Mansoon

↓

Arabic Words

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Mausim —Means→ Season

Mansoon :— "Seasonal reversal of wind"

Total Annual Rainfall = 1194 mm in India

Rainy Day :- A day with rainfall of 2.5 mm or more rainfall is known as Rainy Day.
(As per IMD)

or

A day is considered a rainy day when the rainfall data on the day is at least 2.5 mm.

In General

On an average 130 day Rainy days out of 365 days in India.

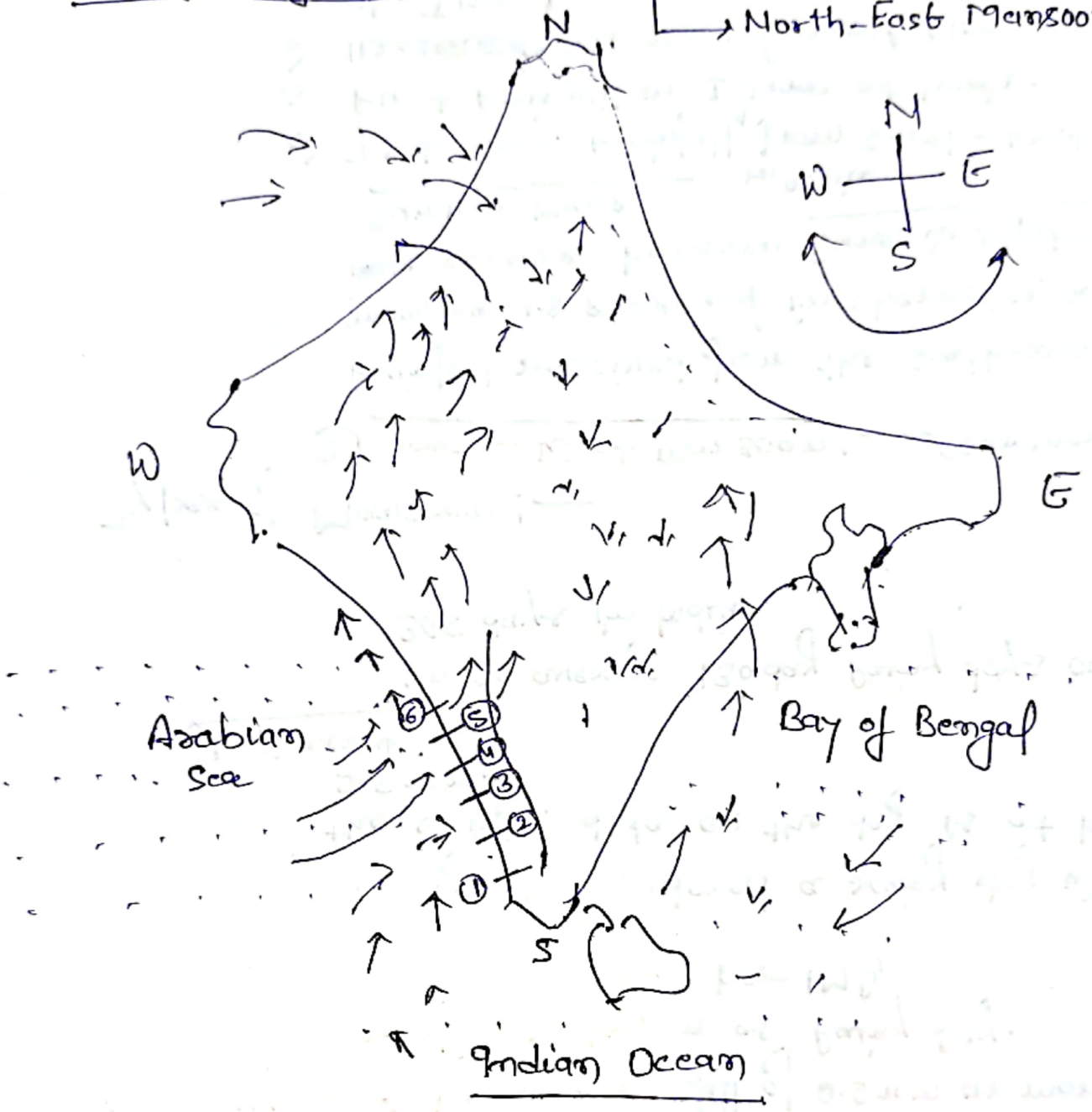
Types of Mansoon :—

① South-West Mansoon :— (Summer)

Rainfall received from the south-west mansson is seasonal in character, which occurs between June to september or Summer Mansoon in India

- → 75 to 80% Rainfall from South-West mansoon
- → First Rainfall on 1 June at Kerla.
- → 9th normal onset Monsoon date of June-1
- → Kerala, the gateway of the monsoon into the mainland of the country.

