A detailed review on the Indian Monsoon Time Scale

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Abstract: 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. Many researches were being conducted by me 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 monsoon time scales to study to the past's, present and future movements of global monsoons and its relationship with rainfall and other weather problem 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 in advance. Indian monsoon is a key system in global monsoon systems. I have conducted many scientific researches on the global monsoon systems and as a part these researches I invented the Indian Monsoon Time Scale which can help to study the past, present and future movements of the Indian monsoon.
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Key words: Global Monsoons Time Scales, Indian Monsoons Time Scale.

Introduction:

Monsoon means a seasonal reversing wind accompanied by its corresponding weather changes and natural calamities in precipitation. We cannot be said that a monsoon especially to be relevant to a particular continent, country or a region. Each and every continent or region or country has its own monsoon winds.

Global Monsoon systems:

The major monsoon systems of the world consist of the west Africa and Asia -Australian monsoons. The inclusion of the North and South American monsoons with incomplete wind reversal has been debate. Monsoons can also be divided by Southern monsoon and Northern monsoons, summer monsoons and winter monsoons, continental monsoons and regional monsoons etc. A monsoon was also served with different names by region and place. For example, the North American monsoon is named after the name of Arizona monsoon and Mexican monsoon. There are two or three or more branches of one monsoon. Monsoon is also called upon by geographical areas. For example, the Indian monsoon has two branches, the Arabian branch and Bay of Bengal branch.

Each and every continent or region or country has its own monsoon winds. On the whole, following are the main regional monsoons according to Prof Bin Wang. I agree with Prof Bin Wang opinion.

North American monsoon
North African monsoon
Indian monsoon
East Asian monsoon
Western North Pacific monsoon
South American monsoon
South African monsoon
Australian monsoon

Global Monsoon Time Scales:

I have conducted many scientific researches on the global monsoon systems and many hundreds of Global Monsoon Time Scales have been designed the by continents, north & south, regions, countries for easy study and analysis.

Indian monsoon time scale
Australian monsoon time scale
North-american monsoon time scale
South-american monsoon time scale
Western north pacific monsoon time scale
East-asian monsoon time scale
North-African monsoon time scale
South-African monsoon time scale
European monsoon time scale
South-Asian monsoon time scale
North-east monsoon time scale
South-west 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
Australian-Indonesian monsoon time scale

Formation:

By establishing the global monsoon time scale and manage, 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 in advance. Surface water resources can still be found.

Global Monsoon Time Scales–are 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 monsoon region or country and its relationship with rainfall and other weather problem and natural calamities.

Prepare a 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 climate have been taken and framed into a square graphic scale. The main weather events if any of the monsoon region or country's weather 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 region or country in this manner continuously, we can study the past, present and future movements of the monsoon of a region or country. We can make separate monsoon time scales per each and every individual country. I have invented the Global Monsoon Time Scales for all monsoon regions and countries of the world. All researchers of those countries need to learn about their regional monsoons and designed their regions and country's monsoon time scales.

Indian Monsoon:

Let us consider the Indian monsoon once before the formation of the Indian Monsoon Time Scale.

The phenomena of Indian Monsoon is global in character, affecting a large portion of Asia, parts of Africa (sahel) and Northern Australia and other parts of the world. Monsoon is originally winds prevailing in the Indian Ocean, which blow South. West from October to April now generally winds which blow in opposite directions at different seasons of the year. Similar in origin to land and sea breezes, but on well developed over southern and eastern Asia, where the wet summer monsoon from the South West is the outstanding feature of the climate.

The monsoon is often referred to a seasonal reversal of winds over the Indian ocean especially in the Arabian sea, that blow from the south-west during one half of the year and from the north-east during the other. Almost all the eastern hemisphere of the tropics has a monsoon climate. Summer monsoon is a regular phenomena only in the sense that it comes every year. But its onset, its activity during the season, and its withdrawal are subject to variation that sometimes are large.

Monsoon winds are most pronounced in the summer season of either hemisphere that is during June to September in the northern hemisphere and in January and February in southern hemisphere. Monsoon circulations are mainly owing to: Differential heating of land and ocean. The deflection of wind due to the rotation of earth. The Indian ocean is locked by land to the north by the Asian continent. This geographical feature gives rise to extreme thermal contrast between the land in their north and ocean in the south in both summer and winter which is the crucial factor in the development of the most pronounced circulation in this part of the globe, while the large scale features of the monsoon are repetitive from year to year; large anomalies occur in both in circulation as well as in rainfall. The monsoon region includes almost half of the African continent, South and East Asia and northern Australia.

Normal Dates of onset of monsoon: Summer monsoon of the northern hemisphere has two components. Indian summer monsoon or south-west monsoon and East Asian summer monsoon. The Indian summer monsoon is characterized by south westerly flow in the Arabian seas and south Bay of Bengal and the East Asian monsoon by southerly or south easterly or south easterly flow in the lower troposphere. The onset of summer monsoon takes place over the main land of India by 1st June. It gradually proceeds northward and by the middle of July whole of the India comes under the grip of monsoon currents. The onset and progress of monsoon show considerable inter-annual variability. The standard deviation of the dates of onset along the south coast of India, south of 20^0 N is 6-7 days, whereas, it is 7-8 days over North India. The mean date of onset of monsoon over southern Kerala is 2nd June and standard devotion is 8days. At Mumbai, the onset date of 10th June, over Delhi it varies from 15 June, over Delhi it varies from 15 June to 20 July. The mean date of onset over Delhi is 5 July.

The northward advance of monsoon is usually associated with disturbances. There is a pronounced tendency for the formulation of low pressure system at the leading edge o the monsoon current. It was found that in about 75% of occasion's advance of monsoon associated with some synoptic systems. A feeble trough in the low level depression and the cyclonic storms, it is termed as onset vortex.

The advance of monsoon towards the month the north is not always a steady march, the activity of monsoon weakens after an advance of 500km and a fresh pulse is needed to advance the monsoon further. This fresh pulse is normally in the form of low pressure system like a depression over the Bay of

Bengal. Over North India, monsoon generally advances from east to west along with the monsoon easterlies which is known as a bay current. A late onset is more harmful over northern India than similar delayed onset of monsoon by more than 10 days over Himachal Pradesh. Jammu and Kashmir in North India and West Rajasthan and Gujarat in North West and western India is likely to cause deficient rainfall over these areas.

Withdrawal:

The normal date of withdrawal of the Indian Monsoon from a station is taken as middle date of 5day period. Such dates of withdrawal are obtained for all the stations and map showing the isoclines of normal dates of withdrawal from western most parts of West Rajasthan commences by 1st September.

North – East Monsoon:

Onset of north –east monsoon: The onset of northeast monsoon normally takes place over south peninsula (Tamil Nadu, south costal Andhra Pradesh, Rayalaseema and interior south Karnataka) at about 15 October. The onset does show some variability from year to year. Withdrawal of northeast monsoon from south peninsula is almost complete by mid-December. Northeast Monsoon rainfall is important for the growth of rabi crops in south peninsula.

Western Disturbances:

Primary mid-latitude depressions move across Europe and north Asia. Secondary and territories of these forms in lower latitudes. The territories affect north and central India during the period Mid-November to about end of April. They generally move from west to east. In winter, these come to the lowest latitude. These systems which affect the Indian weather have been termed as western disturbances.

A western disturbance is defined as a low or a trough of low pressure at the surface, or a trough or cyclonic circulation in the wind above the surface. December to March is the main period when these affect Indian weather. On an average about 2 such per month may affect the Indian weather during this period. The frequency may be one each in November and April.

The approach of a western disturbance is heralded by high clouds. As the system approaches, the clouds thicken and lower and start giving precipitation which may be drizzle or light to moderate rain. After some time the rainfall would cease. Later a thundershower may occur the thereafter little clouding or cloud –free skies would be observed. In the rear of these disturbances, cold wave may abate after a couple of days.

Indian Monsoon Time Scale (*Model scale*):

The Indian Monsoon Time Scale has been designed as a model scale for the design of world Global Monsoon Time Scales. The rest of Global Monsoon Time Scales mentioned above are similarly designed.

Indian Monsoon Time Scale – a Chronological sequence of events arranged in between time and climate with the help of a scale for studying the past's, present and future movements of monsoon. From where to wherever to be taken the time and weather to analyze, the researcher can decide on his discretion according to available data.

Formation:

Keeping in view of study of the aforesaid Indian Monsoon thoroughly, I prepared the Indian Monsoon Time Scale to study its past, present and future movements of the Indian Monsoon. The Indian 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 the Indian Monsoon 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.

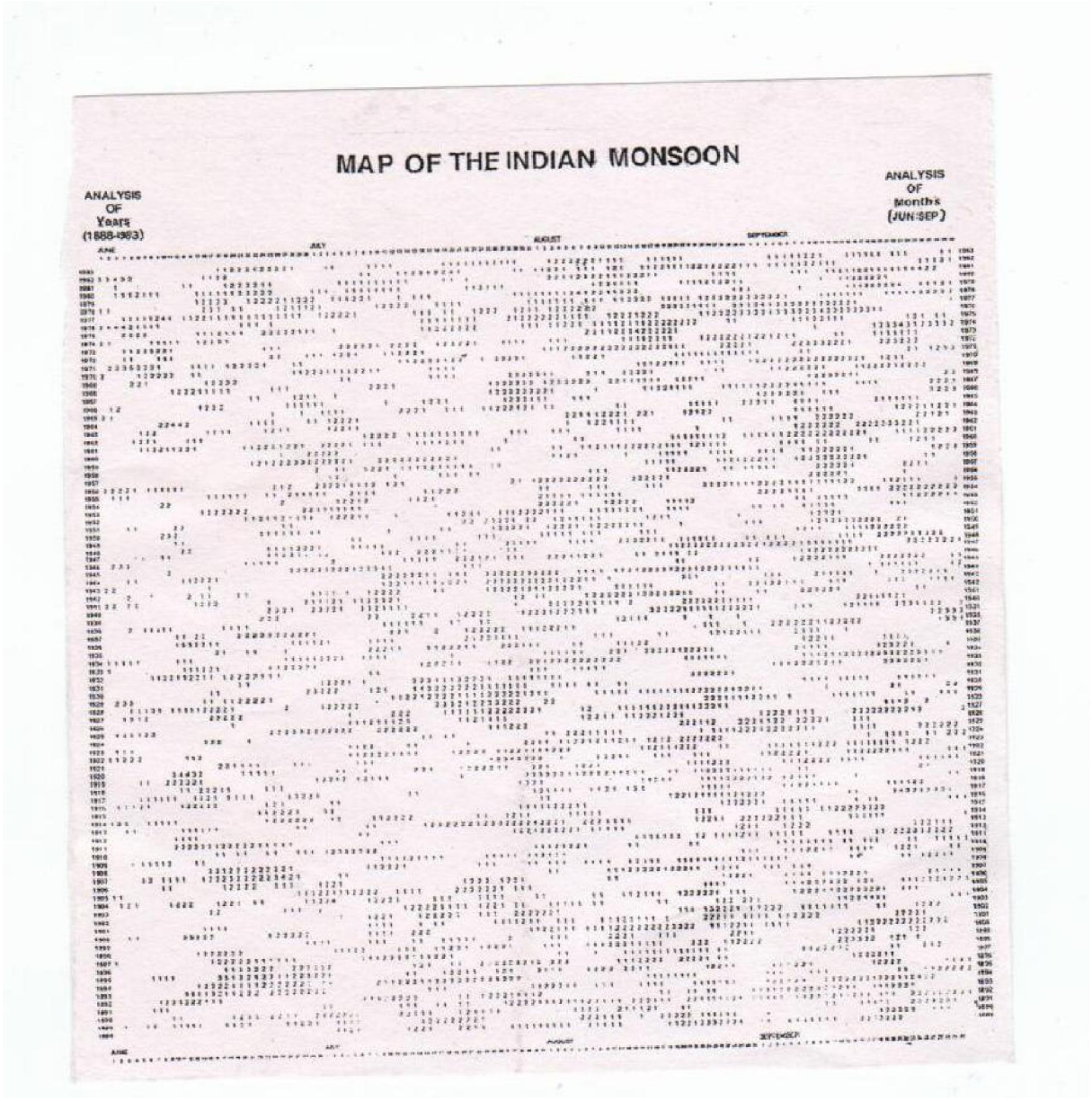
Material and method:

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 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 complete data for some years from 1964. However, I will try to collect the weather data hardly and complete the scale. This 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.



Formation methods:

Further there are three approaches in formation process of these monsoon time scales. The first one is in the single form and next one is designed both manual and computer assisted. The last one is made entirely by computer system.

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 or a required period comprising of a large time and weather have been taken and framed into a in a single and fixed type square graphic scale. It can be fixed on a paper, wall or Table.

Parts & paste 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.

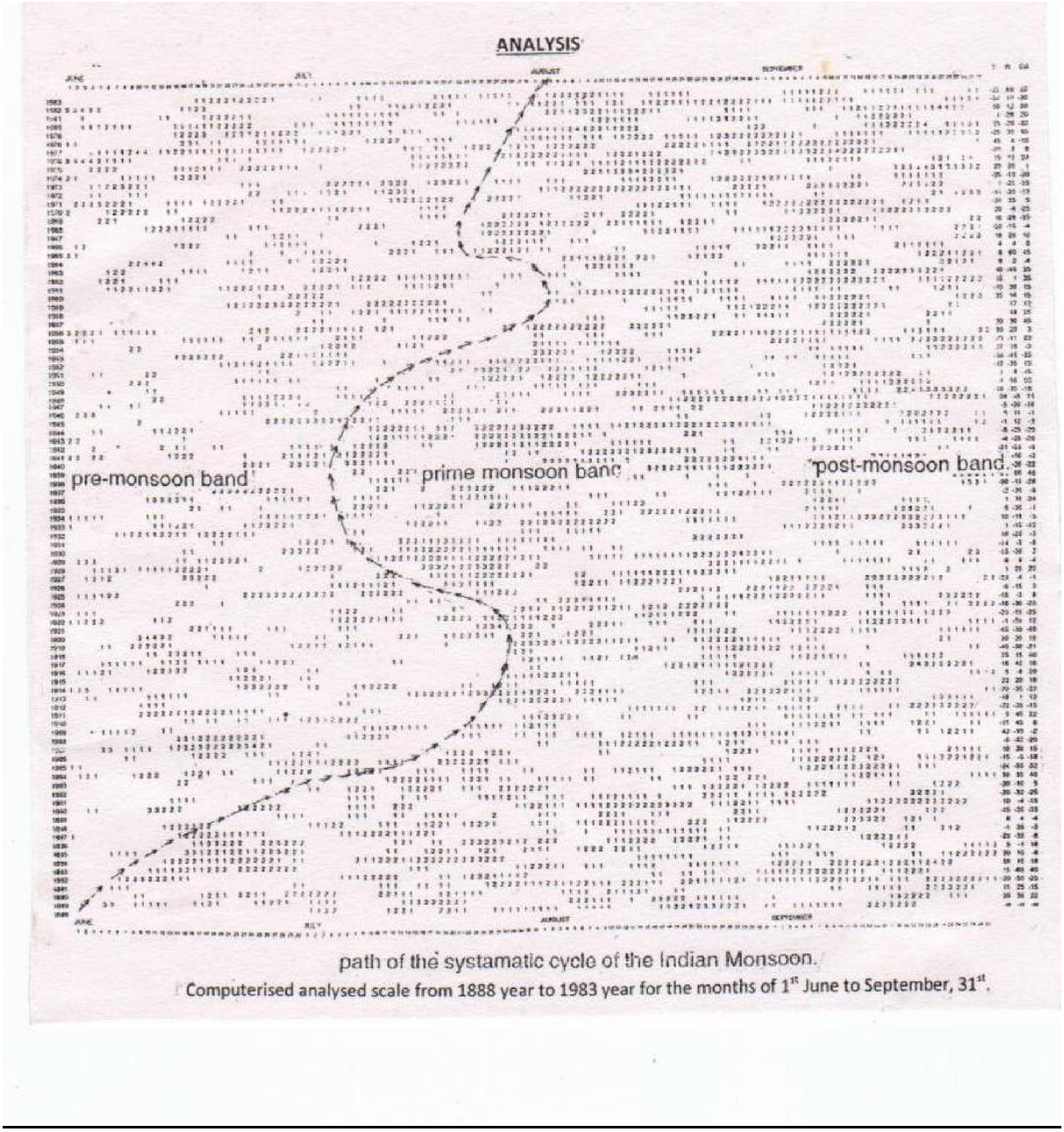
The first part is beginning from 1st April to July 12th.

