A Magma Wave Model in Earthquakes (MWME)

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***Abstract*—This paper is grounded on the following hypotheses put forth by the author: "Earthquake is a phenomenon that can only occur in the lithosphere (made up of various types of rocks and sedimentary matter)." "Places where earthquakes occur are the extensions of the lithosphere from the earth's crust to underground," "if earthquakes occur in the extensions of the lithosphere, then the earthquake data show where the extensions of the lithosphere located on the earth's crust and underground." "Magma is formed by the condensation of superheated underground atmospheric steam in the pits, cavities and beds of the underground lithosphere and is scattered around the mantle of the earth in the form of magma oceans / seas / lakes". "The earthquake is a result of magma movements," to illustrate these hypotheses, a world earthquake map is prepared for every 5 km based on global earthquake data taken from the National Earthquakes Information Center (NEIC). Earthquake locations on these maps are digitized as roughly 5 km layers. The analyses and evaluations based on the superposed world earthquake map which is created by combining all the layers and on the sections, the graphics and the model of the map are presented in this paper.**

***Index Terms*—Earthquake data, earth, underground, lithosphere, extension, magma, wave**

I. Introduction

In1999, when the author was in America, the Marmara earthquake with a magnitude of 7.6 and 17 km in-depth took place at 03: 02 am local time in Turkey. Then, in America, there was an earthquake with a magnitude of 3,4 1 in California. The author thought that there might have been a relationship between the two earthquakes, and for about a year, she marked the earthquakes that occurred anywhere on the world, every day in chronological order on the earthquake map at the NEIC website2. Later, she observed that earthquakes in Japan have affected the areas west of Anatolia's Samsun-Ankara line, Aegean Sea and beyond; and the earthquakes in Indonesia have affected the areas east of Anatolia's Samsun-Ankara line and Iran-Pakistan line; and the earthquakes in California have affected the Marmara region - or vice versa. And considering the preposition that "an earthquake happening in one place triggers an earthquake in another place", she examined the reasons for such triggering effect for a long time and studied the Earth. Çelikhan S. thought that the "Plate tectonics"[3] model, which is accepted by the geological circles, is not suitable for the statics of the earth, due to it being a closed surface space body 4 and its physical factors (center gravity / centrifugal drawing) and she refused this model. Rutherford and Ahlgren underline the importance of studies on how the world works saying, "to imagine how the world works and to find out how it can be tested is a creative thing like writing poetry, composing music or designing skyscrapers5". In the light of her hypotheses on how the world works, the author has developed the "Magma Wave Model in Earthquakes" (MWME), based on the main parts of the earth and its structure along with the formation of the earthquakes and their triggering one another; which is described below.

A. Hypotheses

1) "The crust part (lithosphere) of the earth is a whole. It cannot consist of floating, fragmented plates ";
2) "The lines called boundaries of floating fragmented plate on the Earth, indicate places where there are underground and sub-oceanic mountains which maintain the balance of the earth.
3) "The main parts of the Earth, from underground to above ground, can be described as follows (Çelikhan S.): *a*. **The core**[6]**,** which is described as solid and hot. *b*. **Underground atmosphere** which is composed of dense, hot underground water vapor, just above the core. *c*. **Lithosphere** (lower part) where hot water vapor of the underground atmosphere is condensed in the pits, beds, cavities, etc. of the lower surfaces to form **hot magma seas and oceans** (asthenosphere) which are anchored to the lower parts by the centrifugal force, and are separated by underground mountains, yet interconnected by

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[1] At a depth of 14.3 km in Northern California at 13:17:46
[2] https://www.usgs.gov/natural-hazards/earthquake-hazards/national-earthquake-information-center-neic

