

**A Study On The
Meteorological Hazards & Its Forecasting Methods
(Global Monsoon Time Scales, Indian Monsoon Time Scale)**

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Abstract: A hazard caused by short-lived, micro to meso scale extreme weather and atmospheric conditions that last from minutes to day. Meteorological Hazards are caused by extreme weather events such as rain, drought, snow, extreme heat or cold, or wind, violent, sudden and destructive change to the environment related to produced by or affecting the earth's atmosphere, especially the weather forming processes, examples are extreme temperatures, sand storms, thunder & lightnings, ice-bridges, heavy snow, fogs, hurricanes, hail storms, tornadoes, thunder storms, typhoons, tropical cyclones, damaging winds, heavy rains, ice floes, dust storms, ice storms, dorecho, severe winter conditions, cold walls etc., I have conducted many studies on the Meteorological Hazards and invented the Global Monsoon Time Scale, Astroclimatic which can help to study and predict the those Meteorological Hazards in advance.

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Key Words: Global Monsoon Time Scale, Meteorological Hazards, Indian Monsoon Time Scale.

1. Introduction: By establishing the Global Monsoon Time Scales in accordance with the conditions of a country and maintain, impending Meteorological Hazards can be studied, estimated and predicted in advance. Here shows an example of method to study and predict such weather conditions.

2. Global Monsoon Time Scale: The global 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 other weather problem and natural calamities.

Prepare the Global Monsoon 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. The main weather events if any of the country such as Meteorological Hazards etc. have been entering on the scale as per 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 Meteorological Hazards of a country. I have invented the following global, regional and sub-regional monsoon time scales.

2.1. Global Monsoon Time Scales

African Monsoon Time Scale
North American Monsoon Time Scale
Asian Monsoon Time Scale
Australian Monsoon Time Scale
European Monsoon Time Scale

2.2. Regional Monsoon Time Scales

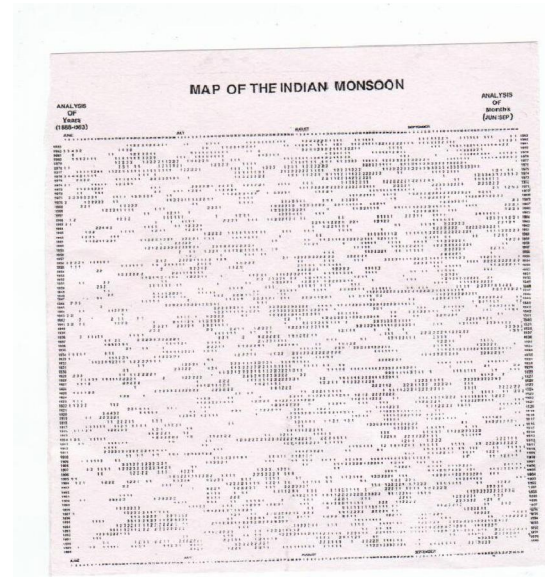
North American Monsoon Time Scale
North African Monsoon Time Scale
Indian Monsoon Time Scale
Western North Pacific Monsoon Time Scale
South American Monsoon Time Scale
South African Monsoon Time Scale
Australian Monsoon Time Scale
East Asian Monsoon Time Scale

2.3. Sub-Regional Monsoon Time Scales

South Asian Monsoon Time Scale
Maritime Continent Monsoon Time Scale
East African Monsoon Time Scale
West African Monsoon Time Scale
Indo-Australian Monsoon Time Scale
Asian-Australian Monsoon Time Scale
Malaysian Australian 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

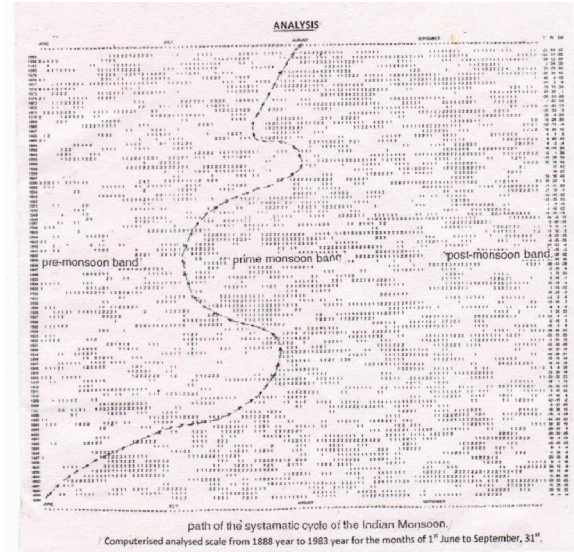
3. Indian Monsoon Time Scale:

