Scalling Of India'S Climate Regions

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Abstract: Many researches are being conducted by him on the global monsoon systems from 1980 to till date with an ideal to invent the mysteries of the world global monsoon system and formulating the basics of the Global Monsoons, Regional Monsoons, Sub-Regional Monsoons and Country-wise local Monsoons, Northern, Southern, Summer and Winter wise Monsoons to predict the weather changes and natural calamities in advance and to take mitigation measures. In 1991, he submitted a research report on the world global monsoon systems along with a special report on Indian Monsoon Time Scale to Sri G.M.C. Balayogi, Member of Parliament (Lok Sabha). Sri G.M.C. Balayogi recommended the research report to the India Meteorological Department for implementation in the services of the people. In 1994, the Cabinet Secretariat of India recommended the Global Monsoon Time Scales to the Ministry of Science & Technology, Govt of India for implementation. In 1996, many consultations were made with the Parliament House, President of India and other VVIPS. In 2005, consultations were made with the India Meteorological Department about the Global Monsoon Time Scales for further research and development in the services of the people. In 2009, the Secretary, Minister of Science and Technology was also recommended the Global Monsoon Time Scale to the Indian Institute of Tropical Meteorology for research and development. We can make separate monsoon time scales per each and every individual country. Country monsoon are not separate monsoons just like North American Monsoon etc, its means a scale for study the local winds of a country. I have conducted many scientific researches on the Global Monsoon Time Scales and as a part these researches, i invented the India's Climate Region Monsoon Time Scale which can help to study the past, present and future movements of the India's Climate Region Monsoon.

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Key Words: Global Monsoons Time Scales, Regional Monsoons Time Scales, Sub-Regional Monsoons Time Scales, Country-wise local Monsoons Time Scales, Northern Monsoons Time Scales, Southern Monsoons Time Scales, Summer Monsoons Time Scales, Winter Monsoons Time Scales, India's Climate Region Monsoons Time Scale.

Introduction:

Monsoon means a seasonal reversing wind accompanied by its corresponding weather changes and natural calamaties in precipitation. We cannot be said that a monsoon especially to be relevant to a particular continent, region or country. Each and every continent or region or country has its own monsoon winds. By establishing the Monsoon Time Scale and maintain, a country can be estimated the impending weather conditions and natural calamities such as rains, floods, landslides, avalanches, blizzard and droughts, extreme winter conditions, heavy rainfall, mudflows, extreme weather, cyclones, cloud burst, sand storms, hails and winds etc all climatological, meteorological and weather related weather conditions & natural calamities in advance. Surface water resources can still be found.

Global Monsoon Time Scales: I have conducted many researches on the world global monsoon systems and invented the Global Monsoons Time Scales, Regional Monsoons Time Scales, Sub-Regional Monsoons Time Scales, Country-wise local Monsoons Time Scales, Northern Monsoons Time Scales, Southern Monsoons Time Scales, Summer Monsoons Time Scales, Winter Monsoons Time Scales including the India's Climate Region Monsoons Time Scale which can help to study the past's, present and future movements of Global Monsoons and its relationship with rainfall and other weather problem and natural calamitiesy. We can make separate monsoon time scales per each and every individual country.

India'S Climate Region: India is home to an extraordinary variety of climatic regions, ranging from tropical in the south to temperate and alpine in the Himalayan north, where elevated regions receive sustained winter snowfall. The nation's climate is strongly influenced by the Himalayas and the Thar Desert.[11] The Himalayas, along with the Hindu Kush mountains in Pakistan, prevent cold Central Asian katabatic winds from blowing in, keeping the bulk of the Indian subcontinent warmer than most locations at the similar latitudes. Simultaneously, the Thar Desert plays a role in attracting moisture-laden southwest summer monsoon winds that, between June and October, provide the majority of India's rainfall. Four major climatic groupings predominate, into which fall seven climatic zones that, as designated by experts, are defined on the basis of such traits as temperature and precipitation.[14] Groupings are assigned codes (see chart) according to the Köppen climate classification system.