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 right side of the first part and paste it to along the edges of date of 13th July on left side of the second part.

Cut along the edges of dates on the right side of the second part and paste it to along the edges of date of 24th October on left side of the third part.

Cut along the edges of dates on the right side of the third part and paste it to along the edges of date of 4th February on left side of the fourth part.

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

Computer graphic scale: Besides the above manual scale, I prepared a 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 Indian Monsoon Time Scale by computer which to be the most obvious scale.

The monsoon pulses in the form of low pressure systems over the Indian region have been taken as the data to construct 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 just like The world's 7 Tropical Cyclone seasons around the world etc.

Management:

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, present and future movements of monsoon of a the India.

Results:

The Indian Monsoon Time Scale reveals many secrets and mysteries of the Indian Monsoon and its relationship in between the Global monsoons and astronomical objects just like movement of axis of the earth around the sun in the universe & its influences on the earth's atmosphere. Let's study the mystery of the Indian Monsoon and discuss the rest of other features of the Indian Monsoon Time Scale later in another articles.

Path-lines of Indian monsoon:

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 can occur 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 September, low rainfall and droughts can occur. Particularly, there are two main passages. The first one is main path or passage of the Indian 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 and another path is on the right side over the months of October, November, December visible on the Indian Monsoon Time Scale

Analysis;

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.

Now let us know in detail. 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 during that period.

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. 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. 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 short period only. 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 (that means over all the four months June, July, August, September) in future in the shape of upper ascending direction and will be resulting heavy rains & floods in the coming years during 2004-2060. This is an assessment based on the study of situations from 1888.

Study & discussion:

Let's now study and discuss the information available on the Indian Monsoon Time Scale with the rainfall data available from 1871 to till date. 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 in the same 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 period 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 tracking date of main path & other various paths of the Indian Monsoon denotes the onset of the monsoon, monsoon pulses or low pressure systems, storms and its consequent weather changes and natural calamities. 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 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 low pressure system or depression or cyclone and its secondary consequent heavy rains, floods and 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 Indian Region. For example, once again explained that during 1871-1900'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 September and will be resulting heavy rains & floods in the coming years during 2004-2060 in India Region.

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 Indian 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, of the Indian Monsoon denotes the onset of 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 some studies of the Indian Monsoon Time Scale. There are many more secrets in the Indian Monsoon. Indian scientists should get rid of them.

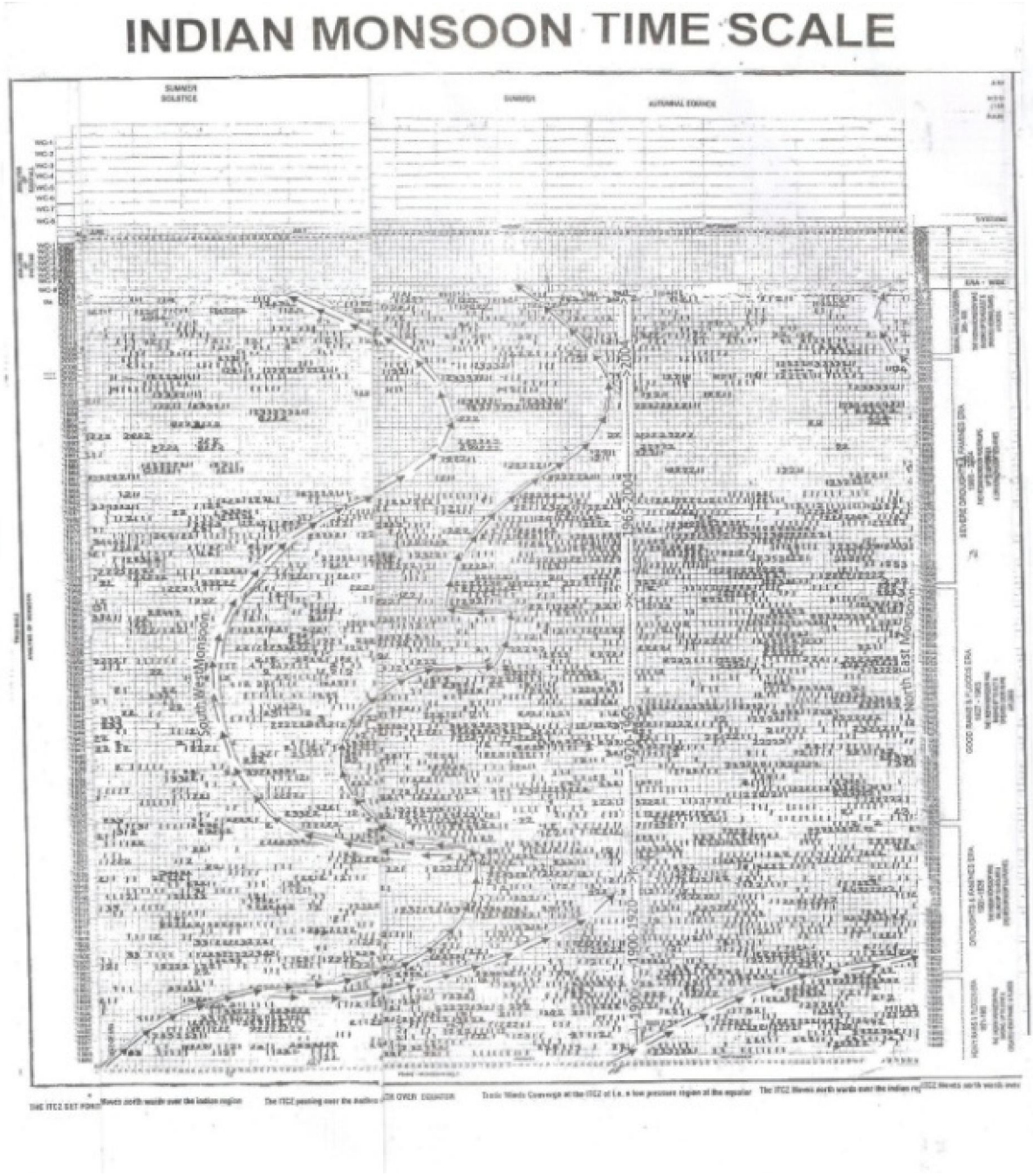
Scientific theorem:

Everything in the universe just like oceans, solid earth, biological, atmosphere, geomagnetism, global and regional geophysical systems and sun, moon, planetary, solar-terrestrial astrophysical systems have many different types of interactions with each other. Many combinations of these simple interactions can lead to surprising emergent phenomena and play a key role in creation of monsoons and other weather changes and natural calamities on the earth.

Monsoon is traditionally defined as a seasonal reversing winds. The primary cause of monsoons is the difference between annual temperature trends over land and sea. In winter the land is colder than the sea. Most of the time during the summer the land is warmer than the ocean. This causes air to rise over the land and air to blow in from the ocean to fill the void left by the air that rose. However, the physical factors of these monsoon are mainly influenced by the rotations and revolutions of the earth around the sun.

Earth rotates or spins on its axis and it also orbits or revolves west to eastward around the sun. Rotation and revolution are two motions of the Earth. Rotation of the Earth is its turning on its axis. Revolution of Earth is the movement of the Earth around the sun. The Earth rotates about an imaginary line that passes through the North and South poles of the planet. This line is called axis of rotation. Earth rotates about this axis once each day approximately 24 hours. The earth's axis of rotation is tilted by 23.5 degrees from

the plane of it's orbit around the sun. The cause is unknown but 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.



Study of Indian Monsoon & Indian Monsoon Time Scale:

Scientists are focused to improve various models used to study monsoon movements and its weather and climate prediction. The Indian monsoon system is

the most important climatic feature in India and is characterized by pronounced seasonality in precipitation. The prediction skill for the Indian monsoon is very important.

Indian scientists need to establish the Indian Monsoon Time Scale to study, and other key points key points related Indian monsoon. All other weather changes and natural hazards related weather changes and natural hazards pertaining to this Indian Monsoon can be predicted.

Basics of Indian Monsoon Time Scale:

The Indian Monsoon Time Scales is a chronological sequences of events arranged in between time and climate with the help of a scale for studying the past's, present and future movements of the Indian monsoon regions and its relationship with rainfall and other weather problem and natural calamities.

Prepare the Indian Monsoon Time Scale having 365 horizontal days from March 21st to next year March 20th or a required period comprising of a large time and climate have been taken and framed into a square graphic scale.

The main weather events if any of the Indian monsoon region such as lows, depressions and cyclones etc 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 the Indian Monsoon Time Scale in this manner continuously, we can see the image and its past's, present's and future movements of the Australian monsoon and study it's originals, climatic changes and futuristic dimensions.

By establishing the Indian Monsoon Time Scales which can help to study the movements of the Indian monsoon.

Conclusion:

The Indian Monsoon Time Scale designed by me in manual only. Researchers, particularly the Indian scientists have to do more researches on the scale and create it through system. We can make many more modifications thus bringing many more developments in the Indian Monsoon Time Scales.

Acknowledgement:

In this research, I have consulted many professors of several universities and scientists of various research institutes for their valuable suggestions and advices. There was also taken some information from the Wikipedia. I am grateful to all of them. India Meteorological Department, Indian Institute of Tropical Meteorology and Indian Institute of Science etc are provided a lot of valuable information and data in making this scale. These are my acknowledgements to them.

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References (subject):

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.

Wiki:

1. Indian Monsoon (n.d.). Retrieved from http//en.wikipedia.org/wiki/.com/wiki/Indian_Monsoon_Current.
2. Indian Monsoon (n.d.). Retrieved from http//www.britanica.com/science/Indian_Monsoon

References (historical):

1. 1 Letter No. NA-153 Date. October 21,1991 of the Shri G.M.C. Balayogi Member of Parliament to the India Meteorological Department for further research and development of the Global Monsoon Time Scales/ Indian Monsoon Time Scale in the services of welfare of the people.
2. D.O. No. NMRF/SKM/30/94 Dated; 17-08-1994 of the Government of India, Minitry of Science & Technology, Department of Science & Technology, New Delhi Cabinet Secretary correspondences about further research and development of the Global Monsoon Time Scales/ Indian Monsoon Time Scale in the services of welfare of the people.
3. Letter No. NA-153 Dated; 28-11-1996 of the Government of India, India Meteorological Department about the correspondence with the Parliament, President of India and other VVIP's of India pertaining to further research and development of the Global Monsoon Time Scales/ Indian Monsoon Time Scale in the services of welfare of the people.
4. Letter No. NA-49106/537 Dated; 25-07-2005 of the Government of India, India Meteorological Department about the correspondence about further research and development of the Global Monsoon Time Scales/ Indian Monsoon Time Scale in the services of welfare of the people.
5. Letter D.O. No. 209/MOS (M)/PS/2008 Date. October 21, 1991 of the Shri Dr. T. Subbarami Reddy Hon'ble Union Minister of State for India to the India Meteorological Department for further research and development of the Global

Monsoon Time Scales/ Indian Monsoon Time Scale in the services of welfare of the people.

6. Letter No. GT-021(MISC)/6675 Dt: 13-08-2008 NA-49106/537 of the Government of India, India Meteorological Department about the correspondence for further research and development.
7. Letter No.DST/SECY/288/2009 Dated; June 1,2009 of the Secretary, Minister of Science and Technology recommendation to the Indian Institute of Tropical Meteorology for further research and development of the Global Monsoon Time Scales/ Indian Monsoon Time Scale.
8. Letter No. F-12016/1/00-NA/100 Dt: 01-12-2009 of the Government of India, India Meteorological Department about the correspondence for further research and development of the Global Monsoon Time Scales/ Indian Monsoon Time Scale.
9. Letter No. F-12016/1/00-NA/100 Dt: 09-07-2010 of the Government of India, India Meteorological Department about the correspondence for further research and development of the Global Monsoon Time Scales/ Indian Monsoon Time Scale.

Phonological Appends:

The Appends that describe the contents are enclosed.

Historical events supported documents:

The documents that supports the events in the history of the invention are enclose.

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History: Gangadhara Rao Irlapati is a science enthusiast and experimenter with an ideal to serve the people from the weather changes and natural hazards He was born on 25, May,1958 at Merlpalem Village in India to Pullaiah Irlapati (father) and Manikyam Irlapati (mother). He acquired all sciences inherently by birth. However, he completed my primary classes 1 to 5 in elementary school, Merlapalem (1963-1968), upper primary classes 6 & 7 in Upper Primary School, Vubalanka (1969-1971), High School classes 8 to 10 in Zilla Parishad High school, Ravulapalem (1971-1974), and junior college education 11 & 12 in Mahatma Junior College, Atryapuram (1974-1976). He did his graduation B.A in economic sciences etc in Andhra university (1985-1989) and post graduation M. Sc in disaster mitigation sciences in Sikkim Manipal University (2001-2003). He submitted many representations to the governments and research organizations for providing research facilities to carry out experiments but they did not encourage and provide research opportunities to him. He was envied by governments, research institutes, scientists and subjected to incessant verbal insults. He built a lab at his house with home-made apparatus and books and over a 10000 researches and studies are conducted, more than 1000 researches on weather problems and natural calamities are prepared and published and around 100 crucial investigations are made. Particularly, Geoscope, Global Monsoon Time Scales including Indian Monsoon Time Scale and Irlapatism-A New Hypothetical Model of Cosmology are my favorite inventions. Among of them Indian Monsoon Time Scale is favorite and special research work to me.

Many researches are being conducted by me on the global monsoon systems from 1980 to till date with an ideal to invent the mysteries of the Indian monsoon systems. In 1991, I submitted a research report to Sri G.M.C. Balayogi, Member of Parliament (Lok Sabha) on the importance and necessity of establishing the Indian Monsoon Time Scale along with other Global Monsoon Time Scales for studying the monsoon systems. Sri G.M.C. Balayogi recommended that research report to the India Meteorological Department for implementation in the services of the people. In 1994, The Cabinet Secretariat of India recommended this Indian Monsoon Time Scale to the Ministry of Science & Technology, Govt of India for further research and 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 Indian Monsoon Time Scale for further research and development in the services of the people. In 2009, The Secretary, Minister of Science and Technology was also recommended the Indian Monsoon Time Scale to the Indian Institute of Tropical Meteorology for further research and development. But nobody provide me research opportunities. At last, I built a small lab at my house with home-made apparatus, books and other research materials and conducted researches on global monsoon systems. I have proposed and designed basics of Global Monsoon Time Scales including other Global Monsoon Time Scales for all the monsoon regions of the world to study the past, present and future movements of the global monsoons and predict it's related weather conditions and natural calamities in advance.

