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Research Article

Breakthrough in Earthquake Prediction a New Perspective: Philippines and Taiwan

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Abstract

Earthquakes are predictable with seismological related precursors; deterministic and short term in nature. Among the several form of weather anomalies rainfall is the best suitable to predict earthquakes and rainfall location is the best to locate the future earthquake location. With the daily rainfall/snowfall map with 10º geological coordinates scale used in this observation research study. After seeing the rainfall location, it is quite possible to identify the future earthquake region, orientation, location and distance from rainfall location can be assessed in less than a minute for the entire regions of the world. Both earthquake precursor phenomena and earthquake generation processes are scientifically illustrated and explained. In this observation research since 1985, it is significant to mention here that there are over 250 epicenter zones (earthquake zones) and equal numbers of precursor areas have been identified. Centrifugal force due to the orbital motion of the earth is the strongest driving force of tectonic plates, seasonal weather changes (atmospheric weather anomalies) and earthquakes. Though this observation research paper is against the generally accepted concept of driving plate of force of tectonic plates, precursors and earthquake prediction in earth sciences but the concept has 100% capacity to identify the exact location and predict every individual earthquake, it is significant to mention. Both atmospheric anomalies and earthquakes are natural hazards, so the events can observable, recordable and verify the correctness of result in just 15 days. Hundreds of earthquakes have been successfully predicted using this method.

Keywords: Gravitational force; Centrifugal force; Tectonic plate motion; Yield point; Tensile point; Break point atmospheric weather anomalies and earthquakes

Introduction

Everything in the Universe is in motion because forces exist in the Universe, all motions are in the universe is governed by the gravitational force. The Galaxies are moving, stars are moving, our Sun is moving, planets including earth in our solar system are moving around the sun (revolution), force due to the orbital motion of the earth is centrifugal force and centrifugal force is the major driving force for tectonic plates. The concept of centrifugal force of earth rotation move continents, first introduced by A. Wagener but the actual driving force of tectonic plates are centrifugal force due to orbital motion of earth. That is Gravitational force moves the earth around the sun and the centrifugal force moves tectonic plates. Because the scale of the human body is so much smaller than the 'scale' of the earth, we do not experience the orbital motion of the earth but we feel the effect in the form of seasonal variation. Like that, we do not feel the effect of centrifugal force but we feel the centrifugal force when we move on a circular path. We know seasonal variations are due to the orbital motion of the earth with 23.5º tilt. Seasonal variation is the atmospheric weather anomalies happening every year for a particular region for a particular duration of time. How this happened? Kepler's law governs the orbital motion of the Planets in our solar system. The closer a planet is to the Sun, the stronger the Sun's gravitational pull on it, and the faster the planet moves and the farthest from the Sun, the weaker the Sun's gravitational pull, and the slower it moves in its orbit. The annual seasonal variations are not scientifically possible without orbital motion of the earth and tectonic plate motions. So tectonic plate motions are centrifugal force dependent and independent of force from earth's interior. The earthquake prediction research has been conducted over 120 years and for driving force of tectonic plate research over 40 years with no obvious success. Claims of breakthrough have failed to withstand scrutiny in both areas of research. Physics based solution to tectonic plate motion and earthquakes are more appropriate than the use of unsuccessful geological parameters. The fundamental physical processes leading to earthquake are as follows: orbital motion of the earth; the force due to the orbital motion of the earth is the unique centrifugal force; centrifugal force is the strongest major driving force of tectonic plates; massive amount of frictional heat liberated due to the motion of tectonic plates; atmospheric weather anomalies and finally earthquakes. One event is the precursor for the advance event. In this way, tectonic plate motion is the precursor to atmospheric weather anomalies and the atmospheric weather anomalies are pre-earthquake precursors. Under the continuous influence of Centrifugal force, tectonic plates are always in motion and when earth moves at particular position with respect to sun, particular epicenter zones are set to more active as seasonal variation and less active at some other position.