Global Monsoon Time Scales	Regional Monsoon Time Scales	Sub-Regional Monsoon Time Scales
India's Climate RegionMonsoon Time Scale	North American Monsoon Time Scale	South Asian Monsoon Time Scale
North American Monsoon Time Scale	North India's Climate RegionMonsoon Time Scale	Maritime Continent Monsoon Time Scale
Asian Monsoon Time Scale	Indian Monsoon Time Scale	East India's Climate RegionMonsoon Time Scale
Australian Monsoon Time Scale	Western North Pacific Monsoon Time Scale	West India's Climate RegionMonsoon Time Scale
India's Climate RegionMonsoon Time Scale	South American Monsoon Time Scale	Indo-Australian Monsoon Time Scale
	South India's Climate RegionMonsoon Time Scale	Asian-Australian Monsoon Time Scale
	Australian Monsoon Time Scale	Malaysian Australian Monsoon Time Scale
	East Asian Monsoon Time Scale	Northern Australian Monsoon Time Scale
		Arizona Monsoon Time Scale
		Mexican Monsoon Time Scale
		South-West Monsoon Time Scale
		North-East Monsoon Time Scale
		South East Asian Monsoon Time Scale

Tropical Wet

A tropical rainy climate governs regions persistent to warm or high temperatures, which normally do not fall below 18 °C (64 °F). India hosts two climatic subtypes- tropical monsoon climat, tropical wet and dry climate that fall under this group.

1) The most humid is the tropical wet climate—also known as a tropical monsoon climat—that covers a strip of southwestern lowlands abutting the Malabar Coast, the Western Ghats, and southern Assam. India's two island territories, Lakshadweep and the Andaman and Nicobar Islands, are also subject to this climate. Characterised by moderate to high year-round temperatures, even in the foothills, its rainfall is seasonal but heavy—typically above 2,000 mm (79 in) per year.[15] Most rainfall occurs between May and November; this moisture is enough to sustain lush forests and other vegetation for the rest of the mainly dry year. December to March are the driest months, when days with precipitation are rare. The heavy monsoon rains are responsible for the exceptional biodiversity of tropical wet forests in parts of these regions.

2) In India a tropical wet and dry climate is more common. Noticeably drier than areas with a tropical monsoon climate, it prevails over most of inland peninsular India except for a semi arid rain shadow east of the Western Ghats. Winter and early summer are long and dry periods with temperatures averaging above 18 °C (64 °F). Summer is exceedingly hot; temperatures in low-lying areas may exceed 50 °C (122 °F) during May, leading to heat waves that can each kill hundreds of Indians. The rainy season lasts from June to September; annual rainfall averages between 750–1,500 mm (30–59 in) across the region. Once the dry northeast monsoon begins in September, most precipitation in India falls on Tamil Nadu, leaving other states comparatively dry.

The Ganges Delta lies mostly in the tropical wet climate zone: it receives between 1,500 to 2,000 mm (59 to 79 in) of rainfall each year in the western part, and 2,000 to 3,000 mm (79 to 118 in) in the eastern part. The coolest month of the year, on average, is January; April and May are the warmest months. Average temperatures in January range from 14 to 25 °C (57 to 77 °F), and average temperatures in April range from 25 to 35 °C (77 to 95 °F). July is on average the wettest month: over 330 mm (13 in) of rain falls on the delta.[17]

Tropical Dry

A tropical arid and semi-arid climate dominates regions where the rate of moisture loss through evapotranspiration exceeds that from precipitation; it is subdivided into three climatic subtypes- tropical semi-arid steppe, arid climate, tropical and sub-tropical steppe climate.