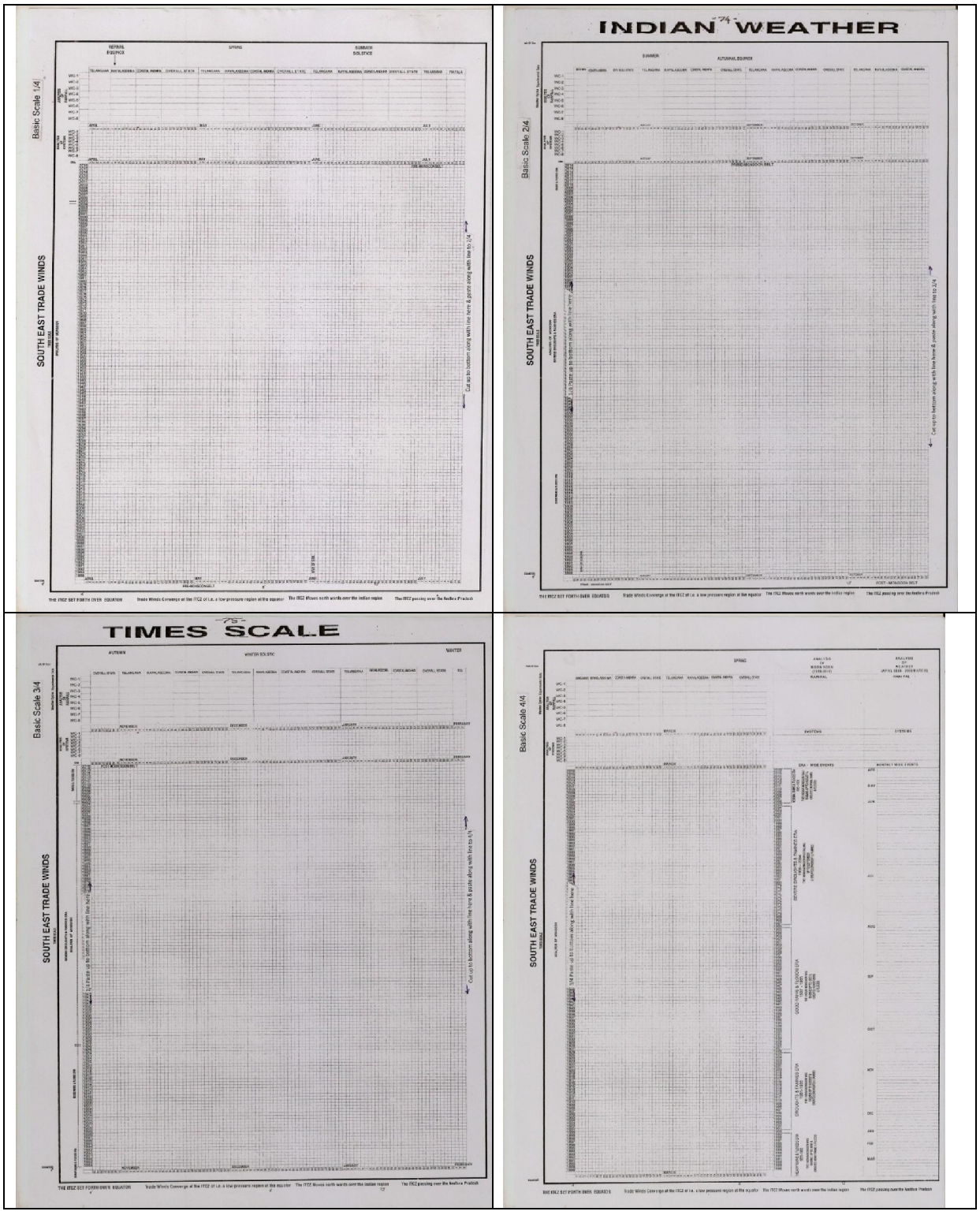
Appeal:

However much efforts did those, I could not get recognition either by government or by society moreover ridiculed and subjected in many ways. Mainly the revolutionary and rational concepts about the cosmology were instantly criticized, ignored, dark-laden and exposed to the anger of superstitious, got

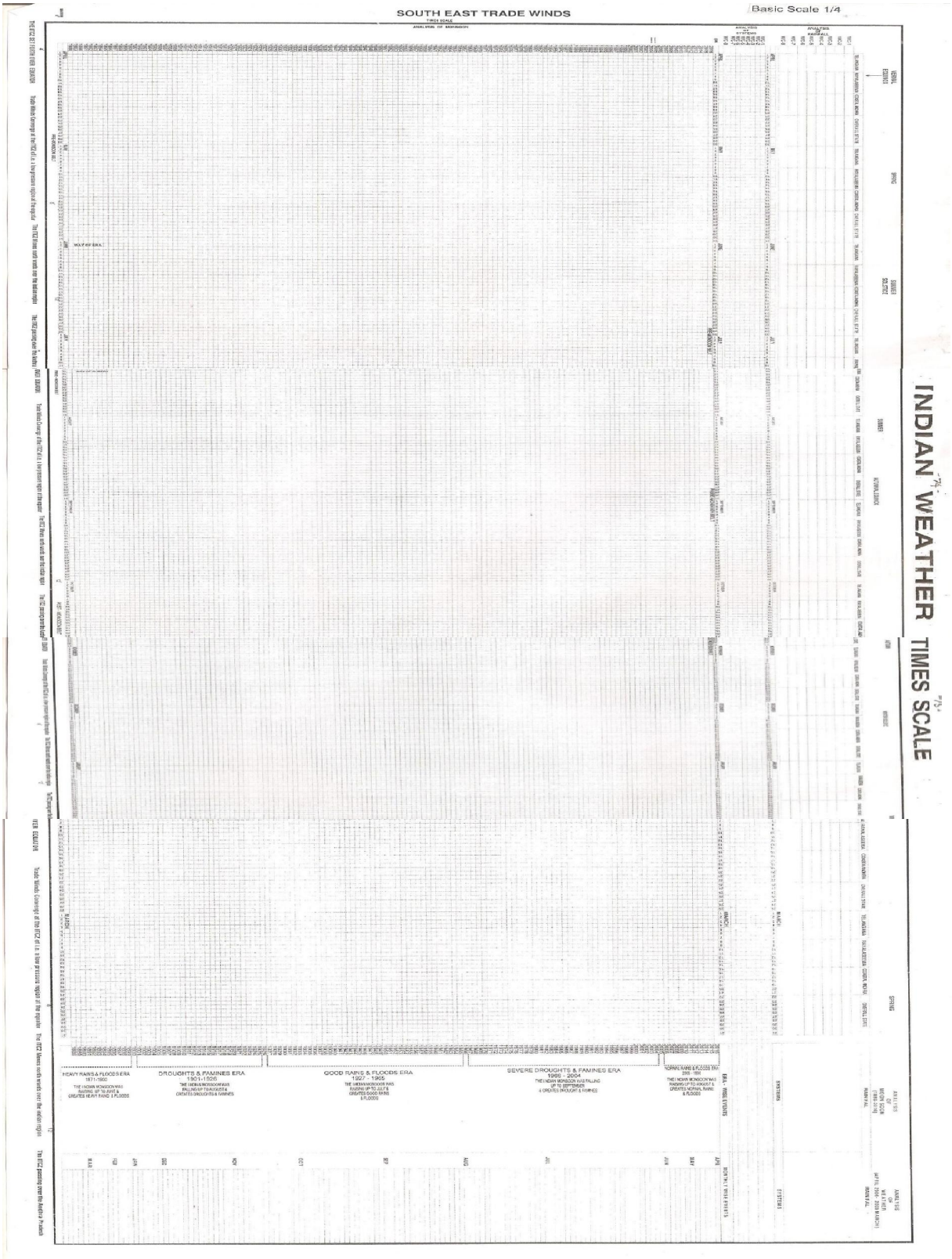
into violent altercations. I was arrested, tortured and imprisoned. Research organizations and officials were humiliated me in different ways. My efforts have been ignored and dark-laden I was envied by research institutes, scientists and subjected to incessant verbal insults. Political recommendations, officials support, publicity, region, religion, cash and community factors may play a key role in giving recognition, awards, rewards, honor and fame to dalit scientists in India. I am a victim of negligence. racism and discrimination. I built my own lab at my house with home-made apparatus and conducted researches and studies. I tried to find out a lot of inventions and discoveries and basic ideas. But I am not giving research facilities. However, I could not do further researches on many more research ideas due to lack of opportunities. My goal is to take and keep the entire underground under into the control of Geoscope to study the underground mysteries, explore the underground resources; predict the geological hazards; attracting the sea waters to the underground areas of deserts through the layers by electro-ionization; attracting the vaporized sea waters to the desert plains through the sky by geo-magnetizing atmosphere when the weather is surrounded by water molecules during the trough of low pressure areas, Create storms and making them our control by moving desert planes and pour rains; Create artificial rains; travelling into the past by using new technologies just like Time-Machine; Restore and recreate people in the past by using new biotechnologies just like Bio-Machine; Restore and recreate people in past by images that are preserved in the earth's magnetic field by new technologies just like Geo-Machine; Establishment of human habitations on inter-planets; to have relationship with living beings on the Neutrons; to have relationship with living beings on the planets in the outside worlds of our Geo-universe etc. But all hopes have become obsolete. I am now making my life's last journey due to pains & poverty and disregard & despair. Hence, in future if travelling into the past by using new technologies just like Time-Machine; or if we can restore and recreate people in past by using new biotechnologies just like Bio-Machine; or if we can restore and recreate people in past by images that are preserved in the earth's magnetic field by new technologies just like Geo-Machine or if we can able to recreate people in the past by using any new technologies, Kindly remember and recreate me as I would like to complete my in-completed goals together with world scientists.

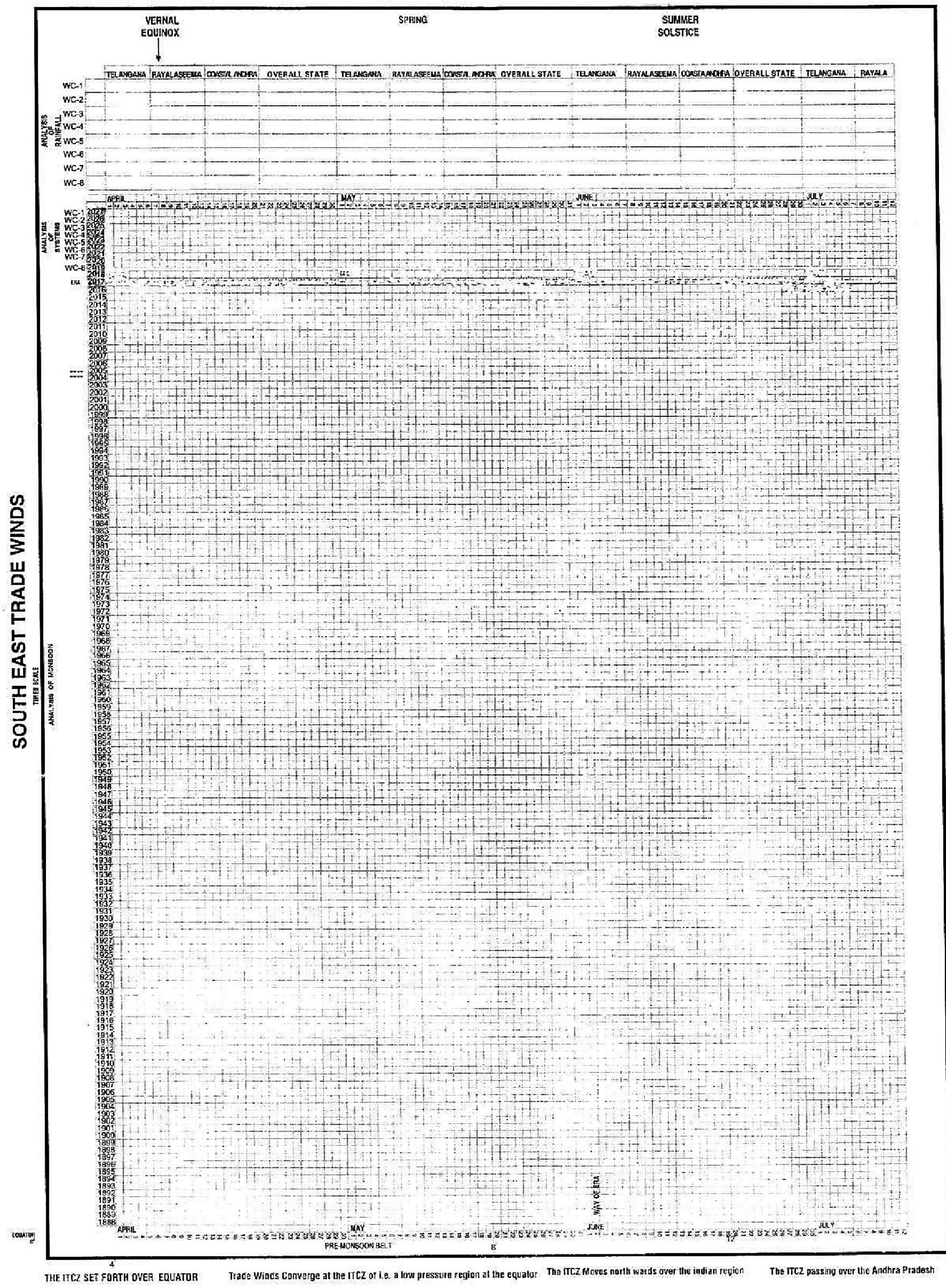
Basic Scale:

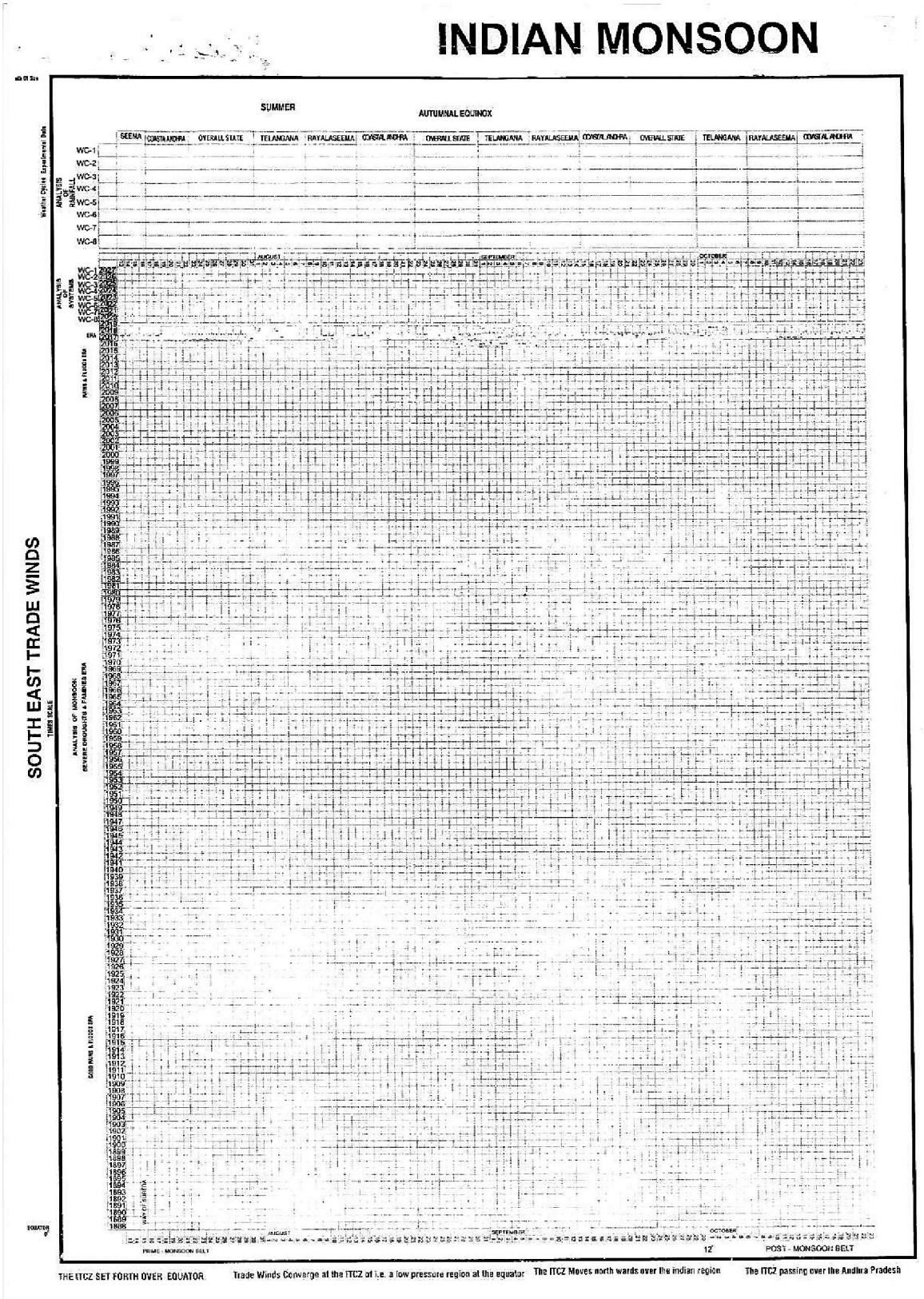
The first one is preliminary basic scale, In this scale the first part is beginning from 1st April to July 12th, the second part is from 13 July to October 23rd, the third part is from 24th October to February 3rd and the fourth part is 4th February to March 31st ending.