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The earthquake processes are inherently large events but not complicated or complex in nature, they are always in correct order. Large tectonic plates, large process of plate motion, liberations large amount of plate frictional heat, generation of large atmospheric weather anomalies with potentially destructive energy cause heavy rain accompanied with strong winds, huge flood and release of devastating seismic energy. Even though these events are inherently large but it is quite easy to understand and predict earthquakes successfully in just 15 days. Under the influence of strongest centrifugal force, the tectonic plates are behaving like testing of tensile specimen under load. When Yield point exceeds, tensile point reached and when tensile point exceeds, break point reached. Between Yield point and tensile point stage, tectonic plates liberate massive amount of frictional heat that causes atmospheric weather anomalies; the interval between tensile point to break point, the massive amount of plate frictional heat weakening plate strength that facilitate tectonic plate to break as earthquakes. Every successive event that leading to earthquake has been explained with illustration, tectonic plates as tensile specimen.

Some type of natural disasters are

Earthquakes, Volcanoes, Landslides, Famines & Droughts, Hurricanes, Tornados, and Cyclones. Extreme precipitation and flooding. Extreme Temperature (Heat & Cold) and Wildfires.

Centrifugal force due to orbital motion of the earth is the major driving force of tectonic plates

There is more than one solution are describing the driving force for tectonic plates and precursor for earthquake prediction. All research studies are not straight forward explanation and only misleading representations. Some of the research concepts, interpretations in this observation research study may not familiar to many and may not be readily found in the existing literature.

Unsuccessful earthquake precursors and precursors study and analysis

Animal behavior, Dilatancy-diffusion, Changes in Vp/Vs, Radon emissions, Electromagnetic anomalies, Nowcasting, Elastic rebound,Characteristic earthquakes, Clusters of earthquakes and slow-slip events, fault-slip behaviors and more. For seafloor geodesy above the seismogenic zone of subduction megathrusts, continuous measurements and centimeter-level accuracy or better in the horizontal and vertical directions are needed. An increasing array of techniques are available including Global Positioning System-acoustic methods, seafloor absolute pressure gauges, acoustic ranging, borehole instrumentation (including tiltmeters and pore pressure for volumetric strain),and fiber optic strainmeters (e.g., Burgmann and Chadwell, 2014 and presentations about seafloor instrumentation areposted from the 2019 Committee on Seismology and Geodynamics meeting; NASEM, 2019).

Successful Seismic related repeatable significant onshore earthquake precursors are followed by offshore earthquakes

Hurricanes, Tornados and Cyclones, extreme precipitation and flooding, extreme Temperature (Heat & Cold),wildfires, famines & droughts, whales, Sharks and Dolphins beach stranding, wild and thick murky sea foam are the best recordable precursory events will help experts to streamline the forecasting/predicting efforts. All tectonic plate motions associated with both atmospheric and seismic anomalies of varying severity level.

Figure 1: Under the influence of gravitational force earth moves around the Sun.

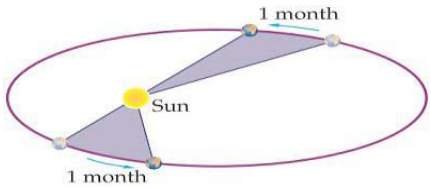


Figure 2: Orbital motion of the earth varies.

Under the Influence of Gravitational Force Earth Moves Around the Sun

Throughout the year various position of the earth with reference to the Sun causes different seasonal variation at different parts of earth. There would be no seasonal variation on earth if there is no orbital motion of the earth with 23.5º tilt in association with tectonic plate motion (Figure 1).

Orbital motion of the earth varies

As the earth gets closer to Sun, it moves much faster in its orbit and farthest from sun it moves slower. As the orbital motion of the earth varies with reference to the Sun, the same way, the influence of centrifugal force varies the tectonic plate motion (Figure 2).