1) The first, a **tropical semi-arid steppe climate**, (Hot semi-arid climate) predominates over a long stretch of land south of Tropic of Cancer and east of the Western Ghats and the Cardamom Hills. The region, which includes Karnataka, inland Tamil Nadu, western Andhra Pradesh, and central Maharashtra, gets between 400–750 millimetres (15.7–29.5 in) annually. It is drought-prone, as it tends to have less reliable rainfall due to sporadic lateness or failure of the southwest monsoon.[19] Karnataka is divided into three zones – coastal, north interior and south interior. Of these, the coastal zone receives the heaviest rainfall with an average rainfall of about 3,638.5 mm per annum, far in excess of the state average of 1,139 mm (45 in). In contrast to norm, Agumbe in the Shivamogga district receives the second highest annual rainfall in India. North of the Krishna River, the summer monsoon is responsible for most rainfall; to the south, significant post-monsoon rainfall also occurs in October and November. In December, the coldest month, temperatures still average around 20–24 °C (68–75 °F). The months between March to May are hot and dry; mean monthly temperatures hover around 32 °C, with 320 millimetres (13 in) precipitation. Hence, without artificial irrigation, this region is not suitable for permanent agriculture.

2) Most of western Rajasthan experiences an **arid climatic regime** (Hot desert climate). Cloudbursts are responsible for virtually all of the region's annual precipitation, which totals less than 300 millimetres (11.8 in). Such bursts happen when monsoon winds sweep into the region during July, August, and September. Such rainfall is highly erratic; regions experiencing rainfall one year may not see precipitation for the next couple of years or so. Atmospheric moisture is largely prevented from precipitating due to continuous downdrafts and other factors.[20] The summer months of May and June are exceptionally hot; mean monthly temperatures in the region hover around 35 °C (95 °F), with daily maxima occasionally topping 50 °C (122 °F). During winters, temperatures in some areas can drop below freezing due to waves of cold air from Central Asia. There is a large diurnal range of about 14 °C (25.2 °F) during summer; this widens by several degrees during winter.

Dust storm in the Thar Desert.

To the west, in Gujarat, diverse climate conditions obtain. The winters are mild, pleasant, and dry with average daytime temperatures around 29 °C (84 °F) and nights around 12 °C (54 °F) with virtually full sun and clear nights. Summers are hot and dry with daytime temperatures around 41 °C (106 °F) and nights no lower than 29 °C (84 °F). In the weeks before the monsoon temperatures are similar to the above, but high humidity makes the air more uncomfortable. Relief comes with the monsoon. Temperatures are around 35 °C (95 °F) but humidity is very high; nights are around 27 °C (81 °F). Most of the rainfall occurs in this season, and the rain can cause severe floods. The sun is often occluded during the monsoon season.

3) East of the Thar Desert, the Punjab-Haryana-Kathiawar region experiences a tropical and sub-tropical steppe climate. Haryana's climate resembles other states of the northern plains: extreme summer heat of up to 50 °C and winter cold as low as 1 °C. May and June are hottest; December and January are coldest. Rainfall is varied, with the Shivalik Hills region being the wettest and the Aravali Hills region being the driest. About 80% of the rainfall occurs in the monsoon season of July–September, which can cause flooding. The Punjabi climate is also governed by extremes of hot and cold. Areas near the Himalayan foothills receive heavy rainfall whereas those eloigned from them are hot and dry. Punjab's three-season climate sees summer months that span from mid-April to the end of June. Temperatures typically range from–2 °C to 40 °C, but can reach 47 °C (117 °F) in summer and −4 °C in winter. In this zone, a transitional climatic region separating tropical desert from humid sub-tropical savanna and forests, experiences temperatures that are less extreme than those of the desert. Average annual rainfall is 300–650 millimetres (11.8–25.6 in), but is very unreliable; as in much of the rest of India, the southwest monsoon accounts for most precipitation. Daily summer temperature maxima rise to around 40 °C (104 °F); this results in natural vegetation typically comprising short, coarse grasses.