[3] Faruk Ocakoğlu, 2014; http://tr.wikipedia.org/wiki/Yerk%C3%BCre
[4] Object: The magnitudes that take up space in space are called matter. A body is a substance surrounded by a closed surface or surfaces. Accordingly, objects cover a certain region in space https://acikders.ankara.edu.tr/pluginfile.php/61457/mod_resource/content/ 0 / S1.pdf
[5] Faruk Ocakoğlu, 2014
[6] Faruk Ocakoğlu, 2014; http://tr.wikipedia.org/wiki/Yerk%C3%BCre

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straits and passages, *d*. **Lithosphere** (upper part), which contains cold water seas and oceans, which are formed by the condensation of water vapor in the earth's atmosphere in the pits and cavities on the earth, anchored to the earth by the force of center gravity, separated by the earth's mountains, but connected to each other by straits and passages.

4) The earth's atmosphere above the ground forms the high pressure area (cold) and the underground atmosphere below creates the low pressure area (hot).
5) Volcanoes are chimneys / channels between the above the ground atmosphere and underground atmosphere which allow passage of heat, pressure, air flow, water vapor, etc.
6) Atmospheric events (air movements, temperature, pressure, tornado, wind, hurricane, typhoon etc.) and natural events (solar / lunar eclipse, tidal event etc.) and earth cycles (around its axis and orbit) affect the fluidity of aboveground and underground and enable mobilization.
7) Volcanic vents allow the air to be displaced between the upper ground low pressure area and the underground high pressure area. This change creates air flow between the above ground atmosphere and the underground atmosphere. Under the influence of the air flow between the above and underground atmospheres and with the effects of other natural factors, magma waves of varying type, characteristics, height, length, speed, direction and period are formed in underground magma oceans / seas, and depending on the circumstances volcano eruptions may occur.
8) The magma waves with various heights formed underground, maintaining their period, travel long distances, and depending on the parameters in the magma sea / ocean (magma bed, friction force, etc.) and other concurrent natural factors, hit the periphery of the lithosphere that surrounds the magma oceans/seas with decreasing / increasing intensity based on distance from the source and shake the earth each time they collide until they fade, depending on the severity of the shaking collapses and damages occur on the earth.
9) Conversely, when there are collapses, quakes etc. on the earth surface along with other concurrent natural factors, waves may occur in magma seas / oceans. This interaction cycle from magma to earth surface, from earth surface to magma constantly goes on. This process is defined as "Magma Wave Model in Earthquakes".

Just as the swashing and fluctuation will not end in the above ground seas / oceans, it will not end in the underground magma seas / oceans as well. Due to underground and aboveground fluidity movements, the earth will erode, shake, collapse and crumble and the faults crack; at the same time, new formations will emerge with magma eruptions etc.

From the explanations given above, the hypotheses that **"the bottom surface of the lithosphere which is the part of the earth that is in contact with magma" is resistant to the heat of the magma"** and **" just as the above ground surface of the earth there are, mountains, caves, stalactites, stalagmites, magma seas / oceans, gulfs, islands, etc. under the surface of lithosphere"** are put forward.

In this study, which aims at to exemplify all the above-mentioned hypotheses, first, the method of the study is specified, and then the earthquake data which is created within this study are analyzed according to its depth and in layers of 5 km. Later the superposed earthquake map obtained from the earthquake data is analyzed according to the latitude and longitude sections of the map, its graphs and the model. Finally, an evaluation is made on the basis of the available geological information. The references quoted are indicated at the end of the study.

B. Method

This study is conducted in 2008, the limitations of the earthquake data used in the analysis of this study are: the measurable earthquake depth is 800 km and systematic earthquake records are available only for earthquakes after 1973. Since the earthquake depth is the shortest distance measured from the point where the energy is released, to the surface of the earth, therefore the zero code in this study is the surface of the earth code.

