Scalling Of Happening Of Monsoons

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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 Happening of Monsoons - Global Monsoon Time Scale which can help to study the past, present and future movements of the Happening of Monsoons - Global Monsoon.
[Gangadhara Rao Irlapati. **Scalling Of Happening Of Monsoons.** *Academ Arena* 2018;10(1s): 13-19]. (ISSN 1553-992X). http://www.sciencepub.net/academia. 3. doi:10.7537/marsaaj1001s1803.

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, Happening of Monsoons - Global 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 Happening of Monsoons - Global 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.

Happening Of Monsoons-Global Monsoon Time Scales: Air moves through the tropical atmosphere in a pattern called the Hadley Circulation – warm air rises near the equator, flows toward the poles, and then descends back toward the Earth's surface in the subtropics. The air flows along Earth's surface from the subtropics toward the equator and then the loop starts all over again.

Sunlight, and the energy it brings to Earth, is the driving force behind the Hadley Circulation. Sunlight heats land and ocean surfaces near the equator. The warmed surface releases energy into the atmosphere, in the form of heat and evaporated water. Air that was warmed at the equator, and the water vapor it holds,

rises and spreads out in the upper atmosphere, approximately 10-15 kilometers above the Earth's surface. As it flows toward the poles, this air cools and drops down toward the surface of the Earth in the subtropics, near 30 degrees latitude north or south of the equator. As air rises near the equator and then flows poleward, it leaves an area of fewer air molecules at the equator. This is a region of low pressure because there is a smaller mass of air left over the equator. Air from the subtopics, north and south of the equator, flows in to fill the space, completing the loop of Hadley Circulation. The area near the equator with low pressure and converging, rising winds is called the Intertropical Convergence Zone (ITCZ). Water vapor condenses as air rises and cools in the ITCZ, forming clouds and falling as rain. The ITCZ can be seen from space as a band of clouds around the planet. This is where monsoon rainfall occurs.

Global Monsoon Time Scales	**Regional Monsoon Time Scales**	**Sub-Regional Monsoon Time Scales**
Happening of Monsoons - Global Monsoon Time Scale	North American Monsoon Time Scale	South Asian Monsoon Time Scale
North American Monsoon Time Scale	North Happening of Monsoons - Global Monsoon Time Scale	Maritime Continent Monsoon Time Scale
Asian Monsoon Time Scale	Indian Monsoon Time Scale	East Happening of Monsoons - Global Monsoon Time Scale
Australian Monsoon Time Scale	Western North Pacific Monsoon Time Scale	West Happening of Monsoons - Global Monsoon Time Scale
Happening of Monsoons - Global Monsoon Time Scale	South American Monsoon Time Scale	Indo-Australian Monsoon Time Scale
	South Happening of Monsoons - Global Monsoon 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

If the Earth were not rotating, winds would blow directly towards the Intertropical Convergence Zone from the north and south. But the Earth is rotating – making a full turn on its axis each day – which turns the wind to the right in the Northern Hemisphere and to the left in the Southern Hemisphere. This means that air flowing toward the equator near Earth's surface also flows toward the west, and makes up what we call the "trade winds", which were important for global trade back in the days when goods were transported between continents by sailing ships. The effect of Earth's rotation on the winds is called the Coriolis effect or Coriolis force. It also affects the movement of ocean currents and the direction of rotation in hurricanes. Motions that span hundreds to thousands of miles feel the Coriolis force. It does not impact smaller scale phenomena like tornadoes. (And contrary to legend, the direction that water spins in a flushing toilet is due to toilet design, as toilets are much too small to feel the Coriolis force.)

The way the trade winds turned to the west on their way to the equator was of great interest to George Hadley, an 18th Century British lawyer who dabbled in meteorology. He proposed that it was the spin of the Earth that caused the winds to turn as they blew towards the equator. He produced what was essentially the first global theory of atmospheric circulation. Over the years other scientists have refined and further developed these ideas, but Hadley did get some of the basics correct. Today, the Hadley Circulation in the tropics is named after George Hadley.

The Hadley Circulation doesn't stay in the same place year-round, but varies with the seasons. This is the key to understanding why many tropical regions around the world have patterns of wet monsoon summers and dry winters. The seasonal changes in the Hadley Circulation create the world's monsoons.

Winds change through the year.

During December and January, the Southern Hemisphere is heated more strongly by the sun than the Northern Hemisphere, so the hottest air – the air that rises in the ITCZ – is found a little south of the equator. Winds from the Northern Hemisphere blow across the equator towards the ITCZ. During June and July, the Northern Hemisphere is heated more strongly by the sun, so the ITCZ and its rising hot air lie a little north of the equator and winds blow from the Southern Hemisphere across the equator to reach the ITCZ in the Northern Hemisphere.

As the ITCZ changes location through the year, the winds and rains and the location of monsoon wet weather changes, too.

Remember that the Coriolis force changes direction on the equator: It turns winds toward the right in the Northern Hemisphere and to the left in the Southern Hemisphere. So when air crosses the equator as it flows from the cold winter hemisphere toward the ITCZ in the summer hemisphere, it experiences a change in the Coriolis force. This causes the trade winds to reverse direction and blow toward the west in the winter hemisphere and to the east in the summer hemisphere. This seasonal reversal of the winds was historically very important for trade between Africa and Asia; ships would sail from Asia to Africa in winter and then undertake their return voyage when the summer monsoon changed the wind from westward to eastwinds.