Subtropical humid

Most of Northeast India and much of North India are subject to a humid subtropical climate. Though they experience hot summers, temperatures during the coldest months may fall as low as 0 °C (32 °F). Due to ample monsoon rains, India has only one subtype of this climate under the Köppen system. In most of this region, there is very little precipitation during the winter, owing to powerful anticyclonic and katabatic (downward-flowing) winds from Central Asia.

Humid subtropical regions are subject to pronounced dry winters. Winter rainfall—and occasionally snowfall—is associated with large storm systems such as "Nor'westers" and "Western disturbances"; the latter are steered by westerlies towards the Himalayas. Most summer rainfall occurs during powerful thunderstorms associated with the southwest summer monsoon; occasional tropical cyclones also contribute. Annual rainfall ranges from less than 1,000 millimetres (39 in) in the west to over 2,500 millimetres (98 in) in parts of the northeast. As most of this region is far from the ocean, the wide temperature swings more characteristic of a continental climate predominate; the swings are wider than in those in tropical wet regions, ranging from 24 °C (75 °F) in north-central India to 27 °C (81 °F) in the east.

Mountain

Pangong Lake in Ladakh, an arid montane region lying deep within the Himalayas.

India's northernmost areas are subject to a montane, or alpine, climate. In the Himalayas, the rate at which an air mass's temperature falls per kilometre (3,281 ft) of altitude gained (the dry adiabatic lapse rate) is 9.8 °C/km.[23] In terms of environmental lapse rate, ambient temperatures fall by 6.5 °C (11.7 °F) for every 1,000 metres (3,281 ft) rise in altitude. Thus, climates ranging from nearly tropical in the foothills to tundra above the snow line can coexist within several hundred metres of each other. Sharp temperature contrasts between sunny and shady slopes, high diurnal temperature variability, temperature inversions, and altitude-dependent variability in rainfall are also common.

The northern side of the western Himalayas, also known as the trans-Himalayan belt, has a cold desert climate. It is a region of barren, arid, frigidand wind-blown wastelands. Areas south of the Himalayas are largely protected from cold winter winds coming in from the Asian interior. The leeward side (northern face) of the mountains receives less rain.

The southern slopes of the western Himalayas, well-exposed to the monsoon, get heavy rainfall. Areas situated at elevations of 1,070–2,290 metres (3,510–7,510 ft) receive the heaviest rainfall, which decreases rapidly at elevations above 2,290 metres (7,513 ft). Most precipitation occurs as snowfall during the late winter and spring months. The Himalayas experience their heaviest snowfall between December and February and at elevations above 1,500 metres (4,921 ft). Snowfall increases with elevation by up to several dozen millimetres per 100 metre (~2 in; 330 ft) increase. Elevations above 6,000 metres (19,685 ft) never experience rain; all precipitation falls as snow.[24]

Construction: Keeping in view of study of the aforesaid Keeping in view of study of the aforesaid India's Climate Region Monsoon thoroughly, I have prepared the India's Climate RegionMonsoon Time Scale India's Climate RegionMonsoon Time Scale is a Chronological sequence of events arranged in between time and weather with the help of a scale for studying the past's, present and future movements of India's Climate Region monsoon and its relationship with rainfall and other weather problem and natural calamities. Prepare the India's Climate RegionMonsoon Time Scale having 365 horizontal days from March 21st to next year March 20th of a required period comprising of a large time and weather have been taken and framed into a square graphic scale.

Collection Of Data: The monsoon pulses in the form of low pressure systems main weather events if any of the India's Climate Region monsoon region have been taken as the data to prepare this scale.

Maintanance: The main weather events if any of the India's Climate Region monsoon have been entering on the Indian Monsoon Time Scale as per date and month of the each and every year. If we have been managing this scale in this manner continuously, we can study the past, present and future movements of India's Climate Region monsoon..

Indian Monsoon Time Scale: Keeping in view of the aforesaid facts and circumstances, I have prepared a model Monsoon Time Scale for the Indian monsoon to study and analysis of the India's Climate Region monsoon.