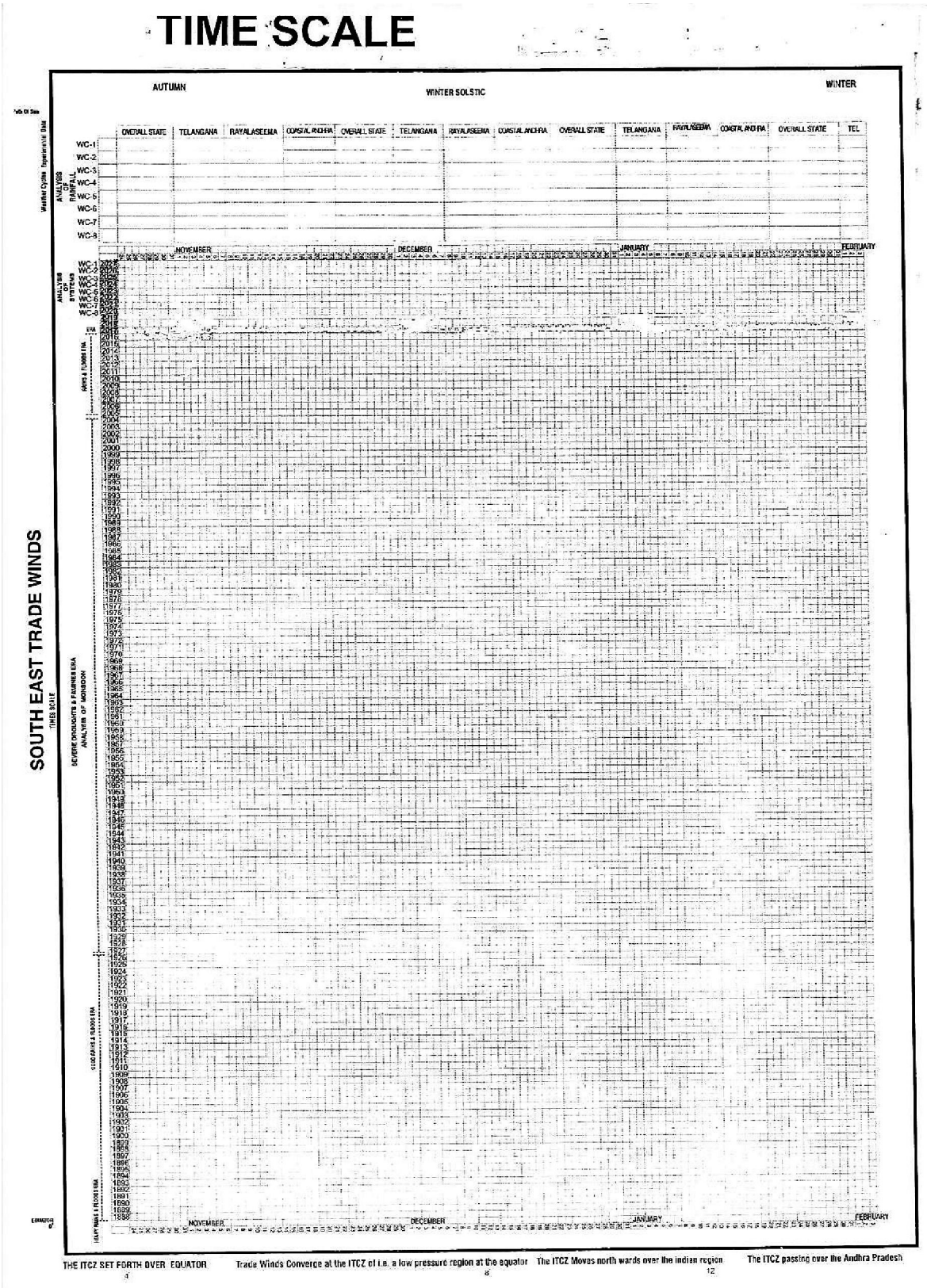


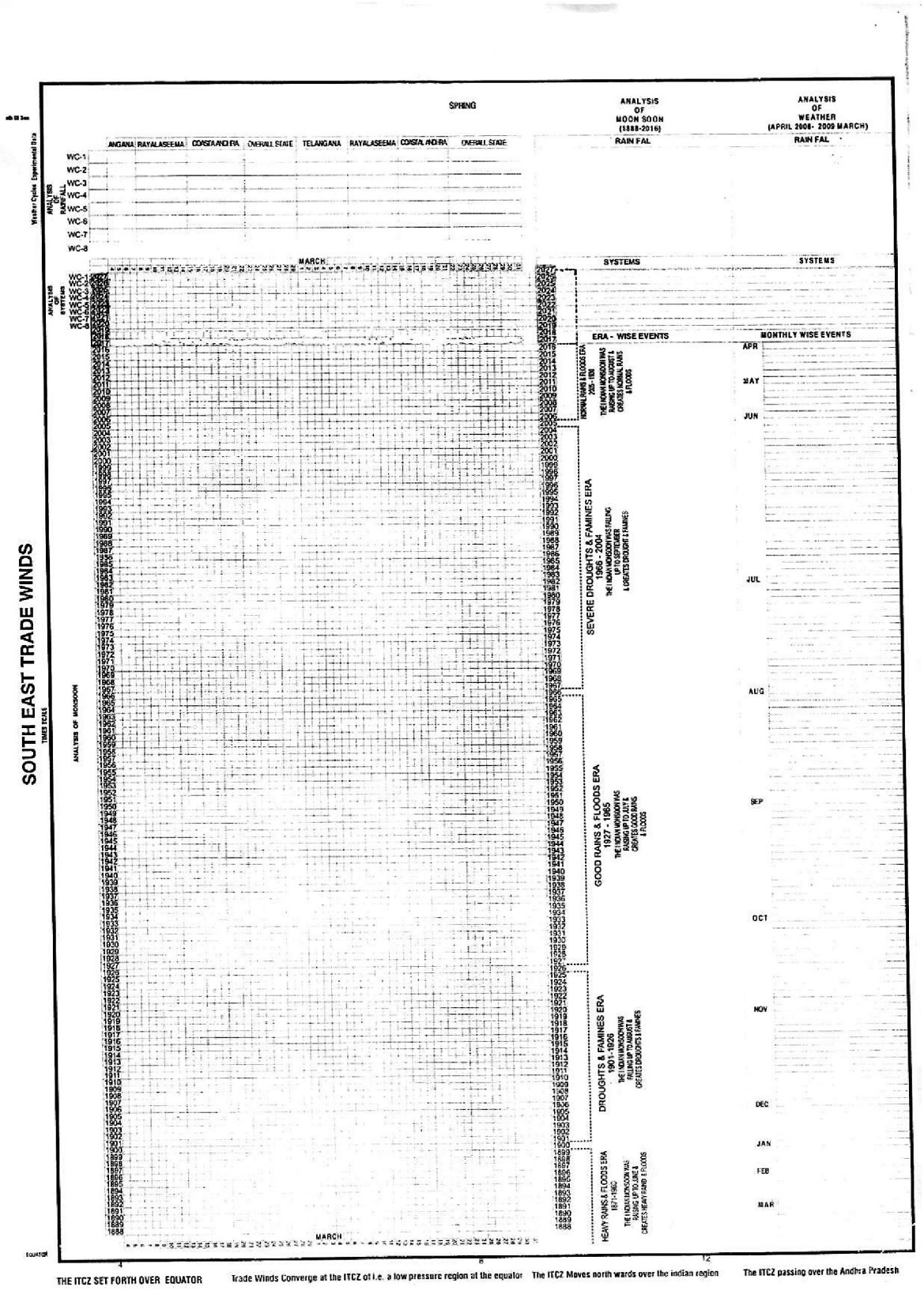
Indian monsoon time scales(when four parts are pasted)


SOUTH EAST TRADE WINDS
Basic Scale 1/4
INDIAN WEATHER TIMES SCALE
HEAVY RAINS & FLOODS ERA
1871-1900
DROUGHTS & FAMINES ERA
1901-1926
GOOD RAINS & FLOODS ERA
1927 - 1965
SEVERE DROUGHTS & FAMINES ERA
1966 - 2004


VERNAL EQUINOX
SPRING
SUMMER SOLSTICE
TELANGANA
RAYALASEEMA
COSTAL ANDHRA
OVERALL STATE
RAYALA
ANALYSIS OF RAINFALL
WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
WC-7
WC-8
ANALYSIS OF SYSTEMS
APRIL
MAY
JUNE
JULY
SOUTH EAST TRADE WINDS
TIMES SCALE
ANALYSIS OF MONSOON
PRE-MONSOON BELT
EQUATOR
THE ITCZ SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ or i.e. a low pressure region at the equator
The ITCZ Moves north wards over the indian region
The ITCZ passing over the Andhra Pradesh

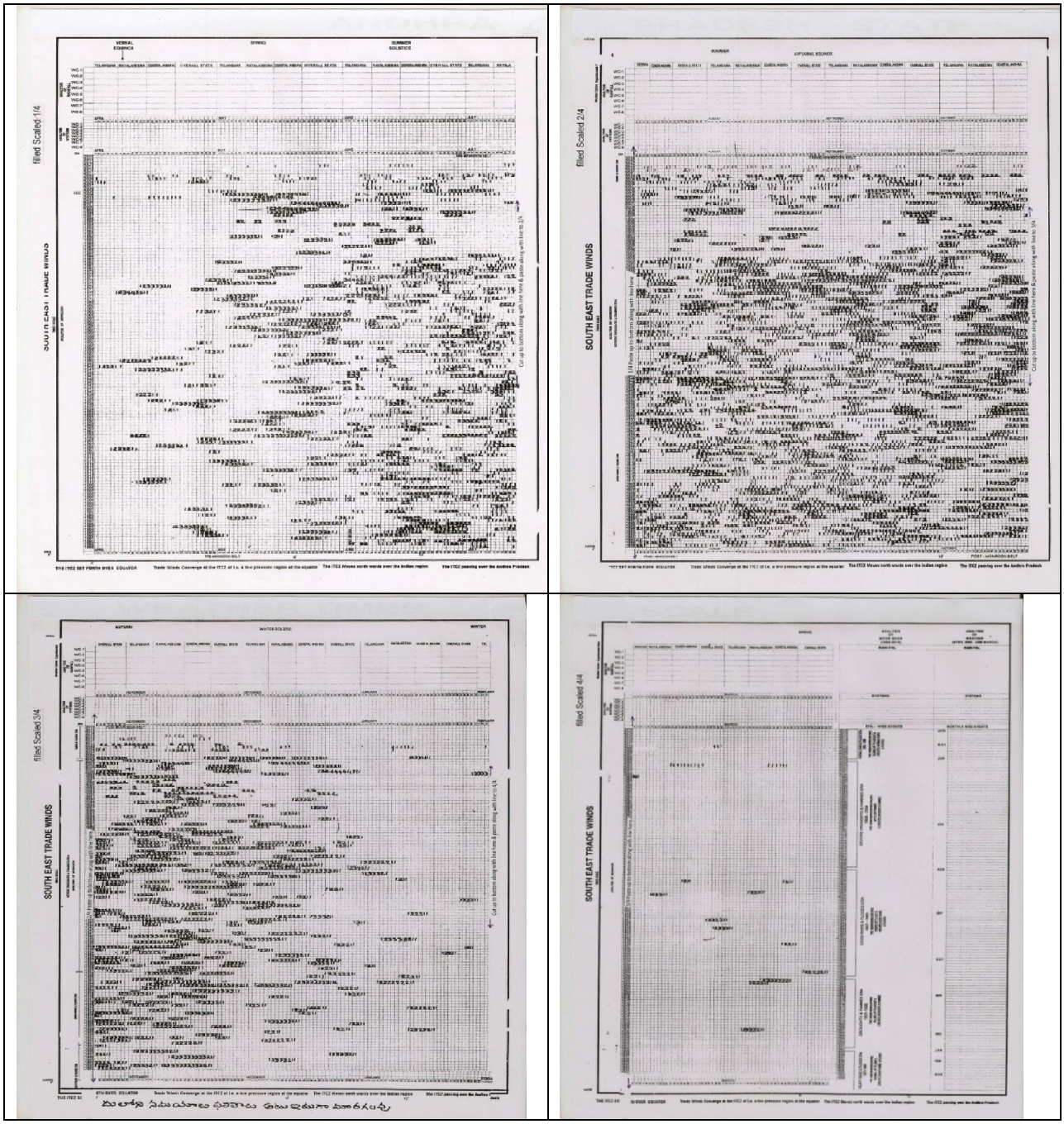

INDIAN MONSOON
SUMMER
AUTUMNAL EQUINOX
SEENA
COASTALANDHRA
OVERALL STATE
TELANGANA
RAYALASEEMA
COASTALANDHRA
OVERALL STATE
TELANGANA
RAYALASEEMA
COASTALANDHRA
OVERALL STATE
TELANGANA
RAYALASEEMA
COASTALANDHRA
WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
WC-7
WC-8
AUGUST
SEPTEMBER
OCTOBER
ERA
SOUTH EAST TRADE WINDS
PRIME - MONSOON BELT
POST - MONSOON BELT
THE ITCZ SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the indian region
The ITCZ passing over the Andhra Pradesh

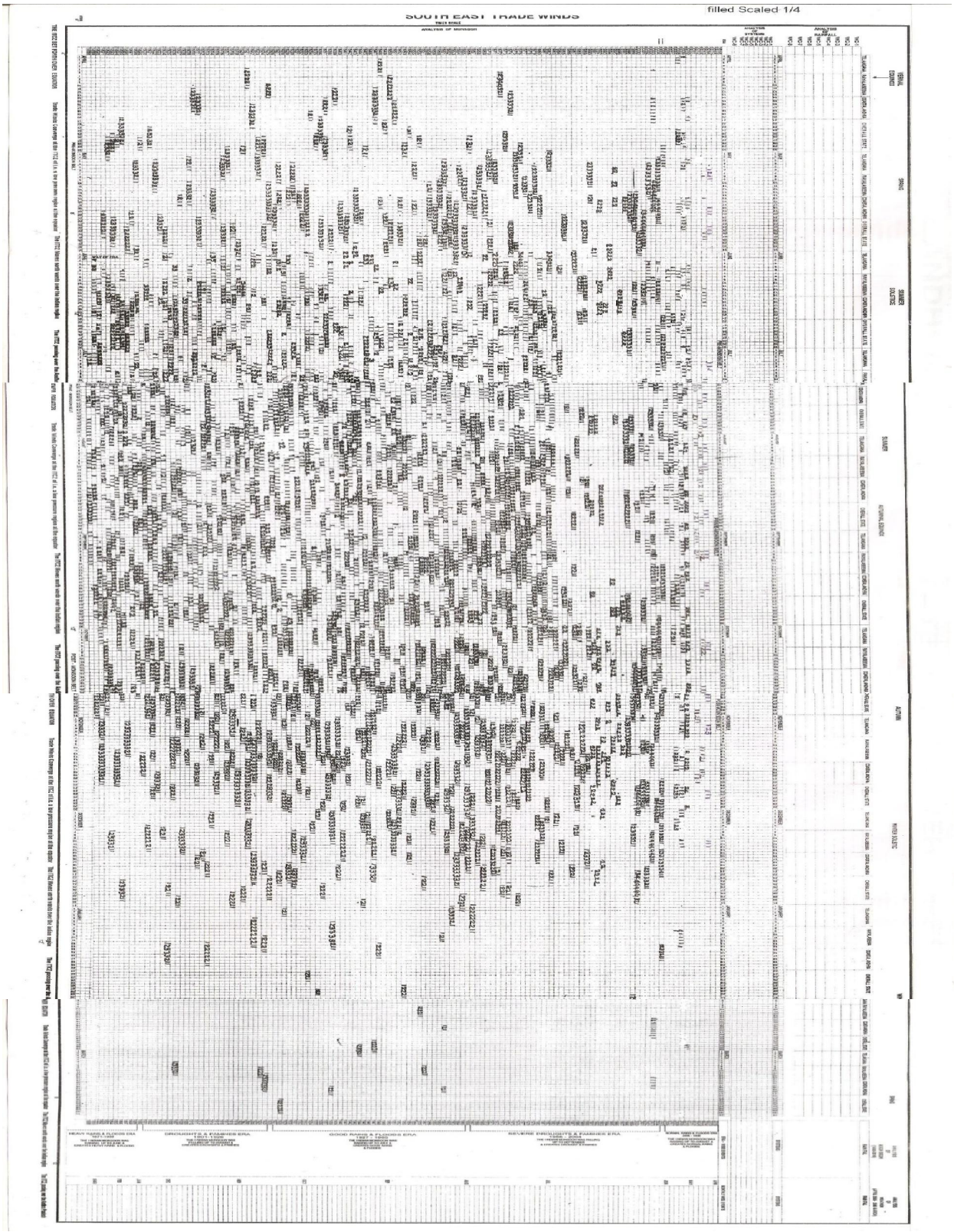

TIME SCALE
AUTUMN
WINTER SOLSTIC
WINTER
OVERALL STATE
TELANGANA
RAYALASEEMA
COASTAL ANDHRA
WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
WC-7
WC-8
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
SOUTH EAST TRADE WINDS
THE ITCZ SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the indian region
The ITCZ passing over the Andhra Pradesh