The summer monsoon is what people often think of as monsoon conditions: large amounts of rain. But the winter monsoon, where dry conditions prevail, is part of the pattern too. During winter, air descends over tropical continents as the part of the Hadley Circulation that is outside of the ITCZ. Descending air causes high pressure, and makes clouds and rain uncommon. The dry conditions during winter can even lead to drought if they are too intense or persist for too long.

Monsoons are affected by geography.

Geography affects the amount of rainfall that an area receives as the ITCZ moves through the seasons. For example, during Northern Hemisphere winter the ITCZ is south of the equator and monsoon rains fall in northern Australia. Low-level winds blow south towards the ITCZ, picking up moisture as they move over the warm, tropical ocean. Meanwhile in India, dry air descending over land means there is little precipitation.

During Northern Hemisphere summer, the ITCZ is north of the equator and monsoon rains fall in India and other parts of south Asia as winds blow north from the tropical ocean to the land, while northern Australia experiences very dry conditions as air descends.

The location of monsoon rainfall is affected by the fact that land can't hold onto heat as well as the ocean. When intense summer sunlight hits land, its energy is absorbed and transferred quickly back into the atmosphere. When summer sunlight hits the ocean, the sun's energy is held by water and can be mixed downward and stored tens to hundreds of feet below the surface. This means that, in summer, air over land is heated more than air over ocean, which shifts the ITCZ toward land regions. In regions where continents lie north or south of the equator, as in Asia and Australia, this causes the ITCZ to shift farther off the equator during the summer season.

What affects the amount of rain?

There is year-to-year variation in the amount of monsoon rainfall during summer. For example, researchers have found that during El Niño conditions, when the Pacific Ocean is particularly warm near the equator, there is typically less rainfall during the summer monsoon in India. During La Niña conditions, when the Pacific Ocean is cool, there is more rain during the summer monsoon in India. While this is a general pattern, it cannot be used to indicate exactly how much rain will fall in India in any particular summer. In fact, the strongest El Niño event in the 20th Century (1997-1998) had little effect on the Indian monsoon. So there must be other influences on the amount of rainfall, too. This is an area of active research.

Climate change may be changing monsoons.

According to most computer simulations of Earth's climate over the next 50-100 years, there will be an increase in rainfall in most monsoon regions as climate warms due to the rising levels of atmospheric greenhouse gases such as carbon dioxide. Rains will likely increase in wet regions as climate warms because warm air can hold more water; if the winds do not change, more water vapor in the atmosphere will produce more rain in the ITCZ. Over ocean, where there is abundant water supply for the atmosphere, this is quite likely, but it is less clear how the amount of rain may change over land as climate warms. Whether or not winds will change enough to have a large effect on the rainfall is also unclear. During the dry season, land is expected to become drier because evaporation from land will increase in a warmer climate.

At the same time that rainfall is changing due to global climate change, natural year-to-year variability is happening as well. Other changes to the amount of rainfall may be caused by air pollution (such as tiny particles released as coal, oil, and gas are burned). The amount of monsoon rain that falls each year is highly variable, according to records of rain in India collected since the 1880s. In parts of India monsoon rainfall has decreased some since 1950. Meanwhile, in the Philippines and other areas of the western North

Pacific, the amount of monsoon rain has increased. Weak monsoon rains produced drought and famine over large parts of Africa in the 1970s and 1980s, but the West Happening of Monsoons - Global monsoon rains have recovered somewhat since then. So there is evidence that monsoons are changing, but researchers are still investigating how the amount of monsoon rainfall will be affected by climate change in the future.

Construction: Keeping in view of study of the aforesaid Keeping in view of study of the aforesaid Happening of Monsoons - Global Monsoon thoroughly, I have prepared the Happening of Monsoons - Global Monsoon Time Scale Happening of Monsoons - Global Monsoon 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 Happening of Monsoons - Global monsoon and its relationship with rainfall and other weather problem and natural calamities. Prepare the Happening of Monsoons - 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.

Collection Of Data: The monsoon pulses in the form of low pressure systems main weather events if any of the Happening of Monsoons - Global monsoon region have been taken as the data to prepare this scale.

Maintanance: The main weather events if any of the Happening of Monsoons - Global 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 Happening of Monsoons - Global 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 Happening of Monsoons - Global 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. During 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: Happening of Monsoons - Global Monsoon Time Scale used to foecast the weather changes and natural hazards of the Happening of Monsoons - Global Monsoon 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 Happening of Monsoons - Global Monsoon can be predicted.

By establishing the Happening of Monsoons - Global Monsoon 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 Happening of Monsoons - Global Monsoon Time Scales.

Acknowledgement

I have received some information in this research paper in the inventing of Global Monsoon Time Scale. Acknowledgements to them. In order to break the mysteries of the monsoons, Global Monsoon Time Scales shoud be designed for each and every global, regional & sub-regional monsoon winds for welfare of the world people. Give co-operation to my commitment in creating the Global Monsoon Time Scales.

The Figures are shown in the end of this issue.

1/25/2018

References:

1. Mooley DA, Shukla J (1987); Characteristics 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.
2. All india monthly and seasonal rainfall series, 18711993, B. Parthasarathy, A. AMunot, D. R. Kothawale, Theoretical and applied climatology, 1994, Springer.
3. Wiki: Happening of monsoon. (n.d.). Retrieved from http://monsoon.yale.edu/why-monsoons-happen/.