Construction: Keeping in view of study of the aforesaid Indian Monsoon thoroughly, I have prepared the Indian Monsoon Time Scale. The Indian Monsoon Time Scale – a Chronological sequence of events arranged in between time and weather with the help of a scale for studying the past's, present and future movements of monsoon of a country and its relationship with rainfall and other weather problems and natural calamities. From where to wherever to be taken the time and weather to analyse, the researcher can decide on his discretion according to available data. I have prepared the Indian Monsoon Time Scale having 365 horizontal days from March 21st to next year March 20th or from 1st April to next year March 31st of 139 years from 1888 to 2027 of/or a required period comprising of a large time and weather have been taken and framed into a square graphic scale. An accurate scale is available if we can collect and analyse the exact weather data. For example, I did not get comple te data from the year of 1964. However, I will try to collect the weather data hardly and complete the scale.

FIXED TYPE SCALE: Prepare the Indian Monsoon Time Scale having 365 horizontal days from March 21st to next year March 20th or from 1st April to next year March 31st of 139 years from 1888 to 2027 of/or a required period comprising of a large time and weather have been taken and framed into a square graphic scale. All 365 days and 189 years to be analysed in a single and fixed type scale. It can be fixed on a wall or Table.

PARTS TYPE SCALE: The fixed type scale is to be long. So that it is divided into four parts easy to carry and keep and suitable for publication. I designed to make it into 4 parts and then pasted it into one scale.

The first part is beginning from 1st April to July 12th.

The second part is from 13 July to October 23rd.

The third part is from 24th October to February 3rd.

And the fourth part is 4th February to March 31st ending.

These separate scales can be pasted into one scale as explained below.

Cut along the edges of dates on the rightside of the first part and paste it to along the edges of date of 13th July on leftside of the second part.

Cut along the edges of dates on the rightside of the second part and paste it to along the edges of date of 24th October on leftside of the third part.

Cut along the edges of dates on the rightside of the third part and paste it to along the edges of date of 4th February on leftside of the fourth part.

When paste this manner, we get long full scape Indian Monsoon Time Scale.

Further the scale has been prepared in three types. .

Basic Scale: The first one is preliminary basic scale, it explains the structure of the scale.

Filled Scale: The second one is filled by data scale, it explains how to fill or manage the scale.

Analyzed Scale: And the third one is filled and analyzed by data, it explains monsoon patterns of the scale.

Computer Graphic Scale: Besides the above manual scale, I have prepared a computer graphic scale generated by the system from the year 1888 to 1983 for the period of 1st June to September 30th. If we are able to create this scale by computer which to be the most obvious scale.

Collection Of Data: The monsoon pulses in the form of low pressure systems over the Indian region have been taken as the data to the construction of this scale. For this, a lot of enormous data of low pressure systems, depressions and cyclone has been taken from many resources just like Mooley DA, Shukla J (1987); Charecteristics of the west ward-moving summer monsoon low pressure systems over the Indian region and their relationship with the monsoon rainfall. centre for ocean-land atmospheric interactions, university of Maryland, college park, MD., and from many other resources.

Maintanance: The monsoon pulses in the form of low pressure systems over the Indian region have been entering on the scale in stages by 1 for low, 2 for depression, 3 for storm, 4 for severe storm and 5 for severe storm with core of hurricane winds pertaining to the date and month of the each and every year. If we have been managing the scale of a country in this manner continuously, we can study the past, present and future movements of monsoon of a country.

Analysis: The Indian Monsoon Time Scale reveals many secrets and mysteries about the relationship in between the Global monsoons and astronomical bodies just like movement of axis of the earth around the sun in the universe & its influences on the earth's geophysical atmosphere. Let's study the mystery of the south-west monsoon and discuss the rest of other features of the Indian Monsoon Time Scale later.