3.1. Construction: For example, I have prepared the Indian Monsoon Time Scale for study, estimate and predict the Indian monsoon system. Prepare the Scale having 365 horizontal days from 1st April to next year March 31st of 128 years from 1888 to 2016 for the required period comprising of large time and weather have been taken and framed into a square graphic scale. 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 in this manner continuously, we can study the past's present's and future's of the India monsoon and its relationship with rainfall and other weather problems & natural calamities in India.



3.2. Analysis: The Indian Monsoon Time Scale reveals many secrets of the monsoon & its relationship with rainfall & other weather problems and natural calamities. For example, some bands, clusters and paths of low pressure systems along with the main paths of the Indian Monsoon (South-west monsoon and north-east monsoon) clearly seen in the map of the Indian monsoon it have been some cut-edge paths passing through its systematic zigzag cycles in ascending and ascending order which causes heavy rains & floods in some years and droughts & famines in another years according to their travel. For example, during 1871-1990s 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 1920-1965's, 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.



4. Hazard Detection Method: 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 Meteorological Hazards 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 cyclone 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 1920-1965's, 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.

5. 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 $23\frac{1}{2}$ 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.

6. Conclusion: We can make many more changes in the Global Monsoon Time Scale thus bringing many more methods can be designed to predict the Meteorological Hazards in advance.

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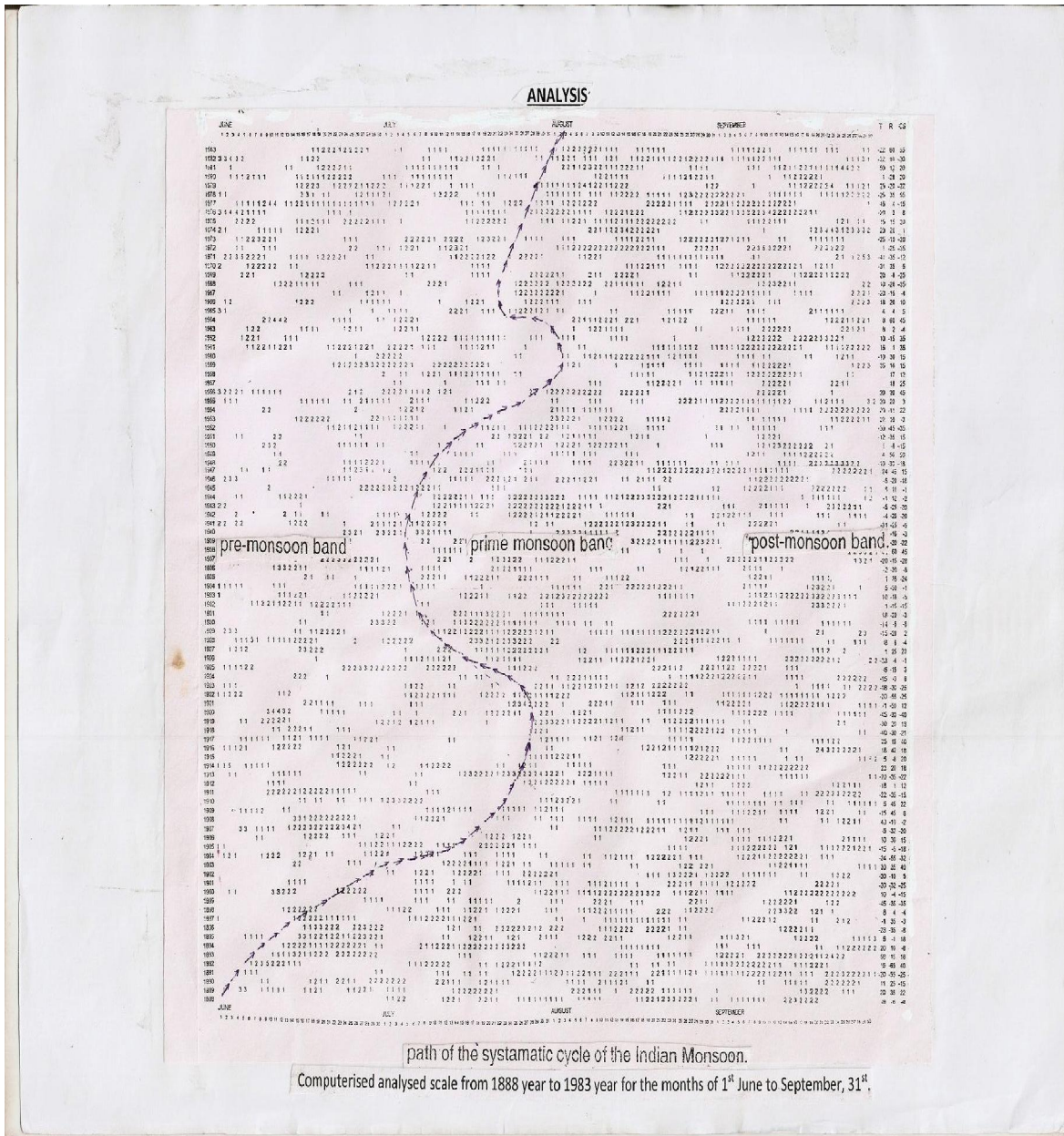
MAP OF THE INDIAN MONSOON