Two types of Monsoon → Sout-West Monsoon
→ North-East Monsoon



Western Ghats / Mountain		Rainfall (mm)
① Anamudi - 8,842 ft	→	3000 mm
② Doddabeta - 8652 ft	→	2700 mm
③ Kudremukha - 6,214 ft	→	2500 mm
④ Mulangiri - 6,330 ft	→	
⑤ Mahabaleshwar - 4500 ft	→	
⑥ Kalsubai - 5400 ft	→	2000 mm

Generally, across the world, the monsoon are experienced in the tropical area roughly between 20°N and 20°S.

(A) South west Mansoon :—

Mechanism

Onset of the Mansoon :—

→ The location of ITCZ shifts north and south of equator with the apparent movement of the Sun.

→ During the month of June, the Sun shines vertically over the Tropic of Cancer and the ITCZ shifts northwards.

→ The Southeast trade wind of the Southern hemisphere cross the equator and start blowing the Southwest to northeast direction under the influence of Coriolis force.

~~The Arabian branch :—~~

The Arabian Sea branch :— The monsoon wind orginating over the Arabian Sea.

Note: contribution - 80% in total Rainfall

The Bay of Bengal branch :—

The Arakan hills along the coast of Myanmar deflect a big portion of this branch towards the Indian Subcontinent. The monsoon, therefore, enters West Bengal and Bangladesh from South and Southeast instead of from the South-westerly direction.

Note: Contribution = 20% in total Rainfall

Inter Tropical Convergence Zone (ITCZ) -

It is broad trough of low pressure in equatorial latitudes. This is where the northeast and the southeast trade wind converge. This convergence zone lies more or less parallel to the equator but moves north or South with the apparent movement of the Sun.

Cloud Seeding :-

Clouds seeding is one of the tools to mitigate the effects of drought.

It is defined as a process in which the precipitation is encouraged by injecting artificial condensation nuclei through aircraft or suitable mechanism to induce rain from rain bearing cloud. The rain drops are several times heavier than cloud droplets. These mechnisms are different for cold and warm clouds.

→ Clouds are classified into warm and cold clouds based on cloud top temperature.

→ if the cloud temperature is positive the clouds are called warm clouds.

→ Cloud temperature is negative the clouds are called cold clouds.

Clouds seeding :— ~~Two types~~ / Artificial Rainfall

① Cold Seeding
- (A) Dry Ice seeding
- (B) Silver Iodide Seeding

② Warm Seeding

(A) Dry Ice Seeding :—

↳ Dry Ice (Solid Carbon-dioxide) Tem; (-80°C)

↳ Aircrafts are commonly used for cloud seeding with dry ice.

↳ Aircraft flies across the top of a cloud and 0.5 — 1.0 cm dry ice pellets are released in a steady stream.

This method is not economical as 250 kg of dry ice is required for seeding one cloud.

(B) Silver Iodide Seeding :— (AgI)

Minute crystals of silver iodide produced in the form of smoke acts as efficient ice-farming nuclei at temperature below (-5°C).

The appropriate ~~[illegible]~~ procedure for seeding cold clouds would be to releases silver iodide smoke into super cooled cloud from an aircraft.

In seeding cold clouds silver Iodide technique is more useful than dry ice technique, because, very much less of silver iodide is required per clouds. Thise is no necessity to fly to the top of the cloud, if area to be coverage is large.

(2) Warm Seeding :— (Sodium Chloride) NaCl

(2) North-East Monsoon :—

The Northeast monsoon season is typically defined by months of October to December, when significant rainfall occurs in southeastern parts of peninsular India.

→ In comparision to southwest Indian monsoon the northeast monsoon accounts for only about 15 % of Annual Rainfall in India.

→ The ~~South~~ northeast monsoon is limited to south India. bigining Rain to Tamil Nadu. ~~Rand~~ Puducherry, Karaikal, Yanam, Andhra Pradesh, Kerala and others parts of south India.

→ low-pressur system, depressions and ~~cycol~~ cyclones cause the associated rainfall also known as the Winter Monsoon.

→ The main rainy season in TN (Tamil Nadu) and adjoining area of Andhra Pradesh to the south of the ~~Kerala~~ Krishna delta, as well as a secondry rainy season in Kerala ; is form October to November.

Retreating Monsoon :—

A retreating monsoon is also known as the Northeast monsoon or Post-Monsoon season.

The retreating monsoon also marks the beganing of winter season of India. The ~~temprature~~ gardually decrease across the ~~cont~~ country.

Acid Rain :—

Acid rain results when sulfer dioxide (SO_2) and nitrogen oxides (NO_2) and emitted into the atmosphere and transported by wind and air currents. The SO_2 and NO_2 react with water, oxygen and other chemicals to form sulfuric and nitric acid. These then mix with weater and other chemicals before falling to the earth.

(1) $NO_2 + H_2O \rightarrow HNO_3$

(2) $SO_2 + H_2O \rightarrow H_2SO_4$

Generally pH → less than 4.5

Weather Forcasting :—

(1) Now a day weather forcasting

Few.

(2) Short range weather forcasting → (1–3 days)
(SRWF) Twice a day

(3) Medium Range WF → 3 to 10 days
(MRWF)

(4) Long Range WF → more than 10 days
(LRWF) (In year three times)

This weather forcasting suitable cropping pattern in Agriculture of India.