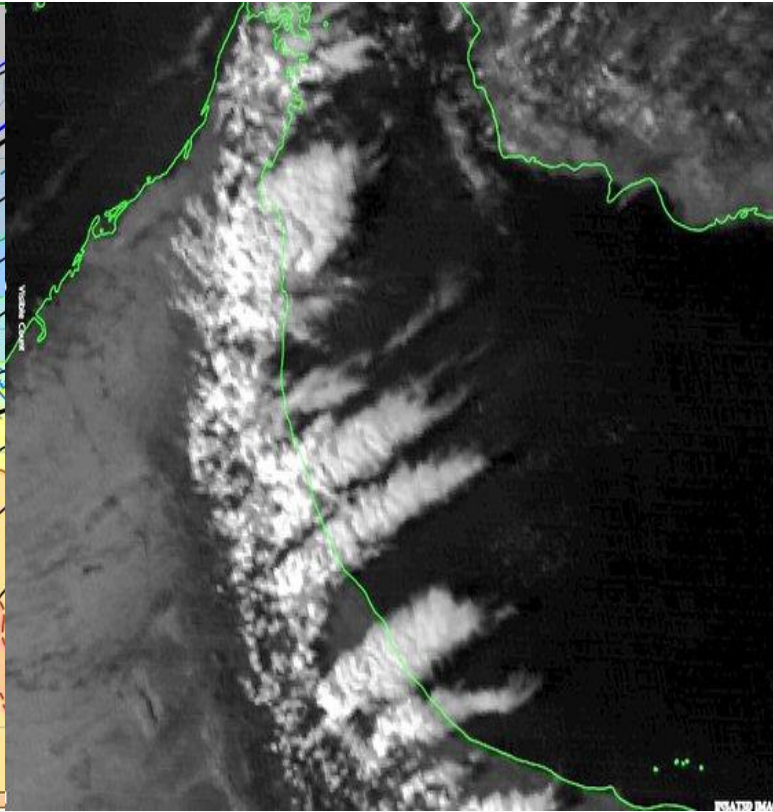
Salalah Airport Rainfall



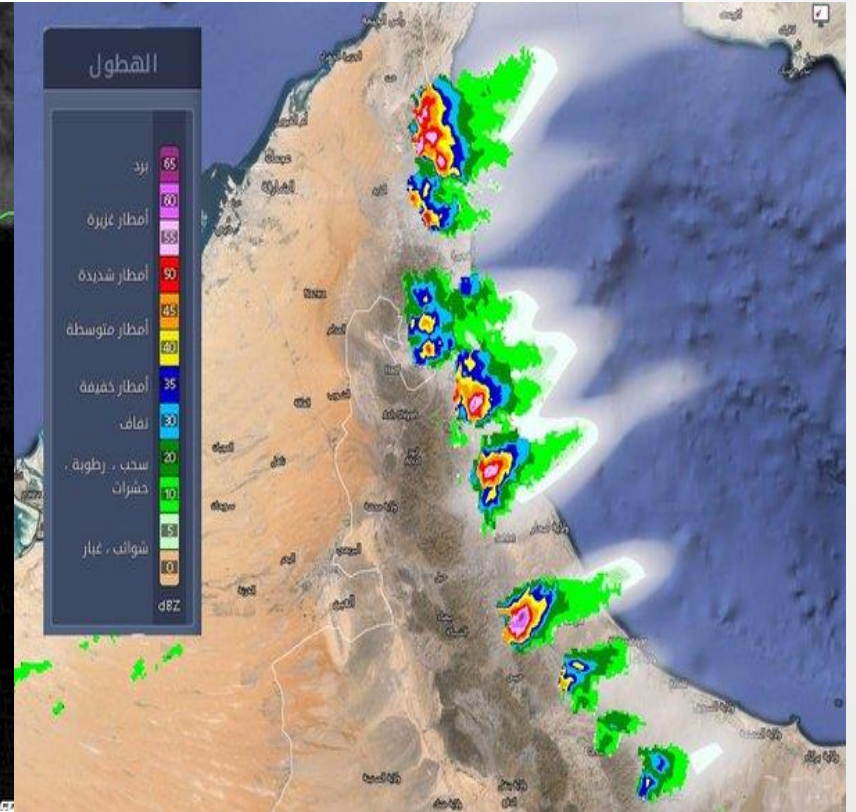
16th Feb 2015 (cold air mass)