Epicenter zones (earthquake zones) of tectonic plates

In this observation research studies, there are more than 250 epicenter zones, where the earthquake damage takes place, and equal numbers of precursor areas have been identified. Motion of tectonic plates of epicentre zones plays a vital role in atmospheric weather anomalies and earthquakes (Figure 3).

Figure 3: Epicenter zones (earthquake zones) of tectonic plates.

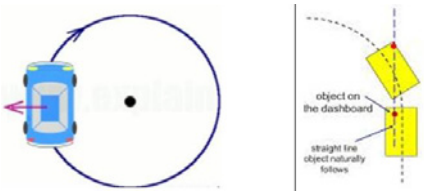


Figure 4: Centrifugal Force acts on every object moving in a circular path.

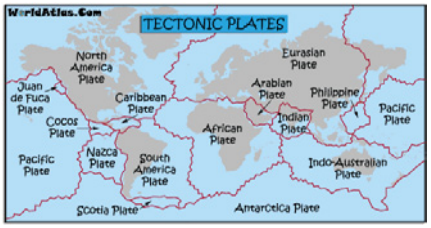


Figure 5: Under the influence of centrifugal force tectonic plates are moving.

Under the influence of centrifugal force

Centrifugal Force acts on every object moving in a circular path: The driving force of tectonic plates in laws of physics is Centrifugal force, the strongest driving force generated due to the orbital motion of the earth. Centrifugal Force acts on every object moving in a circular path and always acts away from the center. Let us assume that elliptical orbit as curved road or rail track; earth as train or bus moves in a circular path and tectonic plates as passengers (Figure 4).

Under the influence of centrifugal force tectonic plates are moving: Under the influence of strongest Centrifugal force, tectonic plate moves like passengers experience an outward movement (everyone experienced). Gravitational force, not only governs the orbital motion of the earth, but also the generation of centrifugal force governs the tectonic plate motion. The energy source for plate tectonics are the centrifugal force, there would be no tectonic plate motion if there is no centrifugal force (Figure 5).

Atmospheric and Seismic Anomalies

Tectonic plates behave like tensile test specimen

Tensile Testing is a destructive materials science test, it is used to find out how strong a material is and also how much it can be stretched before it breaks. Under the influence of centrifugal force, the tectonic plates of epicenter zones are behave like tensile test specimen under load. The tectonic plate also undergoes yield point;

Figure 6: Yield point of tectonic plate.

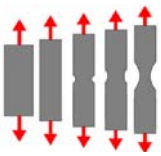


Figure 7:

Figure 8: Between yield point to tensile point (ductile fracture).

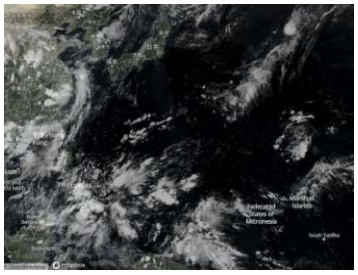


Figure 9: Weather anomalies are seismologically based earthquake precursors.

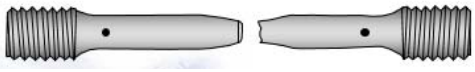


Figure 10: From Tensile point to break point (brittle fracture).

tensile point and break point.

Yield point of tectonic plate

The yield point is defined as the stress beyond which a material deforms by a relatively large amount for a small increase in the stretching force. When earth moves to particular position with respect to sun, under the influence of centrifugal force, tectonic plate of particular epicenter zones are subjected to initial yield point stage. This is the preparatory phase for atmospheric and seismic anomalies (Figure 6). The thickness of the tectonic plates is not in uniform under the continuous influence of centrifugal force as tensile test specimen under load (Figure 7).

Between yield point to tensile point (ductile fracture)

During the tensile point stage, the ductile fracture of tectonic plates liberates a massive amount plate frictional heat causes all form of weather anomalies and thinning of tectonic plates (Figure 8).