Monsoon Path-Lines: When examine the scale notice that several passages or path-ways of monsoon pulses it have been some cut-edge paths and splits passing through its systematic zigzag cycles in a systematic manner in parallel and stacked next to each other in ascending and ascending order clearly seen on the Indian Monsoon Time Scale. By reason of travel of these passages, heavy rains & floods in some years and droughts & famines in another years according to their travel. The path of monsoon when travelling over four months from june to september good rainfall or heavy rains and floods can occur. And the path when travelling over last months i.e july or august or sepetember, low rainfall and droughts can occur. Particularly, there are two main passages. The first one is main path or passage of the south-west monsoon and the second one is path or passage of the north-east monsoon. The first one is on the left side over the months of june, july, august, september (South-west monsoon) and another path on the rightside over the months of october, november, december (north-east monsoon) are visible in the Indian Monsoon Time Scale

Description; Keep track the Indian Monsoon Time Scale carefully. **D**uring 1871-1900's the main path-way of the Indian monsoon was rising over June, July, August. During 1900-1920's it was falling over August, September. During 1920-1965's, it was rising again over July, August, September. During 1965-2004's it was falling over September. From 2004 it is now rising upwards and estimated traveling over the months of June, July, August by the 2060.

By 1888 the line of path of the Indian Monsoon was started over the month of june and travelled to 1900's in steep descending direction. During this 4 months period of (june, july, august, september) of indian monsoon season. the line of path of the monsoon was travelled over all these four months. As a result, there were heavy rains and floods in most years.

From 1900 to 1920, the line of path of the indian monsoon was travelled over the months of August and September in the shape of concave direction. In this 4 months monsoon season, the line was travelled just over two months only. That means june and july rain was lost during the period, as a result it rained only two months instead of four months monsoon season and causing low rainfall in many years.

From 1920 to 1965, the line of path of the indian monsoon was travelled over the months of july, august and september in the shape of convex direction. In this 4 months monsoon season, the line was travelled over three months. That means one month june rain was lost during the period, as a result it rained only three months instead of four months monsoon season. and resulting good rainfall in more years.

From 1965 to 2004, the passage of the indian monsoon was travelled over the months of august to mid-august in the shape of deep sloping direction, In this 4 months monsoon season, the line was travelled just over two months for a shord period only. That means two months i.e june and july rain was lost during the period, as a result it rained only two months instead of four months monsoon season. and causing low rainfall and droughts in many years.

. From 2004, the line of path of the indian monsoon seems likely rising over the months of july and june in future in the shape of upper ascending direction and will be resulting heavy rains & floods in coming years during 2004-2060.

Studies: During the period 1871-2015, there were 19 major flood years:1874, 1878, 1892, 1893, 1894, 1910, 1916, 1917, 1933, 1942, 1947, 1956, 1959, 1961, 1970, 1975, 1983, 1988, 1994.

And during the period 1871-2015, there were 26 major drought years: 1873, 1877, 1899, 1901, 1904, 1905, 1911, 1918, 1920, 1941, 1951, 1965, 1966, 1968, 1972, 1974, 1979, 1982, 1985, 1986, 1987, 2002, 2004, 2009, 2014, 2015. Depending on the data mentioned above, it is interesting to note that there have been alternating periods extending to 3-4 decades with less and more frequent weak monsoons over India.

For example, the 44-year period 1921-64 witnessed just three drought years and happened good rainfall in many years. This is the reason that when looking at the Indian Monsoon Time Scale you may note that during 1920-1965's, the passage of the indian monsoon had been rising over July, August, September in the shape of concave direction and resulting good rainfall in more years..

During the other periods like that of 1965-87 which had as many as 10 drought years out of 23, This is the reason that when looking at the Indian Monsoon Time Scale you may note that during 1965-2004's the path of the indian monsoon had been falling over the September in the shape of convex direction and causing low rainfall and droughts in many year.