Geopotential height 500mb

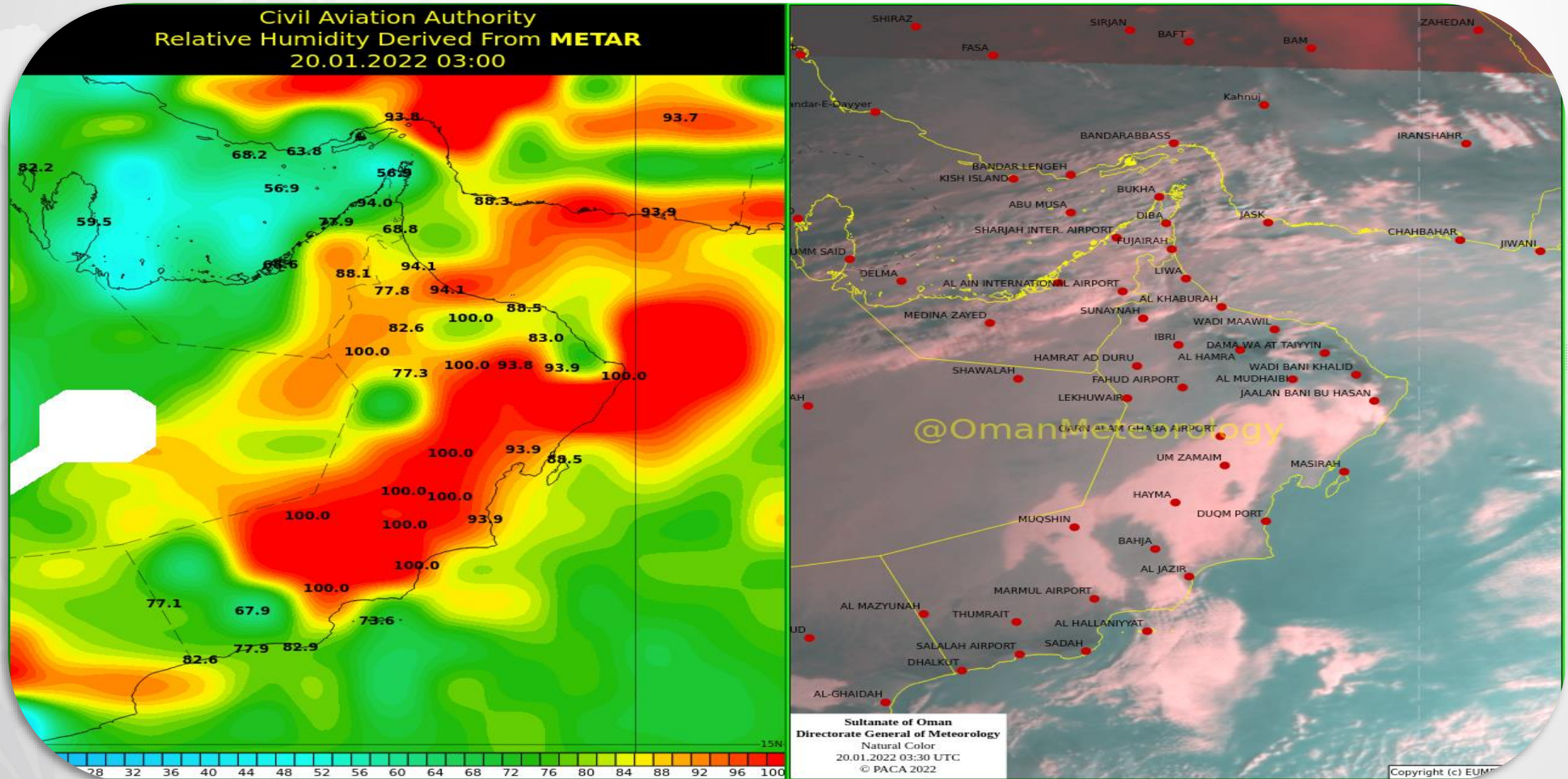


Satellite Image