Weather anomalies are Seismology-based earthquake precursors

All form of weather anomalies are precursor to earthquakes, say heat waves, forest fires, cyclones, heavy snowfall, heavy rainfall associated with thunder storms and etc., Among them rainfall and rainfall location is best suitable to identify the future earthquake location. In case of absence of rainfall, snowfall location can also be used as precursor for successful future earthquakes location (Figure 9).

From Tensile point to break point (brittle fracture)

Seismic preparation process initiated between tensile point and break point this is in two weeks before earthquakes.With the thinning, the strength of tectonic plates is weakening. This facilitates brittle fracture of tectonic plates occurs as earthquakes (seismic anomalies) (Figure 10,11&12).

Reason for why earthquakes are short term in nature?

The time duration between tensile points to break point of tectonic

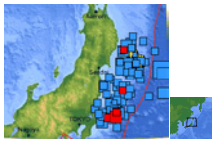
Star icons are representative of rainfall location	Star icons are representative of Earthquake location
Snow storm hits Japan Jan 2, 2011 TOTTORI, Japan, Jan. 1 (UPI)--A New Year's Eve snowstorm blanketed parts of Japan with up to 43 inches of snow whipped by winds up to 63 mph89 centimeters (35 inches) of snow had piled up in Yonago as of 5 am. Saturday, the most since measurements were started in 1940. Feb 28, 2011 Heavy rain in South Korea : (33-37N 126-128E) Feb28, 2011, Heavy rain in Japan : (33-35 N 136-139 E) 	Quake of M8.9 Near East coast of Honshu, Japan, Friday, March 11, 2011, (E of Sendai, Honshu, Japan), Location:38.322°N, 142.369°E; Depth: 24.4km. Hundreds of aftershocks have since followed the devastating earthquake. 

Figure 11: Rainfall location is identifies corresponding future earthquake location.

Figure 12: This research study started with the devastating earthquake in Mexico 1985.

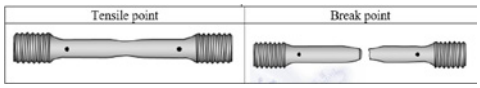


Figure 13:

Figure 14: Epicenter orientation with respect to rainfall location.

plates determines the time interval of rainfall (atmospheric weather anomalies) and the happenings of earthquakes. This time interval is usually within 15 days, based on observation. In this context, it is worth to note that earthquakes are short term in nature (Figure 13).

Methodology: Earthquake Prediction and Prediction Criteria

1. Earthquake related Precursor

Atmospheric weather anomalies

2. Best Precursor:

Rainfall and Rainfall location

Rainfall location (region)	Earthquake location (Epicenter Zone)
North and South-west Pacific regions : Kamchatka Islands, Kuril Islands, Japan, Taiwan, Philippines, Solomon Islands, Australia, New Zealand and etc.	1.To the East of rainfall (Japan) 
South America, North-East Atlantic coastal regions South Africa, Northern Sumatra (Indian ocean) and etc.	2.To the West of rainfall (Argentina) 
Hindu Kush region, Northern Xinjiang, China, East and West Xizang, China and etc.	3.To the North of Rainfall (Hindu Kush region) 
Southern Gulf states of US, Italy, Greece, Northern Iran, Southern Sumatra, Java stretch, Indian ocean east and etc.	4.To the south of rainfall (Mexico) 
Oklahoma, Hawaii, Solomon islands, Fiji, Tonga, Vanuatu Islands and etc.	5. Both rainfall and epicentre zone at same places : (Vanuatu Islands) 

Figure 15:

Snowfall location (Seismic activity in case of absence of rainfall)

3. Amount of rainfall

50mm and above

4. Distance of future Earthquake location with respect to rainfall location

Mostly within 15°

In some cases up to 20° plus

5. Magnitude

Depending on site geological conditions and severity of weather changes

Mostly within 4-6 on Richter scale (lower magnitude not recorded)

Time mostly within 15 days after rainfall.