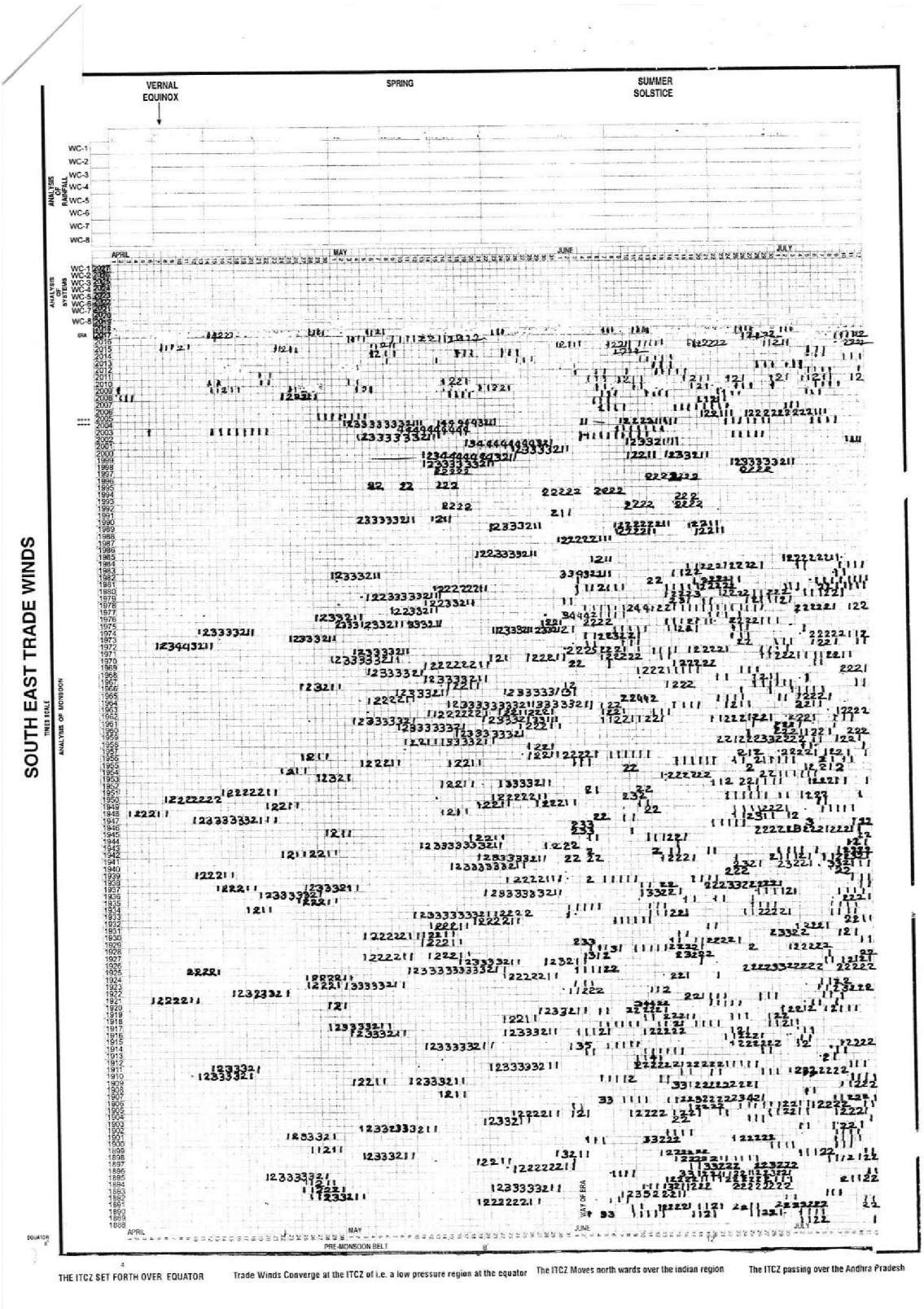

SOUTH EAST TRADE WINDS
SPRING
ANALYSIS OF MOON SOON (1888-2016)
RAIN FAL
ANALYSIS OF WEATHER (APRIL 2008- 2009 MARCH)
RAIN FAL
ANGANA
RAYALASEEMA
COSTA ANDHRA
OVERALL STATE
TELANGANA
RAYALASEEMA
COSTA ANDHRA
OVERALL STATE
WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
WC-7
WC-8
MARCH
SYSTEMS
SYSTEMS
ERA - WISE EVENTS
MONTHLY WISE EVENTS
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
SEVERE DROUGHTS & FAMINES ERA
1966 - 2004
GOOD RAINS & FLOODS ERA
1927 - 1965
DROUGHTS & FAMINES ERA
1901-1926
HEAVY RAINS & FLOODS ERA
1871-1900
MARCH
THE ITCZ SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the indian region
The ITCZ passing over the Andhra Pradesh

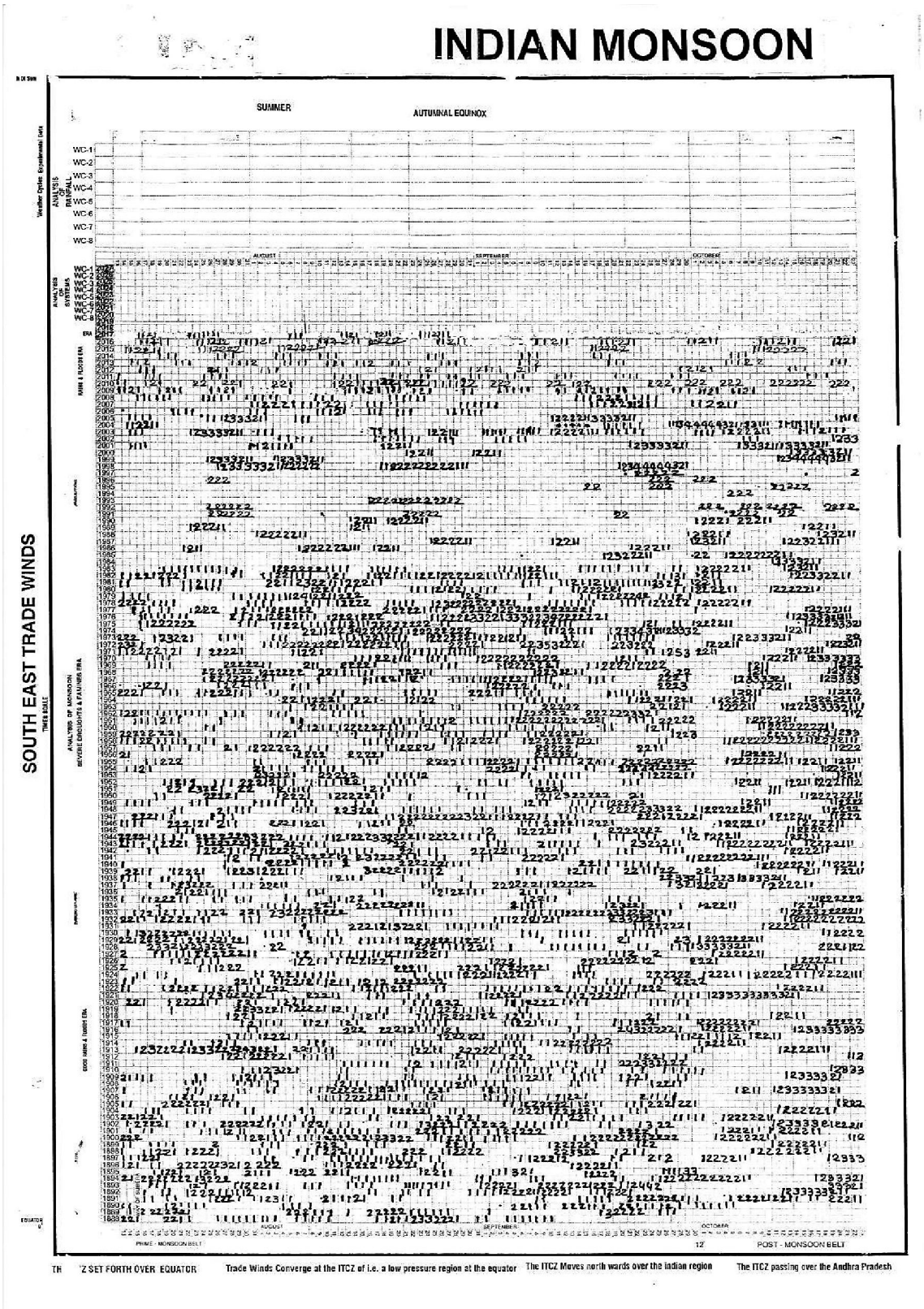
FILLED SCALE

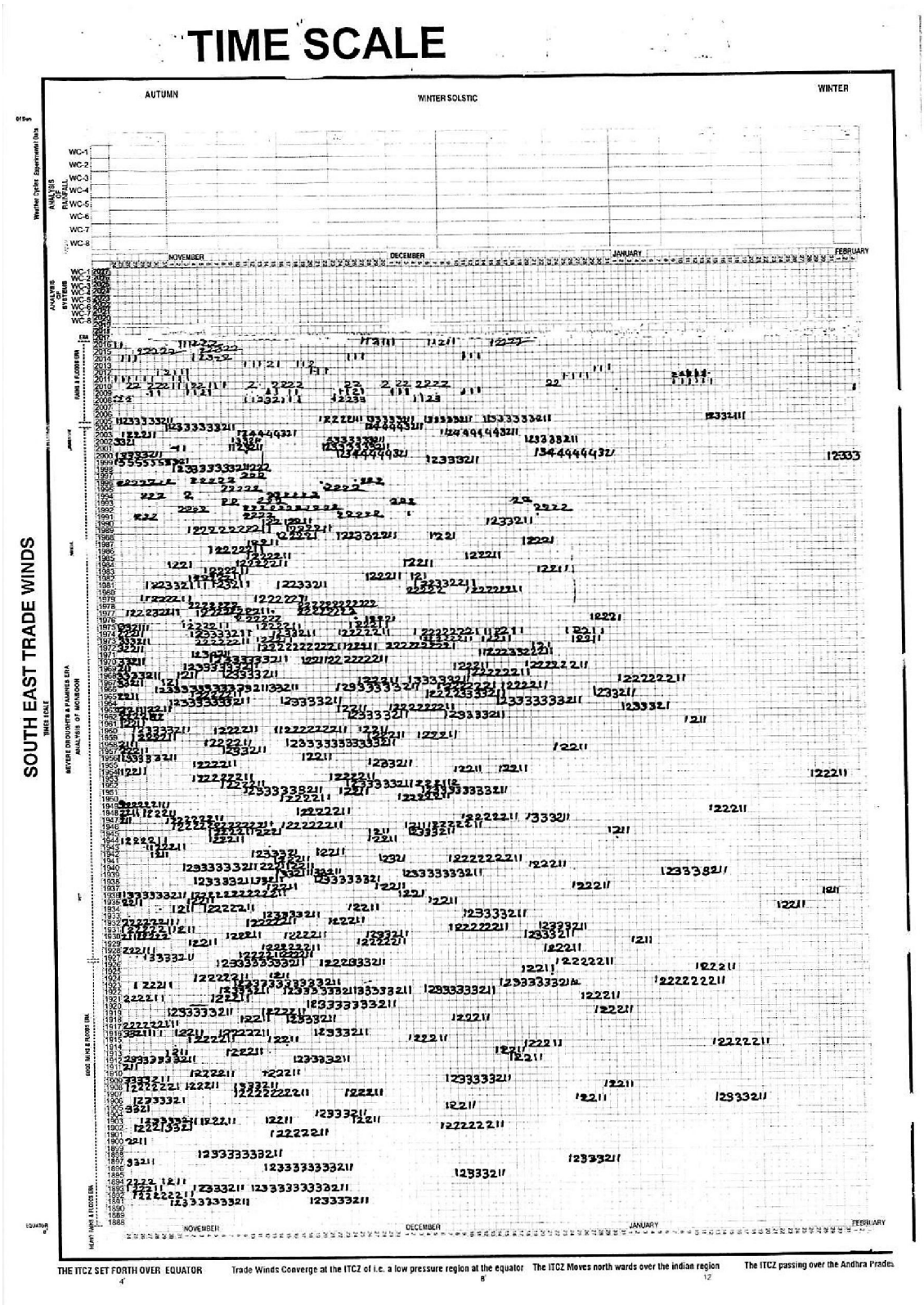
The second one is filled scale. In this scale also the first part is beginning from 1st April to July 12th , the second part is from 13 July to October 23rd , the third part is from 24th October to February 3rd and the fourth part is 4th February to March 31st ending. The monsoon pulses in the form of 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.