The Indian Monsoon Time Scale reveals many secrets of the monsoon & its relationship with rainfall & other weather problems and natural calamities. Some bands, clusters and paths of low pressure systems clearly seen in the Indian Monsoon Time Scale, it have been some cut-edge paths passing through its systematic zigzag cycles in ascending and ascending orders which causes heavy rains & floods in some years and droughts & famines in another years according to their travel. And also we can find out many more secrets of the Indian monsoon such as droughts, famines, cyclones, heavy rains, floods, onset & withdrawals of south west monsoon and north-east monsoon etc. by keen study of the Indian Monsoon Time Scale. The passages clearly seen in the Indian Monsoon Time Scale are sources of monsoon pulses. The tracking date of main path & other various paths such as south-west monsoon and north-east monsoon etc., of the Indian Monsoon denotes the onset of the monsoon, monsoon pulses or low pressure systems. These observations can mean that pulses of the monsoon are repeatedly determined by the number of repeats.

These are just some of the analyzes in the study of the indian monsoon. There are many more secrets in the indian monsoon. Indian scientists should get rid of them.

Principle: This is an Astrogeophysical/Astrometeorological phenomenon of effects of astronomical bodies and forces on the earth's geophysical atmosphere. The cause is unknown however the year to year change of movement of axis of the earth inclined at 23½ degrees from vertical to its path around the sun does play a significant role in formation of clusters, bands & paths of the Indian Monsoon and stimulates the Indian weather. The inter-tropical convergence zone at the equator follows the movement of the sun and shifts north of the equator merges with the heat low pressure zone created by the rising heat of the sub-continent due to direct and converging rays of the summer sun on the India Sub-Continent and develops into the monsoon trough and maintain monsoon circulation.

Climate Detection Methods: The tracking date of main path & other various paths such as south-west monsoon and north-east monsoon etc., of the Indian Monsoon denotes the onset of the monsoon, monsoon pulses or low pressure systems, storms and its consequent secondary hazard Sand Storms etc.. And also we can find out many more secrets of the Indian monsoon such as droughts, famines, cyclones, heavy rains, floods, real images of the Indian Monsoon, and onset & withdrawals of south west monsoon and north-east monsoon etc. by keen study of the Indian Monsoon Time Scale.

For example, the date of tracking ridge of path is the sign to the impending cyclone and its secondary consequent hazard floods, storm surges etc.

Another example, the thin and thick markers on the upper border line of the Indian monsoon time scale are the signs to the impending heavy rains & floods and droughts & floods. The thick marking of clusters of low pressure systems on the Indian monsoon time scale is the sign to the impending heavy rains and floods and the thin marking of clusters of low pressure systems on the Indian monsoon time scale is the sign to the impending droughts and famines.

Furthermore example, the main passage of line of monsoon travel from June to September and September to June are also signs to impending weather conditions of a country. For example, during 1871-1990's the main path of the Indian Monsoon was rising over June, July, August and creating heavy rains and floods in most years. During 1900-1920's it was falling over August, September and causing low rainfall in many years. During 1920-1965s, it was rising again over July, August, September and resulting good rainfall in more years. During 1965-2004's it was falling over September and causing low rainfall and droughts in many years. At present it is rising upwards over June, July, August, and will be resulting heavy rains & floods in coming years during 2004-2060 in India.

These are some examples only. We can find out many more secrets of a country weather conditions by keen study of its monsoon time scale.

Uses: India's Climate RegionMonsoon Time Scale used to forecast the weather changes and natural hazards of the India's Climate RegionMonsoon in advance. All other weather related natural hazards such as avalanches, cyclones, damaging winds, droughts and water shortage, floods, thunderstorms, tornodoes, tropical cyclones, typhoons etc pertaining to this India's Climate RegionMonsoon can be predicted.

By establishing the India's Climate RegionMonsoon Time Scales can help to study the movements of the one's country's monsoon and its monsoon related weather changes and natural hazards.

Conclusions: We can make many more modifications thus bringing many more developments in the India's Climate RegionMonsoon Time Scales.

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The Figures are shown in the end of this issue.

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