Epicenter orientation with respect to rainfall location

The direction of storm generation would be the direction or orientation of future earthquake location. The orientation of earthquake location from rainfall location varies from region to region, due to space constraint, only limited regions tabulated (Figure 14&15). Result rainfall location and corresponding earthquake location: (Table 1-1.3) for Philippines region and (Table 2-2.1) for Taiwan regions. This previously observed data catalogue can be useful to warn future earthquakes successfully.

Region selection: Philippines and Taiwan.

Conclusion

Based on wrong understanding of plate dynamics and earthquake generation processes several theoretical and numerical investigations

Table 1: Geological coordinates of range of precursor areas and epicentre zones.

Philippines epicentre zones	Geological Coordinates of range of precursor areas	Geological Coordinates of range of epicentre zones
Batan Islands	19-24N 109-122E	20-21N 121-122E
Babuyan Islands	18-20N 120-121E	19N 121E
Mindoro	Philippines (N)	13.922ºN, 120.711ºE.
	(14 02N 121 35E 999.8 mm)	
Northern Mariana Islands,	12-16N 119-123E	12-21N 142-147E
Luzon	12-18N 120-124E	14-15N 119-123E
Philippines Islands	12-16N 120-123E	15-16N 118-120E
Mindanao	08-16N 123-126E	05-09N 121-126E
Leyte, Samar, Philippines	Rain in Philippines	Leyte, Samar, Philippines;
	(12-13N 121-122E)	11-12N; 124-125E
Guam	IPONE (Islands in the Pacific Ocean North of the Equator):	Guam: 12-14N 143-145E
	07-13N 132-145E (includes Tropical storm and flash flood)	
State of Yap, Micronesia	Islands in the Pacific Ocean North of the Equator	06-11N 137-138, 141, 144E
	07,09-10N 134,138-139E	
	Super typhoon: 06.4N 156.0E	

Table 1.1: Depending on the rainfall location, the distance of earthquake location varies up to 20º in most cases.