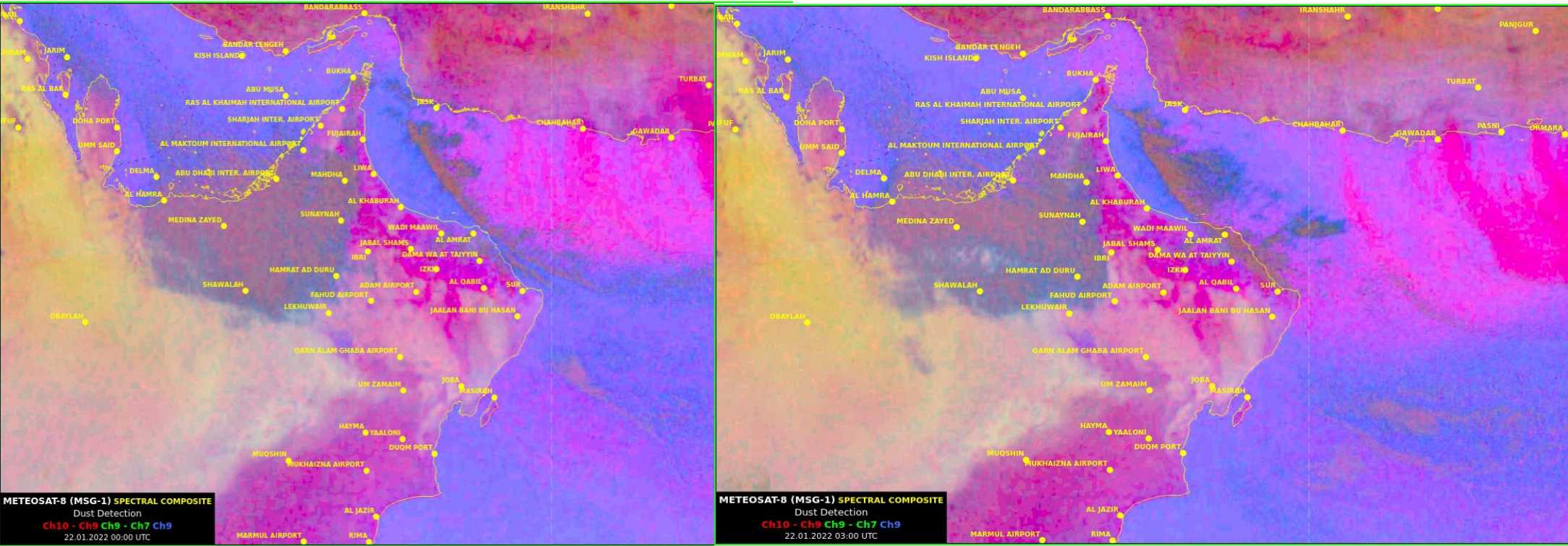


Radar Image

Fog (winter 20.1.2022)