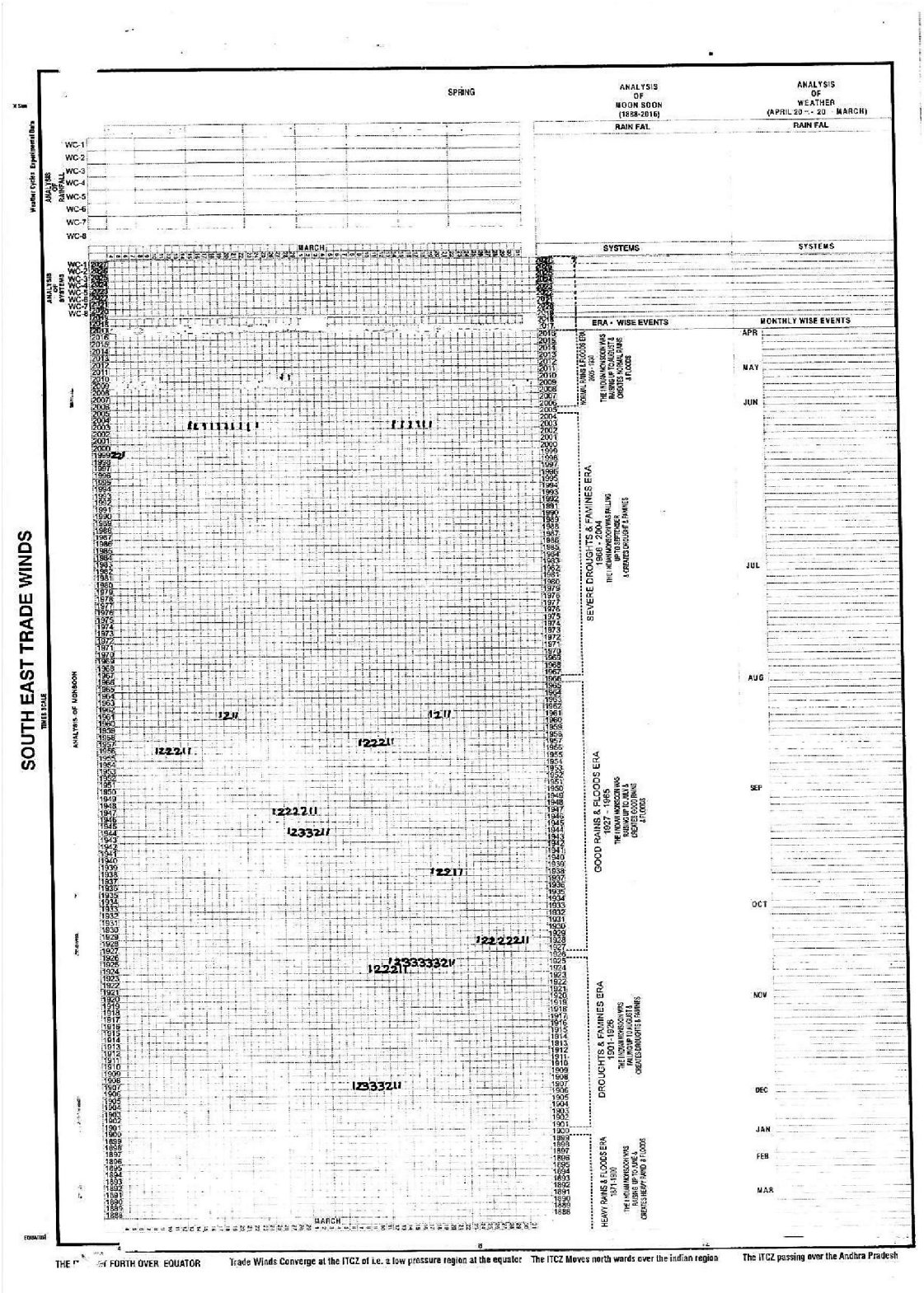



filled Scaled 1/4


VERNAL EQUINOX
SPRING
SUMMER SOLSTICE
SOUTH EAST TRADE WINDS
ANALYSIS OF RAINFALL
ANALYSIS OF SYSTEMS
TIMES SCALE
ANALYSIS OF MONSOON
WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
WC-7
WC-8
APRIL
MAY
JUNE
JULY
PRE-MONSOON BELT
WAY OF ERA
EQUATOR
THE ITCZ SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the indian region
The ITCZ passing over the Andhra Pradesh


INDIAN MONSOON
SUMMER
AUTUMNAL EQUINOX
SOUTH EAST TRADE WINDS
AUGUST
SEPTEMBER
OCTOBER
POST - MONSOON BELT
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the Indian region
The ITCZ passing over the Andhra Pradesh

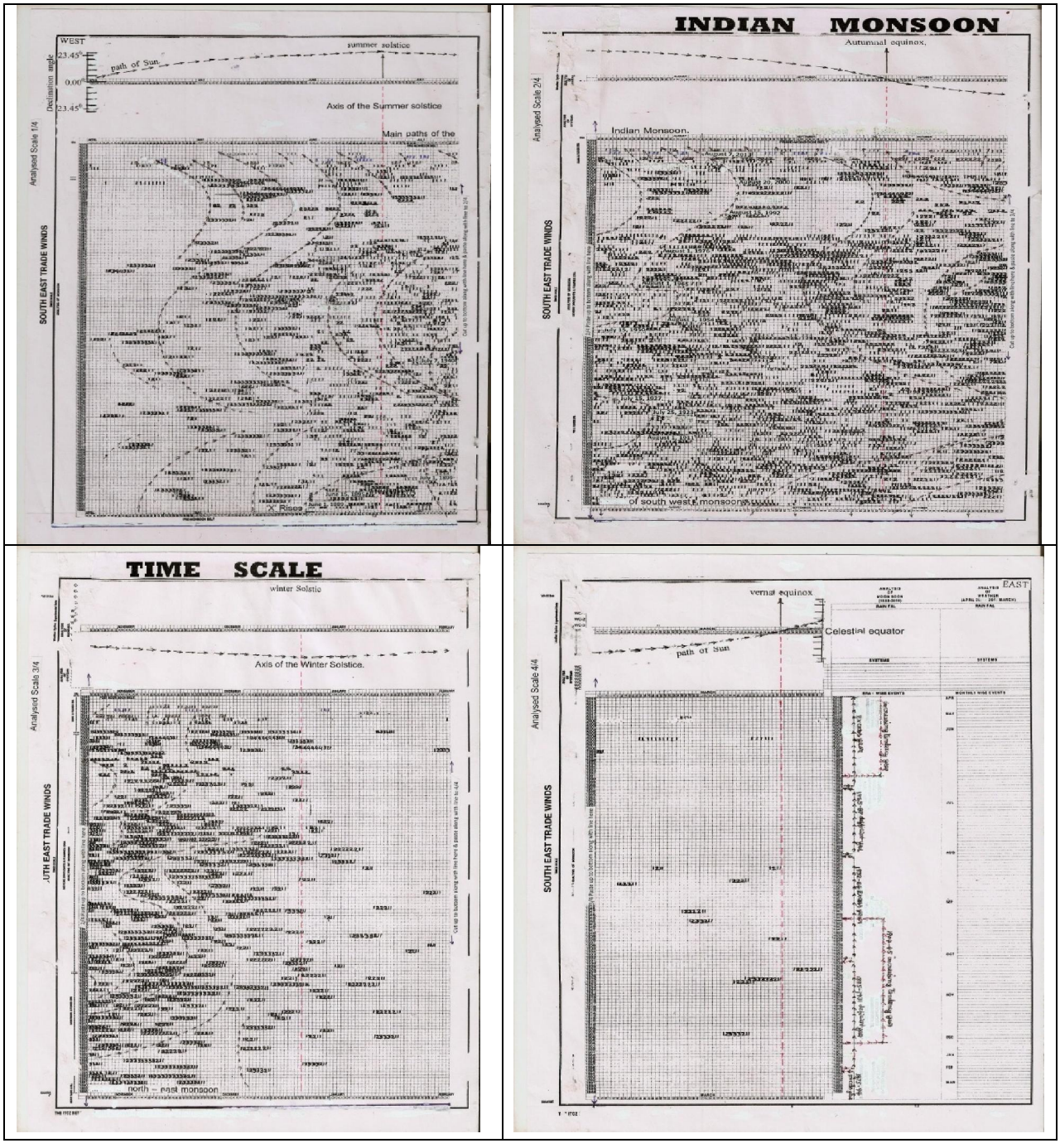

TIME SCALE
AUTUMN
WINTER SOLSTIC
WINTER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
SOUTH EAST TRADE WINDS
THE ITCZ SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the indian region
The ITCZ passing over the Andhra Pradesh

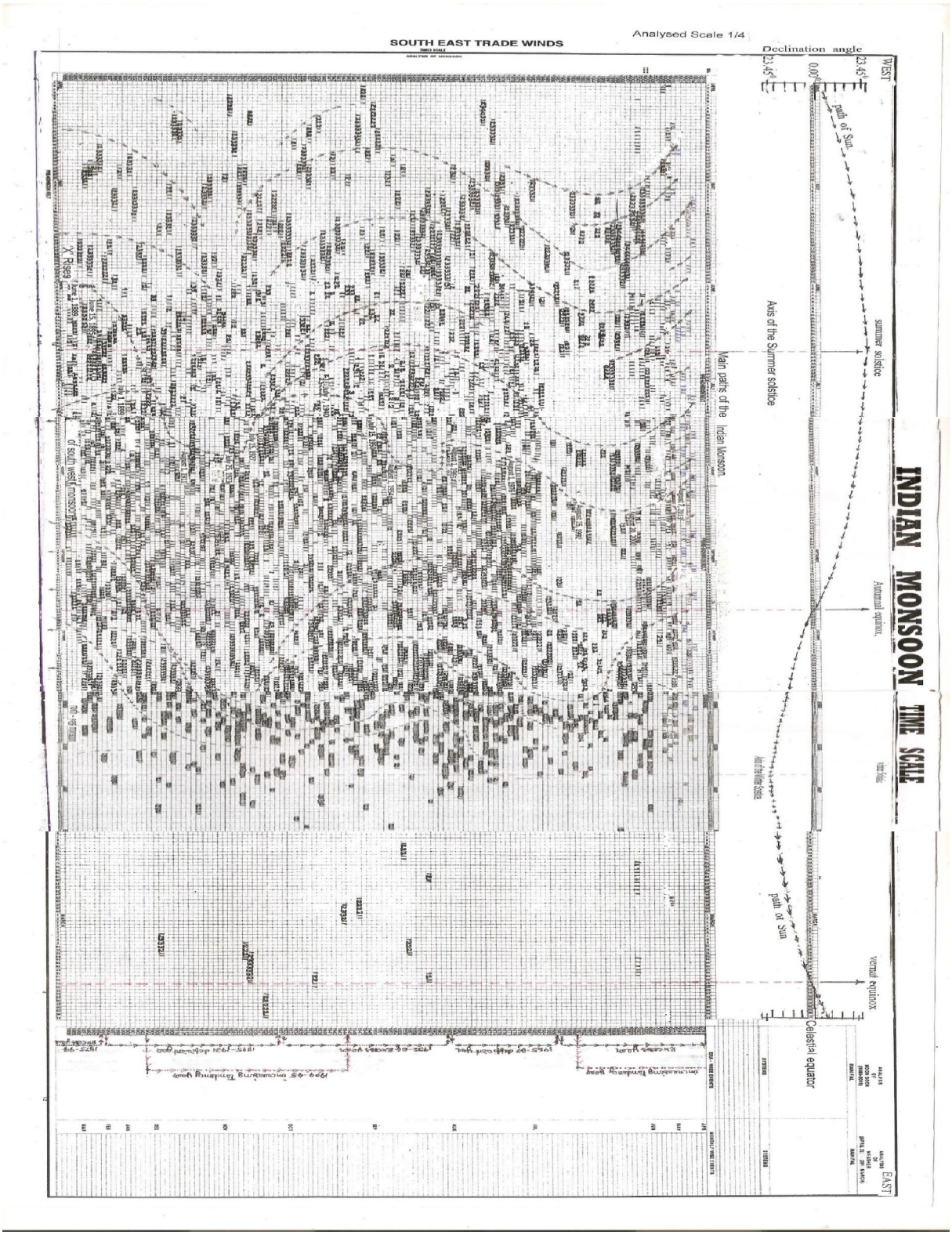


EVALUATED SCALE

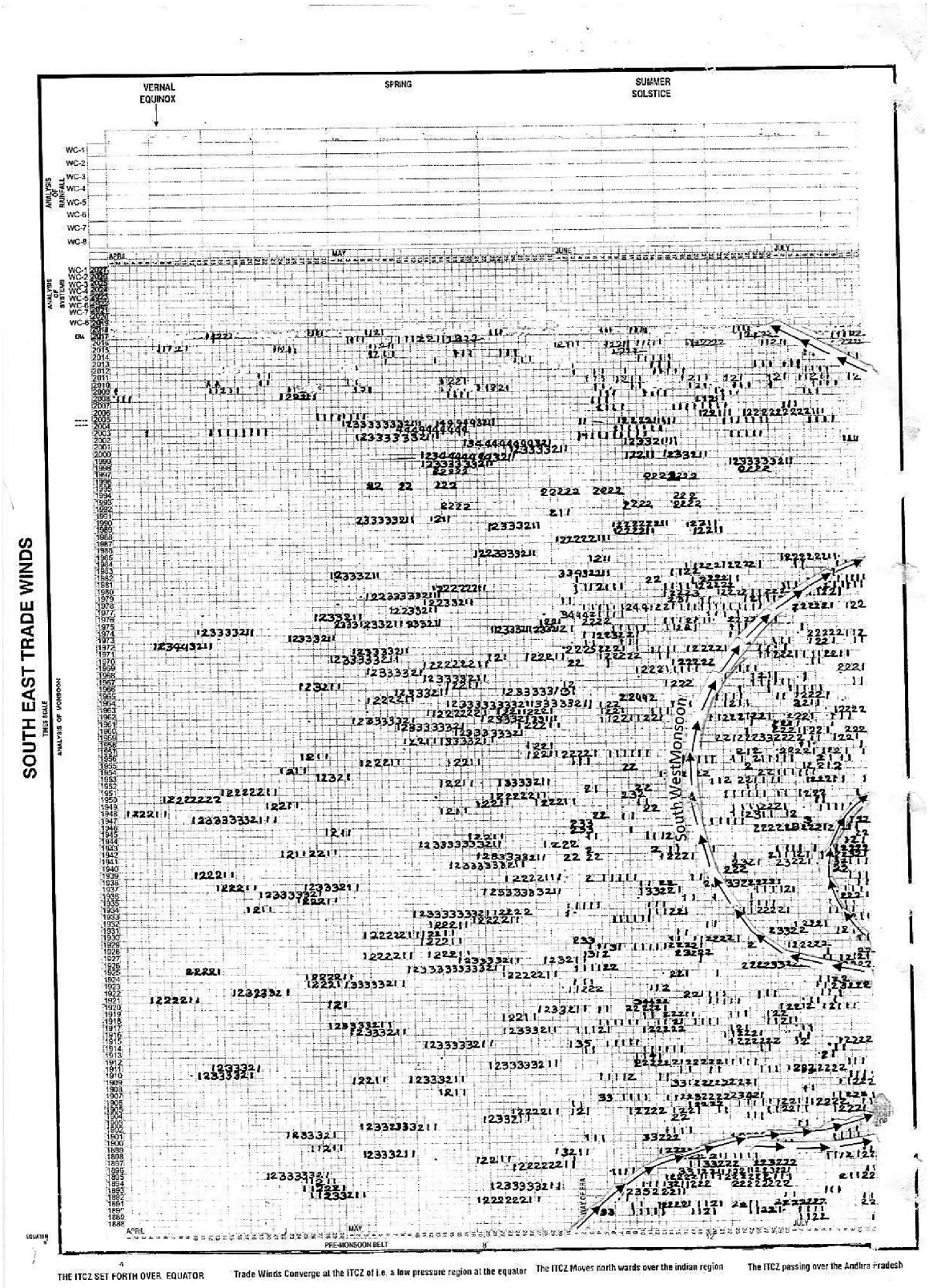
The third one is evaluated scale. In this scale also the first part is beginning from 1st April to July 12th , the second part is from 13 July to October 23rd , the third part is from 24th October to February 3rd and the fourth part is 4th February to March 31st ending. The monsoon pulses in the form of low pressure