Precursor Location	Corresponding earthquake location
China (N Philippines) (21-22N 108,110-111E) Taiwan (N) (25 38N 122 04E 50.5 mm) China (Nr Taiwan) (22-28N 112-116,118,120,122E) (52-85 mm at 19 stans)	Batan Islands region, Philippines: 20.819ºN, 121-122ºE.
Philippines (N) (20.80N 121.85E 994.4 mm)	Philippine Islands; 20.29 N; 120.52 E.
Philippines (N) (20 48N 121 51E 83 mm)	Babuyan Islands region, Philippines; 19.221ºN, 121.257ºE.
Philippines (18-19N 120-121E 78.1 mm)	Babuyan Islands region, Philippines, 19.024ºN, 121.052ºE.
Philippines (N): (18 22N 121 38E 999 mm)	Luzon, Philippines: 15.834ºN, 121.731ºE. M 5.4 Luzon, Philippines; 18.55 N; 120.52 E.
Philippines (N) (14 45N 121 39E 82.5 mm); (14 05N 121 03E 990.9 mm)	Maug Islands reg., Northern Mariana Isl.,: 19.226ºN, 145.365ºE. 21.765ºN, 144.036ºE.
Philippines (N) (16.05N 120.33E 89.0 mm)	Philippine Islands; 15.72 N; 118.53 E.
Philippines (N) (13&15N 121E)	Luzon, Philippines: 15.125ºN, 120.328ºE. 14.211ºN, 120.533ºE. Maug Islands reg., Northern Mariana Isl., 19.015ºN, 145.611ºE.
China(Nr S Taiwan/Hong Kong) (19-24N 101,103,105-106,108 &110-120E) Viet Nam (20 48N 106 38E 55 mm) Laos (19 &21N 101 53E 52 mm), Philippines (N) (15 29N 120 58E 71.5 mm)	Luzon, Philippines: 14.938ºN, 123.280ºE.
Philippines (N) (13-14N 120-121,123-124E)	Luzon, Philippines: 14.844ºN, 119.953ºE.
Philippines (N) (14 02N 121 35E 999.8 mm)	Mindoro, Philippines, 13.922ºN, 120.711ºE.
Philippines(M) (11-14N 121-123E)	Samar, Philippines: 11.293ºN, 125.360ºE. South of the Mariana Islands: 11.797ºN, 143.322ºE.
Philipines (M) (11N 122 &124E 54.3 mm)	June/Panay, Philippines: 10.24 N; 122.18 E. (R-in-N & Eq-in-S)
Philippines (11-14N 121-125E) (54-160mm at 6 stans)	Masbate region, Philippines; 12.64 N; 123.96 E.
Oct. /Typhoon Nari Location:14.3N 130E Wind:120MPH	Oct. (in 6 days) Bohol, Philippines; M 7.2 (5.4; 5.3; 5.0) 9.89 N; 124.21 E. Negros- Cebu reg, Philippines; M 5.7 (5.2; 4.9;4.8; 4.7; 4.7) 9.86 N; 123.79 E. Leyte, Philippines; M 5.5 (5.4; 5.2; 5.0; 4.9; 4.8; 4.7; 4.6) 10.00 N; 124.24 E.
Philippines(SW) (09 45N 118 44E 120.4 mm)	Negros, Philippines, 9.508ºN, 122.126ºE.
Philippines (S): (08 22N 123 & 126 20E 69.1 mm);	Mindanao, Philippines: 7.619ºN, 125.937ºE; 8.781ºN, 126.282ºE; Palau: 6.845ºN, 134.449ºE. Kepulauan Sangihe, Indonesia: 3.027°N, 125.649°E.
Philippines (08-14N 121-126E)	Palau region; 7.07 N; 131.99 E.
Nov. /S Philippines (08.93N 125.51E 996.7 mm)	Dec. /M 6.6 Moro Gulf, Mindanao, Philippines; 6.20 N; 123.18 E.
July/Philippines: (08,10-11N 123 &125E) (53-990mm at 4 stans)	M6.4 (5.0) Mindanao, Philippines; 5.78 N; 126.60 E.
Philippines (S) (06-12N 124-126E) (53-235mm at 20 stans)	Mindanao, Philippines: 5-6ºN, 125-126ºE. 9.954ºN, 126.231ºE.
S Philippines (08-09N 118,125-126E 997.7 mm)	Dec. /M 6.1 Mindanao, Philippines; 8.70 N; 121.62 E (in 13 days).
Philippines (S) (07.16N 124.21E 72.0 mm)	Mindanao, Philippines; 6.54 N; 126.56 E.
Philippines(S) (06.11N 125.18E 52.2 mm)	Mindanao, Philippines; 5.65 N; 126.43 E Philippine Islands; 5.91 N; 127.18 E.

have been studied and several articles also published in various level impact journals but none have the capacity to predict a single individual earthquake is remarkable to mention. In this observational research study through the interaction study of Astronomy, Physics,

Table 1.2: N. Mariana Islands.

Precursor Area	Epicenter zone
Philippines (N)(14,16,18N 120-122E) (51-326mm at 7 stans)	Mariana Islands; 21.73 N; 143.72 E.
Philippines (N Mariana) (12,14-16N 120-122E)	Mariana Island: 20.13 N; 143.87 E 19.35 N; 146.10 E Pagan reg., N. Mariana Islands 18.62 N; 144.60 E Alamagan reg, N. Mariana Islands: 17.54 N; 145.78 E.
Sep. Super Typhoon Usagi 17.6N 132.1E Wind: 160 MPH	Sep. / M 5.4 Maug Islands reg, N. Mariana IS. : 19.24 N; 145.70 E.
Philippines (N Mariana) (16 17N 122 07E 55.5 mm)	Mariana Islands: 19.81 N; 146.63 E.
July Super Typhoon Nepartak 8.7N 145.2E; wind: 175mph	M 7.7 Pagan reg., N. Mariana Islands;18.58 N; 145.51 E (after 23 days)
Philippines (N) (17-18N 120E) (58-152mm at 2 stans)	Alamagan reg, N. Mariana Islands; 17.77 N; 145.41 E
Aug. /Philippines (N): (14-16N 119-120E)	Saipan reg., N. Mariana Islands; 15.24 N; 145.86 E
Sep./Typhoon Phanfone 12.4N 153.3E; wind: 135mph	Oct. / M 6.0 Mariana Islands; 15.46 N; 147.12 E. (TSE & QNW)
IPONE (13.46N 144.78E 75m)	Mariana Islands; 21.25 N; 144.42 E

Table 1.3: Guam.