The earthquake data and maps used in this study are taken from the National Erthquakes Information Center (NEIC). Using the general research (Global Search) menu, the data of the recorded earthquakes between the years 1973-2008 with depths of 0-800 km, and magnitude of 1-9 are turned into 156 maps each with 5 km. Then, from these 156 global earthquake maps, the locations of earthquakes are digitized using draw circle tool of AutoCAD program, each on separate layer. Later, these digital earthquake data layers are superposed and combined into a world map. Finally, the latitude and longitude sections were taken from the superposed world map with 10 degrees of intervals. Thus, the places where earthquake data are distributed in horizontal, vertical sections and on the plan are shown on the world map as the area where the lithosphere lies. Therefore, in this study, the areas where the earthquakes are distributed according to their depths in the section, plan and depth maps are the places where the entire lithosphere mass from above the ground to the underground is present.

Additionally, in this study, numerical and proportional distribution analysis according to depth of earthquake data are made in layers of 5 km and the layers showing similar distributions are grouped.

II. Analysis

A. Distribution Analysis According to Depth of Earthquake Data of National Erthquakes Information Center

Between 1973-2008, in 35 years, 679 751 earthquakes with a magnitude of 1-9 are recorded in the world. 9.24%

of the 679751 earthquakes were at a depth of 0-5 km; 22.93% at a depth of 5-10 km, and 18.16% at a depth of 10-15 km. Therefore, **50.33%** of the earthquakes occurred with the depth of 15 km between **0-15 km**. The distribution rate of earthquakes in each of 5 km. layers according to their depths is: 2.69% in 15-20 km; 2.49% in 20-25 km; and 2.87% in 25-30 km.

8.05% of the earthquakes occurred with the depth of 15 km between **15-30 km**. **15.48%** of the earthquakes occurred with the depth of 5 km between **30-35 km**. **73.86%** of earthquakes occurred with the depth of **0-35 km**. According to the layers, the most earthquakes occurred within the range of **5-10 km depth**, then of **10-15 km depth**, then within the range of **30-35 km**. depth.

Between 35-70 km, the distribution rate of earthquakes for each of 5 km layer according to their depths is: 2.11% at 35-40 km; 1.48% at 40-45 km; 1.41% at 45-50 km; 1.25% at 50-55 km; 1.15% at 55-60 km; 1,05% at 60-65 km; 1% at 65-70 km. In every -5 km depth layer, the proportional distribution of the earthquake decreases from 2 integers to 1 integer. **9.45%** of the earthquakes occurred at a depth of 35 km between **35-70 km.**

83.25% of earthquakes had occurred at a depth of **0-70 km**.

The numerical distribution of earthquakes between 70 and 205 km for each 5 km layer according to their depths varies between 6542-1075, the proportional distribution varies between 0.16% and 0.96%. The earthquake rate is 0.8% at 70-75km depth and 0.7% at 75-80 km. 0.61% at 80-85 km; 0.56% at 85-90 km; It is 0.53% at 90-95 km. It is 0.93% at 95-100 km and **0.96%** at 100-105 km.; 0.57% in 105-110 km; 0.56% in 110-115 km; 0.51% in 120-125 km; It is 0.45% at 125-130 km and 0.41% at 130-135 km. 0.37% at 135-140 km; 0.35% at 140-145 km. It is 0.5% at 145-150 km. 0.46% at 150-155 km; 0.3% at 155-160 km; 0.27% at 160-165 km; 0.26% at 165-170 km; 170- 0.22% at 175 km; 0.2% at 175-180 km; 0.19% at 180-185 km; 0.17% at 185-190 km; **0. 16%** at 190-195 km. 0.32% in 195-200 km; It is 0.31% at 200-205 km.

11,67% of the earthquakes occurred with the depth of **135 km** between **70-205 km**.

The numerical distribution of earthquakes between 205-230 km. for each 5 km layer according to the depths is between 899-695, the proportional distribution varies between 0.1% and 0.13%. The earthquake rate is 0.13% at 205-210 km; 0.12% at 210-215 km. 0.11% at 215-220 km; 0.1% at 220-225 km; 0.1% at 225 -230 km.

0.56% of the earthquakes occurred with the depth of 25 km between **205-230 km**.