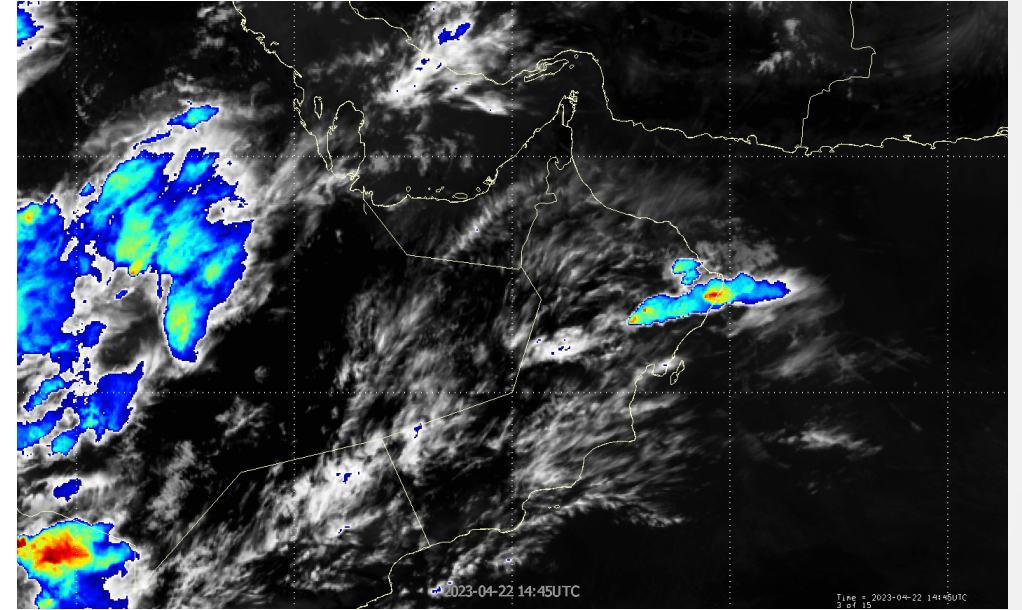
Dust on 22nd JAN 2022



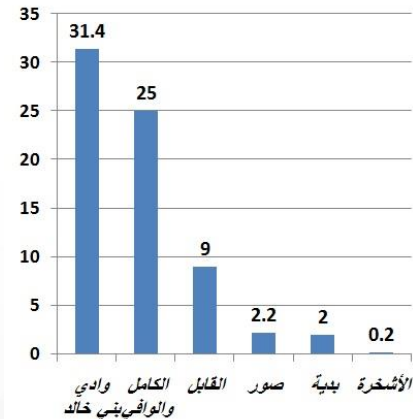
Dust RGB Satellite image's

Spring (premonsoon 22nd March to 20th June)

- The mean temperatures are from 19 to 41 degrees.
- Formation of al Hajar convective clouds at the end.
- westerly upper flow to the end of the season.
- Cyclone season (phase 1)
- Dust devils.
- First **Tornado** 22.4.2023



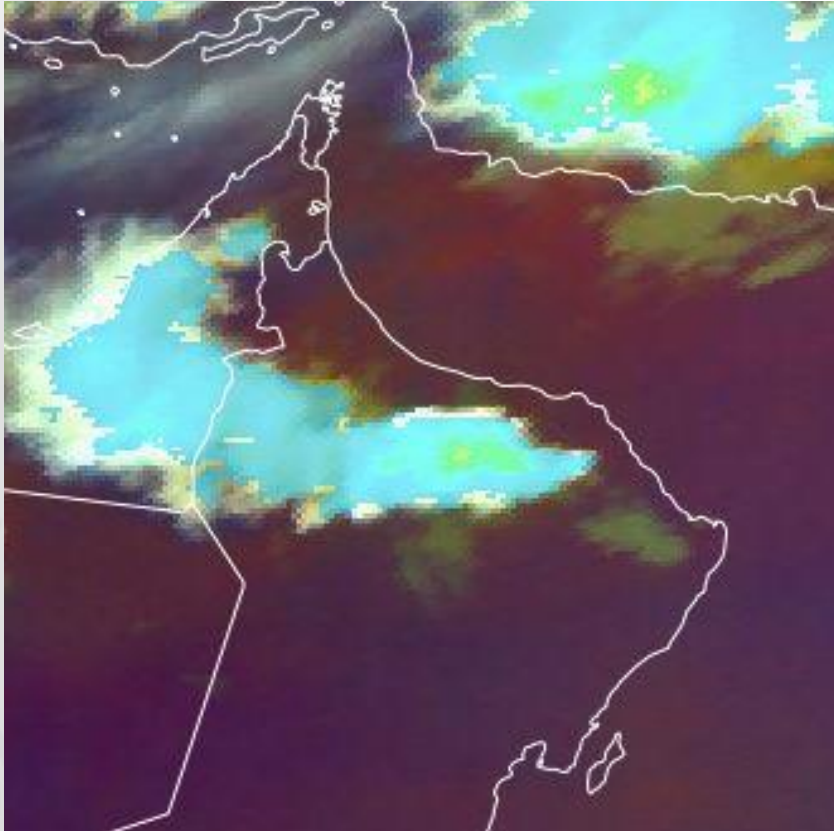
كميات الأمطار المسجلة تاريخ 22 أبريل
الأرصاد العمانية 2023