Precursor Area	Epicenter zone
IPONE (Islands in the Pacific Ocean North of the Equator)	Guam
Oct. (13 28N 144 47E 95.8 mm) Typhoon 13.3N 142.9E; wind: 135MPH 12.7N 145.2E; Wind: 160mph	13.03 N; 144.73 E.
IPONE (Guam) (13.46N 144.78E 61 mm)	13.94 N; 145.32 E
Philippines (M) (10-12N 123-125E) (50-149mm at 6 stans)	Jan. /M 5.9 (5.5) Mariana Islands; I 13.50 N; 146.12 E. Guam; 13.42 N; 145.73 E.
IPONE (Guam) (07,09 &11N 134,136 &138E 60.2m)	Feb. /M 5.5 Guam; 12-13 N; 144.19 E.
Sep. /Tropical Storm Kalmaegi	Sep. /M 6.7 Guam; 13.77 N; 144.43 E.
9.9N 141.1E; Wind: 80mph	(on 7th day)
(09 29N 138 05E 68.3 mm)	13.50 N; 144.78 E.
(07 20N 134 29E 94 mm)	Palau;
(07 23N 143 55E 54.6 mm)	7.34 N; 136.10 E.
	13.35 N; 144-145 E.

Table 2: Geological coordinates of rainfall location range and epicentre zone.

China (Taiwan)	Geological coordinates of rainfall location range	Geological coordinates of corresponding earthquake location
Northeast of Taiwan:	(25 38N 122 04E 50 mm)	26.117ºN,125.139ºE
Taiwan	21-30N 110-124E	21-26N 120-125E

Table 2.1: Taiwan Depending on the rainfall location, the distance of earthquake location varies up to 20º in most cases.

Geological coordinates of rainfall location	Geological coordinates of corresponding earthquake location
Taiwan (25 38N 122 04E 50 mm)	Northeast of Taiwan 26.117ºN, 125.139ºE
China (23-24N 113-118E)	Taiwan, : 23.936°N, 121.604°E 25.753ºN, 122.336ºE.
China (27-32N 102-109E) Taiwan (22-24N 120-121E)	Northeast of Taiwan, : 25.416ºN, 124.477ºE
China (27-29N 116-119E)	Taiwan: 23-24ºN, 121-122ºE
China (19-29N 106-112E) Taiwan (20,22-23N 116&120E)	Taiwan: 24.179ºN, 122.247ºE 22.829ºN, 120-121ºE
China (Nr Taiwan) (21-30N 110-118 & 121-122E E)	Taiwan,: 23.786ºN, 121.741ºE
China (27-32N 118-112E) (52-350mm at 19 stans)	Taiwan; Oct. /M6.3 (4.6; 4.3)/ 23.62N 121.42E.
China (Nr N Taiwan) (24-29N 110,113&117-120E)	Taiwan: 23.088ºN, 121.310ºE
China (S Taiwan) (20-27N 111-120E) (50-272mm at 12 stans)	May/M5.6 Taiwan; 23.732ºN 121.471ºE.
China (Nr N Taiwan) (22-26N 105-106,110,116-121E)	Taiwan,: 23.672ºN, 121.578ºE
Taiwan (N) (24-25N 120-122&124E)	Taiwan: 23.320ºN, 121.536ºE
Taiwan (25 02N 121 31E 50 mm)	Taiwan 21.980ºN, 121.603ºE 23.469ºN, 120.952ºE
Typhoon Wind: 105 MPH 23.6N 123.4E	Taiwan: 23.885ºN, 121-122.607ºE
Taiwan (S) & Philippines (N) (20 & 21N 121E)	Taiwan: 23.469ºN, 120-121ºE
China (22 02N 121 33E 61mm)	Taiwan : 22.396ºN, 121.310ºE
Taiwan (N) (24-25 &27N 120-121E), Taiwan(S) (22N 120-121E) Typhoon Temblin (Nr S Taiwan) Wind: 90 MPH : 20.5N 118.1E	Taiwan: 22-23ºN,121-122ºE