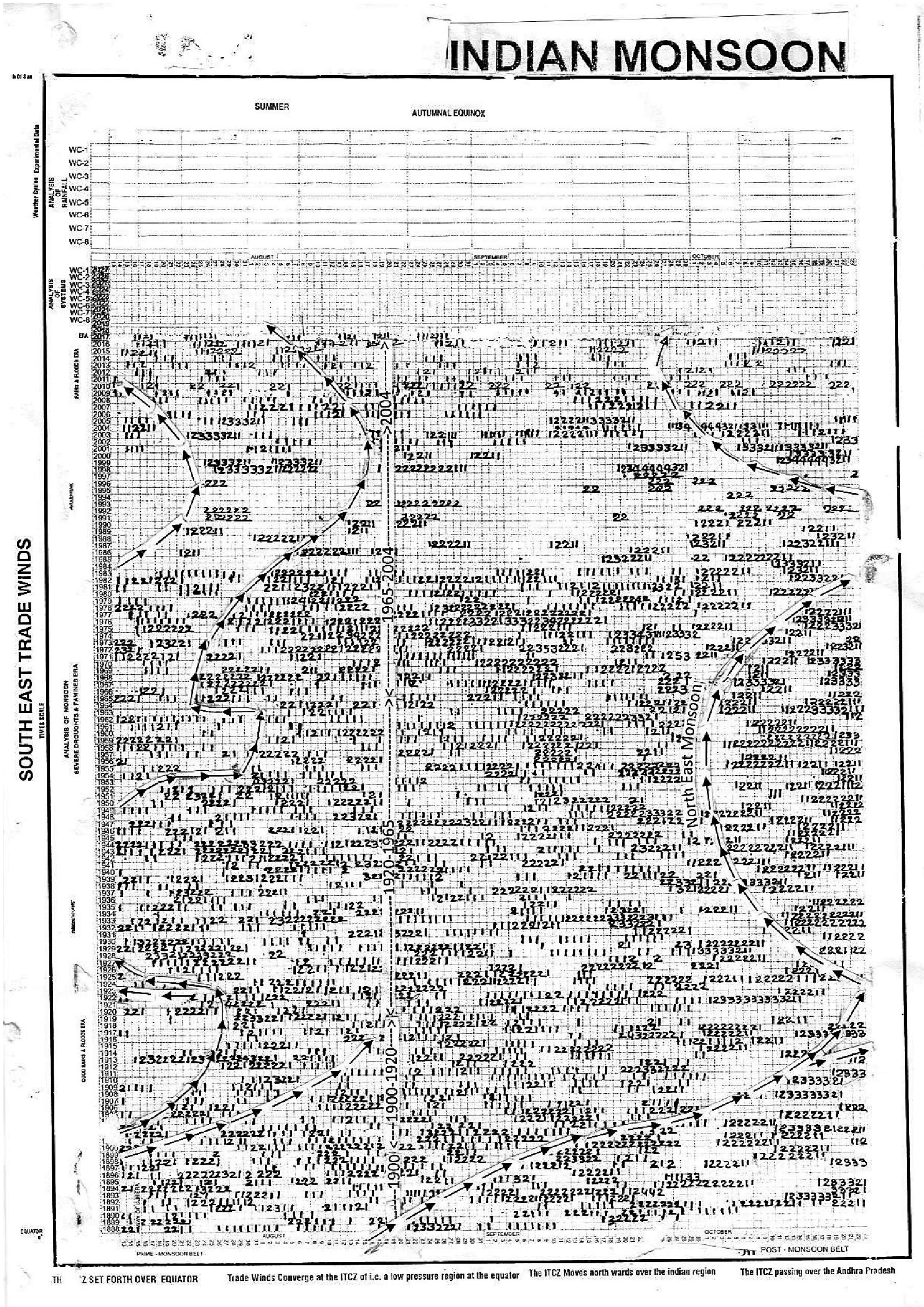
systems over the Indian region have been entering on the scale in stages by 1 for low, 2 for depression, 3 for storm, 4 for severe storm and 5 for severe storm with core of hurricane winds pertaining to the date and month of the each and every year.

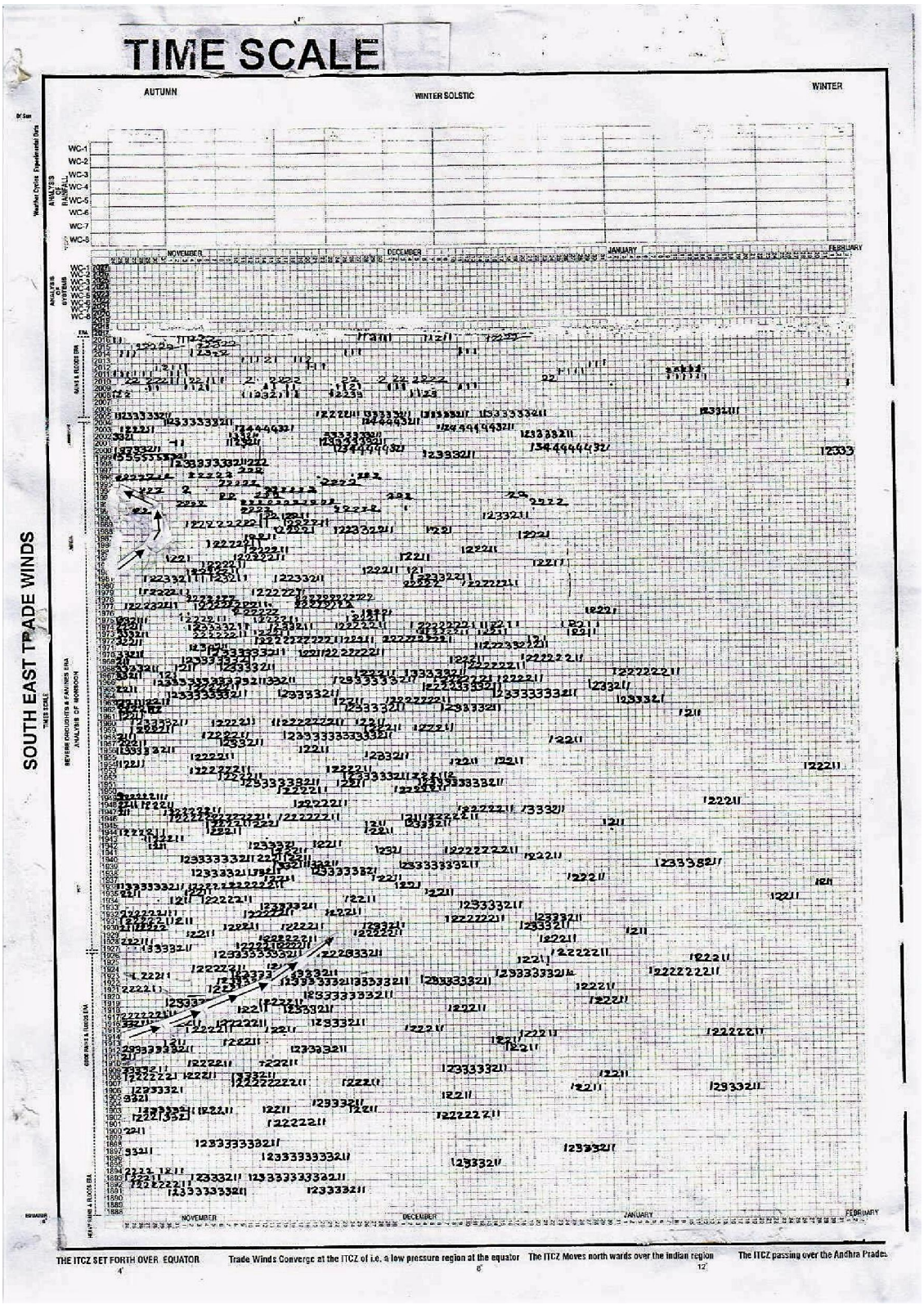


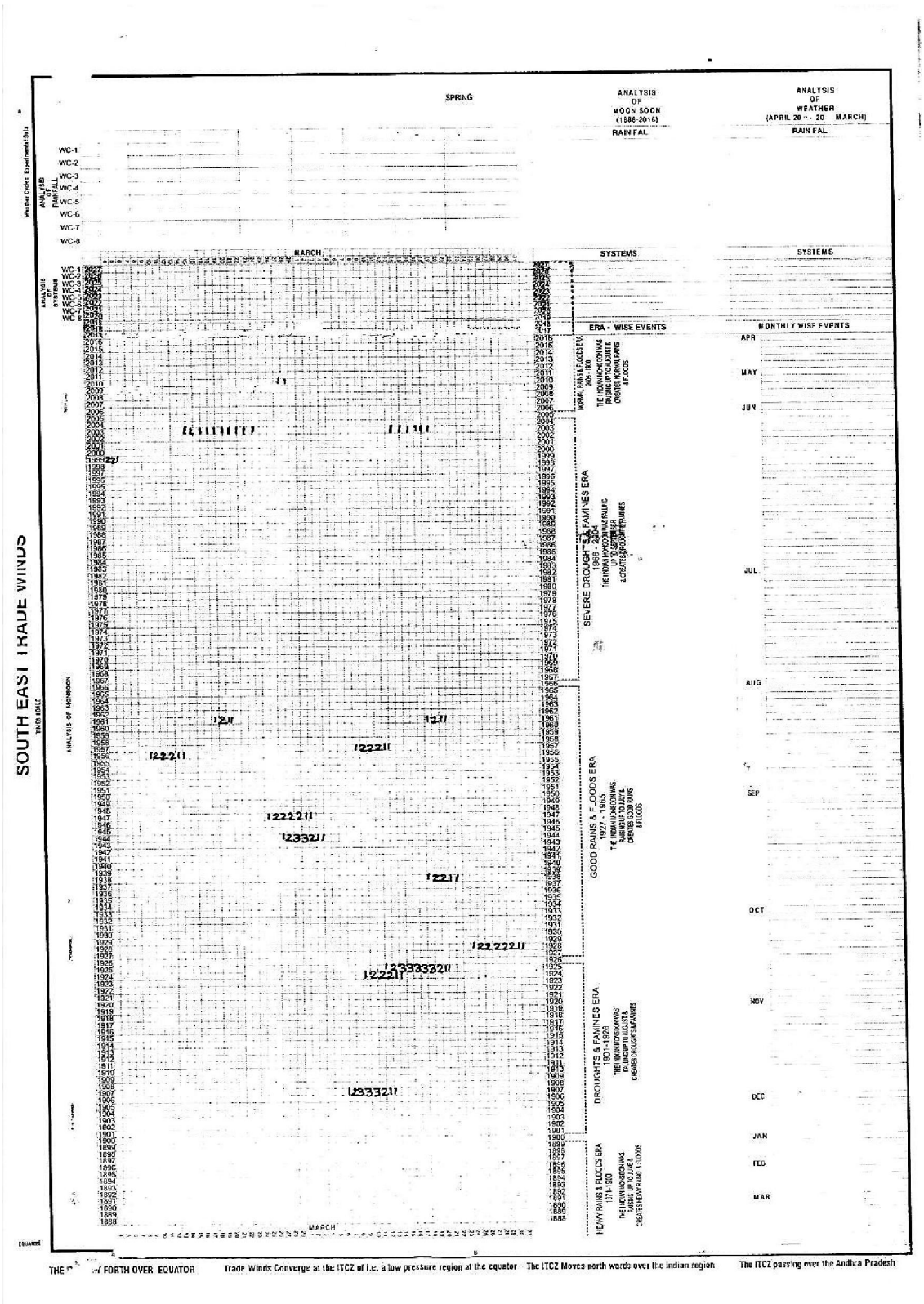

SOUTH EAST TRADE WINDS
Analysed Scale 1/4
Declination angle
23.45°
0.00°
23.45°
WEST
path of Sun
summer solstice
Axis of the Summer solstice
Main paths of the Indian Monsoon
Annual equinox
vernal equinox
path of Sun
Celestial equator
EAST
INDIAN MONSOON TIME SCALE