Summer:

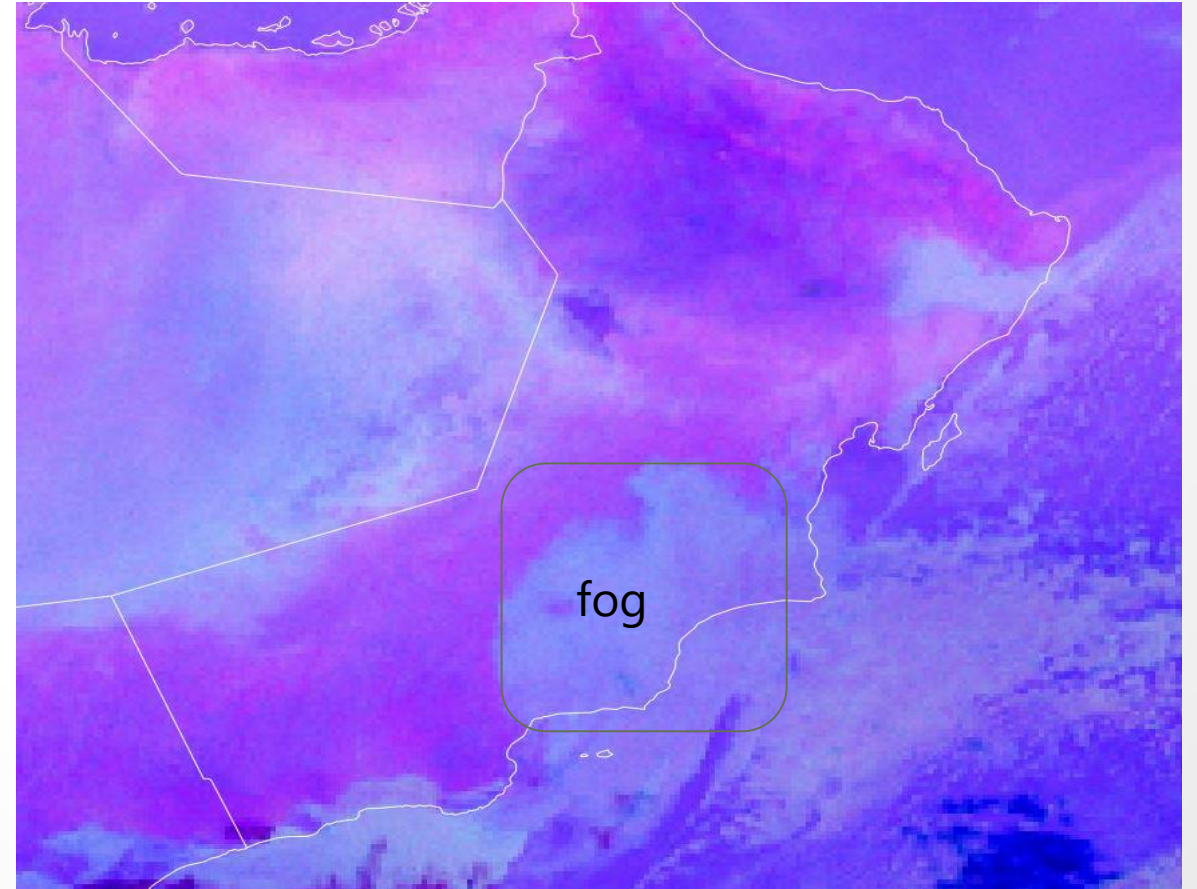
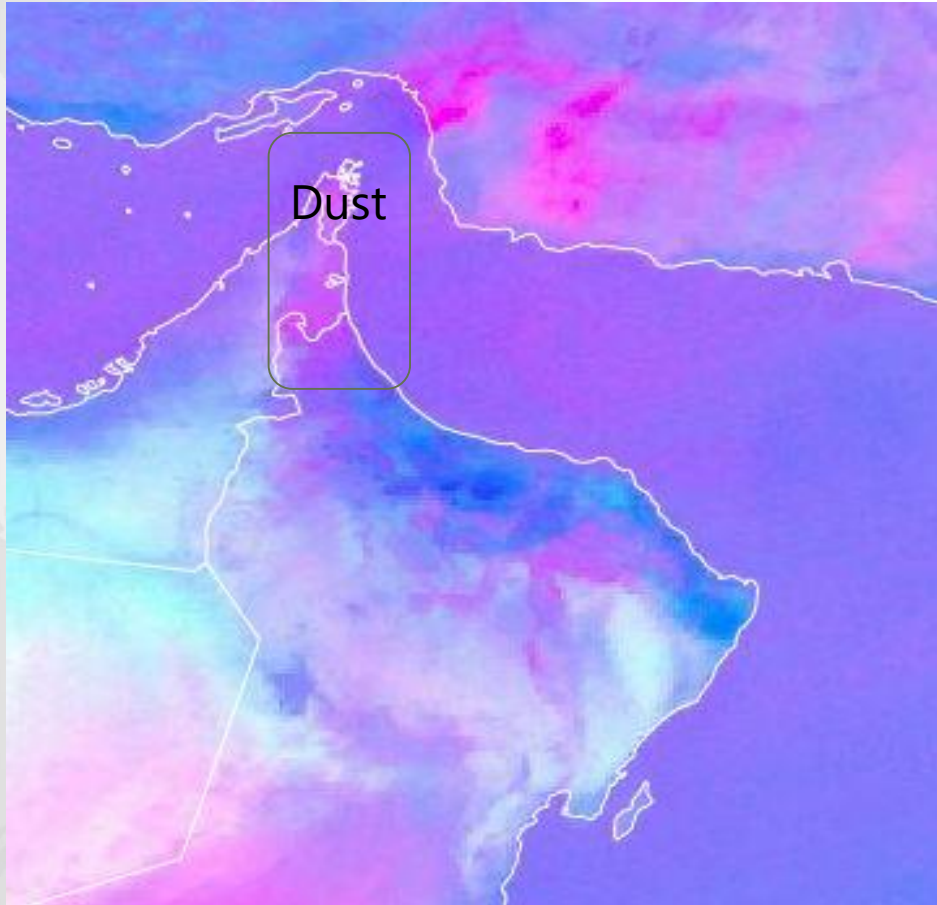
- Hottest temperatures.
- Monsoon(peak June , July).
- Arabian sea coastal line fog.
- Dust. (due to temp diff)
- Rough sea along Arabian sea.
- local convective formation along al Hajar.

Local convective formation



- Local clouds formation usually take a place along al Hajar mountains and starts on May up to the end of August.
- Orographic lifting , convection lifting and convergence lifting.
- local clouds formation can be severe, enhanced with upper trough.
- precipitation type is rain and hail up to ½ diameter.

Fog and dust (summer):



Fall

- Temperatures like spring .
- Second phase of cyclone season.
- Cold air over warm sea.
- End of local convective formation.
- Beginning of westerly flow.
- Dust devils.

Cyclones

- Two seasons (pre-monsoon & post-monsoon)
- Can not be in summer and winter .
- Easterly disturbance to initiate.
- Need 26.5 + (deep 60 m).



Thanks

Please Scan the Q-code