meteorology and seismology, atmospheric weather and seismic anomalies have been explained. In this observation research study to identify and warn future earthquakes location for the entire regions of the world based on rainfall location (from previous observation data), by using WMO's Daily rainfall/snowfall map. This study strongly demonstrates the relationship between nature's atmospheric weather anomalies and the occurrence of earthquakes; driving force of tectonic plates identified and explained by illustration then the observed few events of rainfall followed by earthquakes. Though there are more than 250 epicenter zones and equal numbers of precursor areas have been identified but there is no separate zone for generation of cyclone or storm formation. Every seismogenic zone has its own generation of storms and earthquakes. Majority of the Islands rich regions are the major regions for frequent generation of both storms and earthquakes. The direction from which the storm formation would be the direction for future earthquakes. Only ground based epicenter zone generated earthquake precursor are used in this study to predict future earthquakes. Ground level natural atmospheric events are correlated with seismic events. No equipment, no instrument used no expense and daily rainfall map only used. Over the last 35 years of this earthquake prediction research study and over 10 years of rigorous observation of both the earthquake precursor and earthquake events scientifically convincing and notably successful.

Successful findings

Tectonic plate motion:

1. Gravitational force plays a major role in moving objects in the Universe.

2. Strongest centrifugal force, due to the orbital motion of the earth is the major driving force of tectonic plates.

Seismic related Earthquake Precursor:

1. The precursor directly related with earthquakes, so earthquake prediction is deterministic in nature with known earthquake precursor. For the rainfall (one of the atmospheric weather anomalies) location, the future earthquakes will occur only at the corresponding epicenter locations as in previous.

2. The precursor to pre-earthquake precursor are orbital motion of the earth to tectonic plate motion.

Successfully identified:

3. More than 250 epicenter zones and equal number of precursor areas. Philippines has 10 and Taiwan has 2.

4. The different epicenter zones are set to more active at different position of the earth with reference to the Sun.

5. Devastating earthquakes are also seasonal related, as tectonic plates are always in motion minor earthquakes are happening all through the year.

6. It is verifiable and testable in just 15 days.

7. In general earthquakes are short-term nature just 2-4 weeks, vary in exceptional case.

8. Scientific reason for short-term nature of earthquakes found.

9. The capacity to predict earthquakes 100% without false alarm even without the need of statistical and mathematical model.

10. Basic physics is enough to predict earthquakes reliably.

11. Earthquake predictions are easy and no expense. Every individual earthquake can be predictable.

12. Orientation of earthquake location identified.

13. Sequence of natural events leads to earthquakes identified.

14. All form of weather anomalies are always prior to seismic anomalies for the corresponding epicenter zone, this is the most significant findings in this observation study.

15. When seasonal variations for different region of the earth is associated with the position of the earth with respect to the Sun, then the process of earthquakes are also related with seasonal variations.

16. In future studying the position of the earth with respect to the Sun, reveal the secret of massive earthquakes and tsunamis in the year Dec 26, 2004, Indian Ocean and March 11, 2011, Japan.

Source of data gathering: Information about the rainfall location from www. http://severe.worldweather.wmo.int/rain/b5/ and other weather events gathered from wunderground.com/hurricane; gdacs.org; earthobservatory.nasa.gov/Natural Hazards and journals.

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