Between 230-245 km, the numerical distribution of earthquakes according to their depths is between 596-461, and the proportional distribution varies between 0.07% and 0.09%. Earthquake rate is, 0.09% at 230-235 km; 0.07% at 235-240 km; 0.07% at 240-245 km.

0.23% of the earthquakes occurred with the depth of 15 km between **230-245** km.

Between 245-250 km, the numerical distribution of earthquakes according to their depths is 670 and the proportional distribution is 0.1% for every 5 km layer.

0.1% of earthquakes occurred with the depth of 5 km between 245-250 km. Between 250-275 km, the numerical distribution of earthquakes according to their depths for every 5 km layer is between 332-318, and the proportional distribution varies between 0.05% and 0.09%. The Earthquake rate is, 0.09% at 250-255 km; 0.05% at 255-260 km; It is 0.05% at 260-265 km; 0.05% at 265-270 km; 0.05% at 270-275 km.

0.29% of the earthquakes occurred with the depth of 25 between **250-275** km.

Between 275-295 km, the numerical distribution of earthquakes according to their depths for every 5 km layer is between 255-224 and the proportional distribution varies between 0.04% and 0.03%. The earthquake rate is 0.04 at 275-280 km% in a layer of 5 km. It is 0.04% at 280-285 km, in a layer of 5 km. It is 0.03% at 285-290 km, in a 5km layer, and 0.03% at 290-295 km, in 5km layer.

0.14% of the earthquakes occurred with the depth of 20 km between **275-295** km.

Between 295-305 km, the numerical distribution of earthquakes according to their depths for every 5 km layer varies between 248-249, the proportional distribution is 0.1%. The earthquake rate is 0.1% at 295-300 km, in a 5km layer, and 0.1% at 300-305 km, in a 5km layer.

0.2% of the earthquakes occurred with the depth of 10 km between **295-305** km. **13.03%** of medium depth earthquakes occurred at **70-300 km**.

Between 305-330 km, the numerical distribution of earthquakes for every 5 km layer according to their depths varies between 188-167, the proportional distribution is 0.03%. The earthquake rate is 0.03% at 305-310 km, 0.03% at 310-315 km, 0.03% at 315-320 km, 0.03% at 320-325 km; at 325-330 km, it is 0.03%.

0.15% of the earthquakes occurred with the depth of 25 km between **305-330** km.

Between 330-355 km, the numerical distribution of earthquakes for each 5 km layer according to their depths varies between 335-296, the proportional distribution varies between 0.04% and 0.05%. The Earthquake rate is 0.05% at 330--340 km; 0.04% at 345-350 km and 0.05% at 350-355 km.

0.14% of the earthquakes occurred with the depth of 25 km between **330-355 km**.

Between of 355-395 km, the numerical distribution of earthquakes for each 5 km layers according to the depths is between 228-158, the proportional distribution varies between 0.02% and 0.03%. The Earthquake rate is 0.03% at 355-360 km; 0.03% at 360-365 km; 0.03% at 365-370 km. It is 0.03% at 370-375 km. 0.03% at 375-380 km; 0.03% at 380-385 km; 0.03% at 385-390 km; 0.03% at 390-395 km.

0.23% of the earthquakes occurred with the depth of 45 km between **355-395 km**.

Between 395-405 km, the numerical distribution of earthquakes for each 5 km layer according to the depths of varies between 666-636, the proportional distribution varies between 0.1% and 0.09%. The earthquake rate is 0.09% at 395-400 km and 0.1% at 400-405 km.

0.19% of the earthquakes occurred with the depth of 10 km between **395-405 km**.

Between 405-445 km, the numerical distribution of earthquakes for each 5 km layer according to the depths varies between 221-188, the proportional distribution is 0.03%. The Earthquake rate, 0.03% at 405-410 km; 0.03% at 410-415 km; 0.03% at 415-420 km; 0.03% at 420-425 km; 0.03% at 425-430km; 0.03% at 430-435 km; 0.03% at 435-440 km; 0.03% at 435-445 km.