ANALYSIS
OF
Years
(1888-1983)

ANALYSIS
OF
Months
(JUN-SEP)

YEAR	JUN	JULY	AUGUST	SEPTEMBER
1888	11222	11111	11111	11111
1889	11222	11111	11111	11111
1890	11222	11111	11111	11111
1891	11222	11111	11111	11111
1892	11222	11111	11111	11111
1893	11222	11111	11111	11111
1894	11222	11111	11111	11111
1895	11222	11111	11111	11111
1896	11222	11111	11111	11111
1897	11222	11111	11111	11111
1898	11222	11111	11111	11111
1899	11222	11111	11111	11111
1900	11222	11111	11111	11111
1901	11222	11111	11111	11111
1902	11222	11111	11111	11111
1903	11222	11111	11111	11111
1904	11222	11111	11111	11111
1905	11222	11111	11111	11111
1906	11222	11111	11111	11111
1907	11222	11111	11111	11111
1908	11222	11111	11111	11111
1909	11222	11111	11111	11111
1910	11222	11111	11111	11111
1911	11222	11111	11111	11111
1912	11222	11111	11111	11111
1913	11222	11111	11111	11111
1914	11222	11111	11111	11111
1915	11222	11111	11111	11111
1916	11222	11111	11111	11111
1917	11222	11111	11111	11111
1918	11222	11111	11111	11111
1919	11222	11111	11111	11111
1920	11222	11111	11111	11111
1921	11222	11111	11111	11111
1922	11222	11111	11111	11111
1923	11222	11111	11111	11111
1924	11222	11111	11111	11111
1925	11222	11111	11111	11111
1926	11222	11111	11111	11111
1927	11222	11111	11111	11111
1928	11222	11111	11111	11111
1929	11222	11111	11111	11111
1930	11222	11111	11111	11111
1931	11222	11111	11111	11111
1932	11222	11111	11111	11111
1933	11222	11111	11111	11111
1934	11222	11111	11111	11111
1935	11222	11111	11111	11111
1936	11222	11111	11111	11111
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1949	11222	11111	11111	11111
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1952	11222	11111	11111	11111
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1970	11222	11111	11111	11111
1971	11222	11111	11111	11111
1972	11222	11111	11111	11111
1973	11222	11111	11111	11111
1974	11222	11111	11111	11111
1975	11222	11111	11111	11111
1976	11222	11111	11111	11111
1977	11222	11111	11111	11111
1978	11222	11111	11111	11111
1979	11222	11111	11111	11111
1980	11222	11111	11111	11111
1981	11222	11111	11111	11111
1982	11222	11111	11111	11111
1983	11222	11111	11111	11111

Computerised basic scale from 1888 year to 1983 year for the months of 1st June to September, 31st



path of the systematic cycle of the Indian Monsoon.

Computerised analysed scale from 1888 year to 1983 year for the months of 1st June to September, 31st.

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