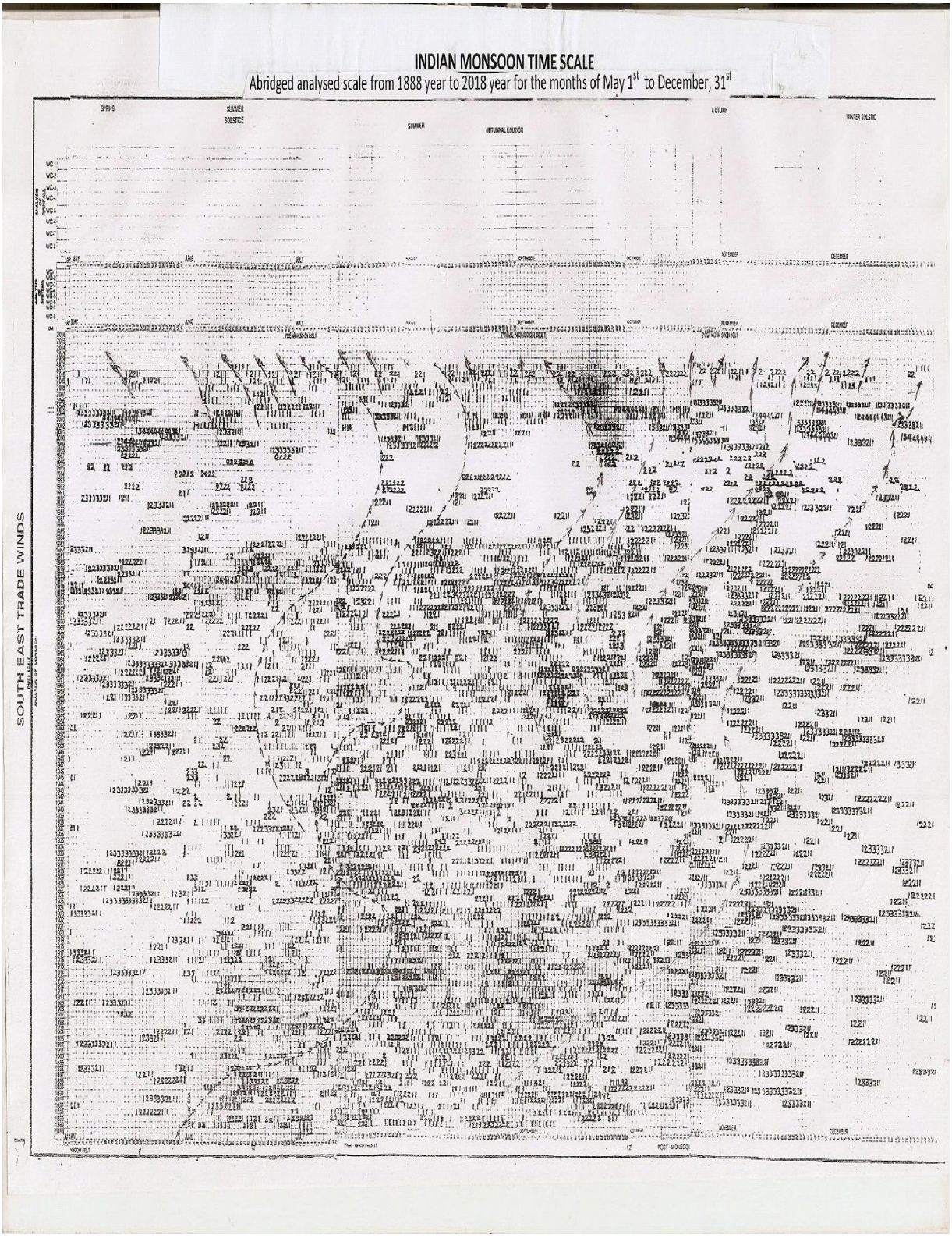
ok

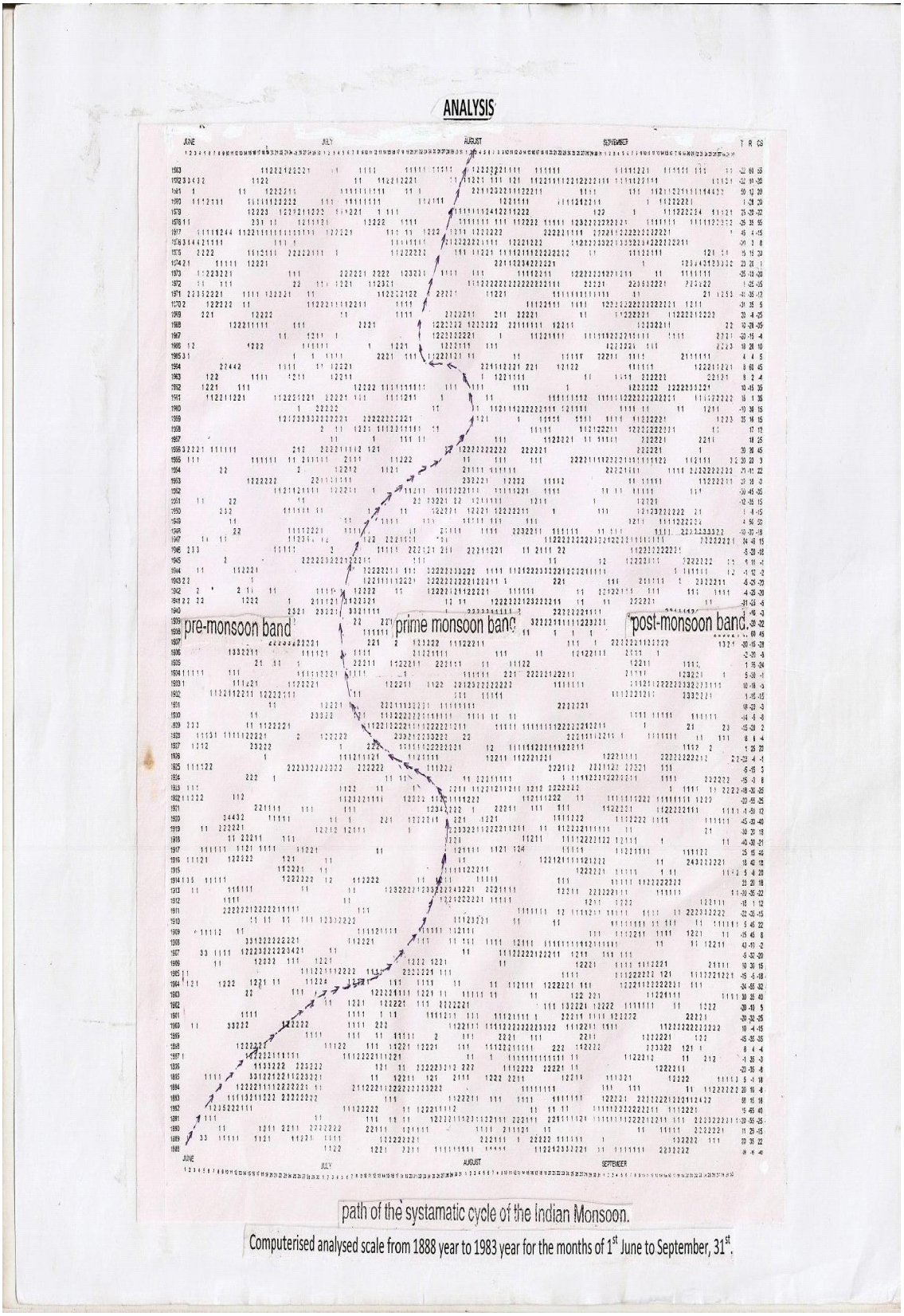

VERNAL EQUINOX
SPRING
SUMMER SOLSTICE
SOUTH EAST TRADE WINDS
South WestMonsoon
PRE-MONSOON BELT
THE ITCZ SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the indian region
The ITCZ passing over the Andhra Pradesh


INDIAN MONSOON
SUMMER
AUTUMNAL EQUINOX
SOUTH EAST TRADE WINDS
North East Monsoon
1900-1920
1920-1965
1965-2004
2004
POST - MONSOON BELT
Z SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the indian region
The ITCZ passing over the Andhra Pradesh


TIME SCALE
AUTUMN
WINTER SOLSTIC
WINTER
WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
WC-7
WC-8
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
SOUTH EAST TRADE WINDS
THE ITCZ SET FORTH OVER EQUATOR
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the Indian region
The ITCZ passing over the Andhra Prade


SPRING
ANALYSIS OF MOON SOON (1886-2016)
RAIN FAL
ANALYSIS OF WEATHER (APRIL 20 -. 20 MARCH)
RAIN FAL
WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
WC-7
WC-8
MARCH
SYSTEMS
SYSTEMS
ERA - WISE EVENTS
MONTHLY WISE EVENTS
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
SEVERE DROUGHTS & FAMINES ERA
1968 - 2004
GOOD RAINS & FLOODS ERA
1927 - 1965
DROUGHTS & FAMINES ERA
1901 - 1926
HEAVY RAINS & FLOODS ERA
1871 - 1900
SOUTH EAST TRADE WINDS
ANALYSIS OF MONSOON
MARCH
Trade Winds Converge at the ITCZ of i.e. a low pressure region at the equator
The ITCZ Moves north wards over the Indian region
The ITCZ passing over the Andhra Pradesh


INDIAN MONSOON TIME SCALE
Abridged analysed scale from 1888 year to 2018 year for the months of May 1st to December, 31st
SOUTH EAST TRADE WINDS



path of the systamatic cycle of the Indian Monsoon.

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

सं०
भारत सरकार
भारत मौसम विज्ञान विभाग
मौसम विज्ञान के महानिदेशक का कार्यालय
मौसम भवन, लोदी रोड
नई दिल्ली–११०००३
तार का पता :
महामौसम, नई दिल्ली

NO. NA-153
GOVERNMENT OF INDIA
INDIA METEOROLOGICAL DEPARTMENT
OFFICE OF THE
DIRECTOR GENERAL OF METEOROLOGY
MAUSAM BHAVAN, LODI ROAD,
NEW DELHI-110003
Telegraphic Address
DIRGENMET, NEW DELHI

दिनांक/Date Oct. 21 1991.

To

Shri Gangadhara Rao Irlapati,
Merlapalem Village,
Vubalanka Post 533237
Atryapuram, E.G. Distt.,
ANDHRA PRADESH

Sir,

Kindly refer to your letter dated 15.8.91 received through Shri G.M.C. Balayogi, M.P. regarding the invention of an instrument by you which can help to forecast cyclones, rains and earthquakes 18 days in advance. In order to examine your proposal further it is requested that you may kindly furnish the following details to this office:

(i) The scientific principles on which your instrument functions and the type of data obtained through it.

(ii) Method of analysis of data and the inference drawn from it to forecast cyclones, earthquakes and heavy rain claimed by you.

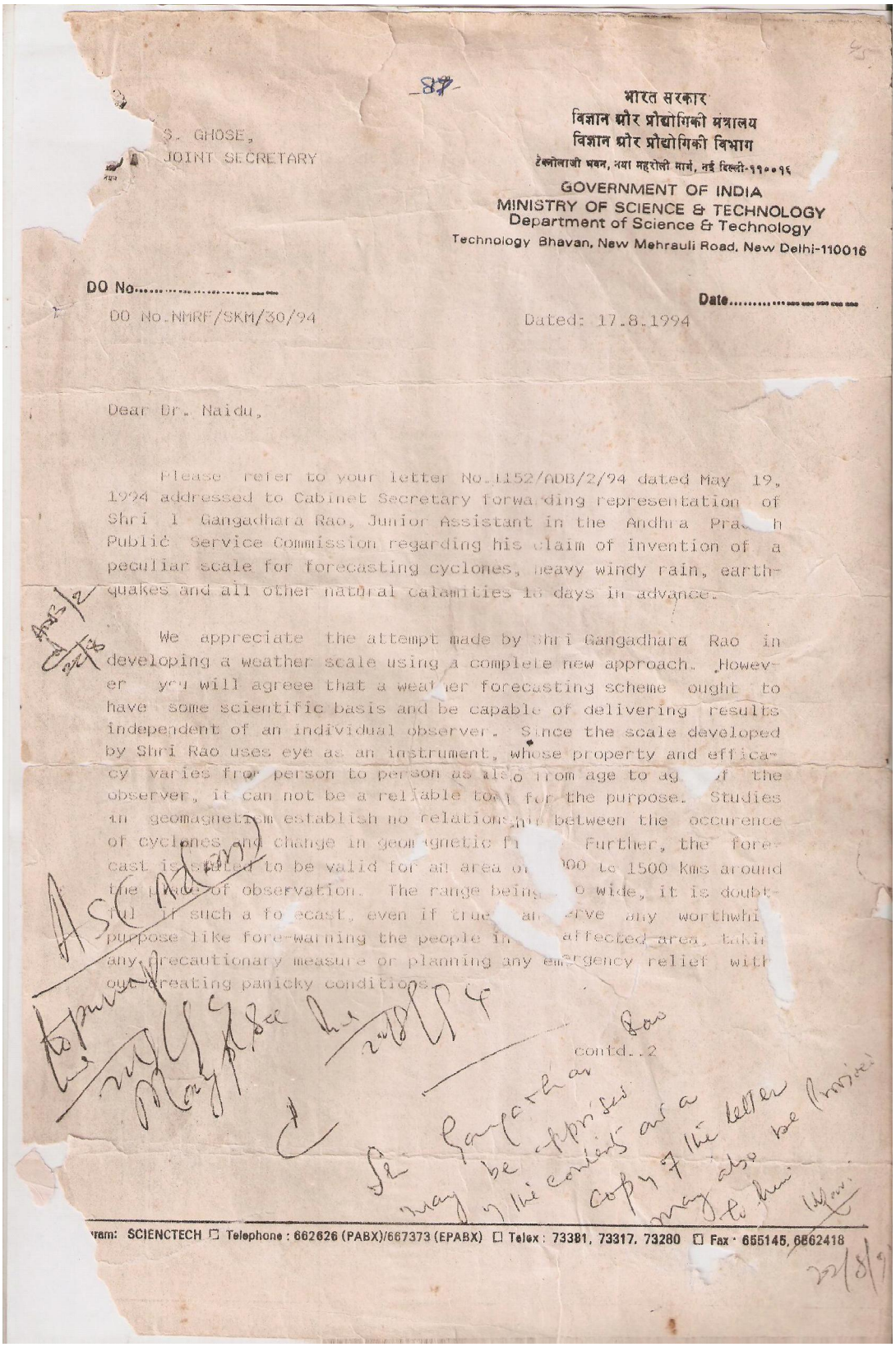
(iii) Specific samples of forecast on cyclones, earthquakes and heavy rain you claim to provide 18 days in advance.

(iv) Verification procedure with specific instances.

(v) ~~Specification~~ Scientific publication, if any, on your instrument. (Give detailed reference)

Yours faithfully,

(M.C. PANT) 17/10/91
Director
for Director General of Meteorology.



S. GHOSE,
JOINT SECRETARY

भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
विज्ञान और प्रौद्योगिकी विभाग
टैक्नोलाजी भवन, नया महरोली मार्ग, नई दिल्ली-११००१६

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
Department of Science & Technology
Technology Bhavan, New Mehrauli Road, New Delhi-110016

DO No.....

Date.....

DO No.NMRF/SKM/30/94 Dated: 17.8.1994

Dear Dr. Naidu,

Please refer to your letter No.1152/ADB/2/94 dated May 19, 1994 addressed to Cabinet Secretary forwarding representation of Shri I Gangadhara Rao, Junior Assistant in the Andhra Pradesh Public Service Commission regarding his claim of invention of a peculiar scale for forecasting cyclones, heavy windy rain, earthquakes and all other natural calamities 10 days in advance.

We appreciate the attempt made by Shri Gangadhara Rao in developing a weather scale using a complete new approach. However you will agreee that a weather forecasting scheme ought to have some scientific basis and be capable of delivering results independent of an individual observer. Since the scale developed by Shri Rao uses eye as an instrument, whose property and efficacy varies from person to person as also from age to age of the observer, it can not be a reliable tool for the purpose. Studies in geomagnetism establish no relationship between the occurrence of cyclones and change in geomagnetic field. Further, the forecast is claimed to be valid for an area of 1000 to 1500 Kms around the place of observation. The range being so wide, it is doubtful if such a forecast, even if true can serve any worthwhile purpose like fore-warning the people in the affected area, taking any precautionary measure or planning any emergency relief without creating panicky conditions.

contd..2

Sri Gangadharan may be apprised of the contents and a copy of the letter may also be provided to him

Telegram: SCIENCTECH ☐ Telephone : 662626 (PABX)/667373 (EPABX) ☐ Telex : 73381, 73317, 73280 ☐ Fax : 655145, 6862418

-89-

सं०
भारत सरकार
भारत मौसम विज्ञान विभाग
मौसम विज्ञान के महानिदेशक का कार्यालय
मौसम भवन, लोदी रोड
नई दिल्ली-११०००३
तार का पता :
महामौसम, नई दिल्ली

NO. NA-153
GOVERNMENT OF INDIA
INDIA METEOROLOGICAL DEPARTMENT
OFFICE OF THE
DIRECTOR GENERAL OF METEOROLOGY
MAUSAM BHAVAN, LODI ROAD,
NEW DELHI-110003
Telegraphic Address:
DIRGENMET, NEW DELHI

दिनांक/Date Nov.....1996

To

Shri Gangadhar Rao Irlapati,
C/o K. Chiranjeevi,
H.No. 28-3, Saibabanagar,
Judimetta,
Hyderabad.

Subject:- Request for forwarding the copies of representation to President of India and other VVIP.

Sir,

Kindly refer to your letter dated September 12, 1996 addressed to the Secretary, Lok Sabha Secretariat, Parliament House, New Delhi on the subject quoted above.

In this connection, you are requested to kindly refer our earlier letters of even number dated 8.6.95 and 8.1.96 in which you were advised suitably for your weather prediction device and recruitment in the Central Government establishment as well. You may proceed accordingly in your future action.

Yours faithfully,

28/11/96

(S.C. GOYAL)
Director
for Director General of Meteorology

सं०
भारत सरकार
भारत मौसम विज्ञान विभाग
मौसम विज्ञान के महानिदेशक का कार्यालय
मौसम भवन, लोधी रोड,
नई दिल्ली-११०००३
तार का पता :
महामौसम, नई दिल्ली

NO. 49106/537
GOVERNMENT OF INDIA
INDIA METEOROLOGICAL DEPARTMENT
OFFICE OF THE
DIRECTOR GENERAL OF METEOROLOGY
MAUSAM BHAVAN, LODI ROAD
NEW DELHI-110003
Telegraphic Address :
DIRGENMENT, NEW DELHI

दिनांक/Date 25/07/2005

To:

Shri Gangadhara Rao Irlapati,
H.No.5-30-4/1,
Saibaba Nagar,
Jeedimetla,
Hyderabad.
Andhra Pradesh
Pin.Code No. 500 055.

Sub:- Project proposal to forecast drought, monsoon and rainfall etc.

Sir,

Kindly refer to your letter, regarding the project proposal for forecast the droughts, monsoon positions and rainfall etc. with the help of scale of data. You are requested to submit the project to Deptt. of Science and Technology (DST) through proper channel for necessary action.

(M. Satya Kumar)
Director Aviation Service
For Director General of Meteorology

-53-

No. F-12016/1/00-NA/100

भारत सरकार
भारत मौसम विज्ञान विभाग
मौसम विज्ञान के महानिदेशक का कार्यालय
मौसम भवन, लोदी रोड, नई दिल्ली-110003
तार का पताः महामौसम, नई दिल्ली
दूरभाषः 24611068, 24631913

GOVERNMENT OF INDIA
INDIA METEOROLOGICAL DEPARTMENT
OFFICE OF THE
DIRECTOR GENERAL OF METEOROLOGY
MAUSAM BHAWAN, LODI ROAD, NEW DELHI-110003
Telegraphic Address: DIRGENMET, NEW DELHI
Tel. No. 24611068/ 24631913, Fax No. 24643128,

November, 1st December, 2009.

Shri Gangadhara Rao Irlapati
A.S.O., A.P.P.S.C., Nampally,
Beside Gandhi Bhawan,
Hyderabad – 500 001, A.P.

Subject:- "Indian Weather Time Scale" – regarding.

Sir,

With reference to your letter addressed to Secretary, Ministry of Earth Sciences, regarding forecast relating to prediction of cyclone, monsoon, heavy rainfall etc., you may kindly refer this office letter No. O-49106/537 dated 25/26.7.2005.

However, your dedication and interest in the field of meteorology is highly appreciated.

Thanking you,

Yours faithfully,

T Kumar 1-12-09

(Awadhesh Kumar)
Scientist 'E'
for Director General of Meteorology

8/18/2019