0.24% of the earthquakes occurred with the depth of 40 km between **405-445 km**.

Between 445-450 km, the numerical distribution of earthquakes for every 5 km layer according to the depths is 321, the proportional distribution is 0.05%. The Earthquake rate is 0.05% at 445-450 km.

0.05% of earthquakes occurred with the depth of 5 km between **445-450 km**.

Between of 450-495 km, the numerical distribution of earthquakes for each 5 km layers according to the depths varies between 277-172 and the proportional distribution varies between 0.02% and 0.04%. The Earthquake rate is 0.04% at 450-455 km; It is 0.03% at 455-460 km; 0.03% at 460-465 km. 0.02% at 465-470 km; 0.03% at 470 -475 km; 0.03% at 475-480 km; 0.03% at 480-485 km; 0.03% at 485-490 km; It is 0.04% at 490-495 km.

0.29% of the earthquakes occurred with the depth of 45 km between **450-495 km**.

Between 495-505 km, the numerical distribution of earthquakes according to the depths varies between 1380-1374 for every 5 km layer, the proportional distribution is 0.2%. Earthquake rate is 0.2% at 495-500 km; It is 0.2% at 500-505 km.

0.4% of the earthquakes occurred with the depth of 10 km between **495-505 km**.

Between 505-520 km, the numerical distribution of earthquakes according to the depths varies between 251-300 according to each 5 km layer, the proportional distribution is 0.04%. The earthquake rate is 0.04% at 505-510 km; 0.04% at 510-515 km; It is 0.04% at 515-520 km.

0.12% of the earthquakes occurred with the depth of 15 km between **505-520 km**.

Between 520-545 km, the numerical distribution of earthquakes according to the depths of for each 5 km layer varies between 386-322, and the proportional distribution varies between 0.05% and 0.06%. The Earthquake rate is 0.05% at 520-525 km; 0.05% at 525-530 km; 0.05% at 530-535 km; 0.05% at 535-540 km; It is 0.06% at 540-545 km.

0.26% of the earthquakes occurred with the depth of 25 km between **520-545 km**.

Between 545-555 km, the numerical distribution of earthquakes according to the depths for every 5 km layer is between 850-814 and the proportional distribution varies between 0.12% and 0.13%. The Earthquake rate is 0.12% at 545-550km; 0.13% at 550-555km.

0.25% of the earthquakes occurred with the depth of 10 km between **545-555 km**.

Between 555-595 km, the numerical distribution of earthquakes according to the depths for each 5 km layer varies between 388-330, and the proportional distribution varies between 0.05% and 0.06%. The Earthquake rate is 0.05% at 555-560 km; 0.05% at 560-565 km. 0.06% at 555-570 km; 0.06% at 570-575 km; 0.05% at 575-580 km; 0.05% at 580-585 km; 0.05% at 585-590 km; 590-595 km in 0.05%.

0.42% of the earthquakes occurred with the depth of 40 km between **555-595 km**.

Between 595-605 km, the numerical distribution of earthquakes according to the depths for each 5 km layer varies between 1921-1916, the proportional distribution is 0.28%. The earthquake rate is 0.28% at 595-600 km and 0.28% at 600-605 km.

0.56% of the earthquakes occurred with the depth of 10 km between **595-605 km**.

Between 605-620 km, the numerical distribution of earthquakes according to the depths varies between 284-248 for every layer, the proportional distribution is 0.04%. The earthquake rate is 0.04% at 605-610 km; 0.04% at 610-615 km 5 km; It is 0.04% at 605-610 km.

0.12% of the earthquakes occurred with the depth of 15 km between **605-620 km**.

Between 620-630 km, the numerical distribution of earthquakes according to the depths for each 5 km layer varies between 216-190, the proportional distribution is 0.03%. The Earthquake rate is 0.03% at 620-625 km; it is 0.03% at 625-630 km.

0.06% of earthquakes occurred with the depth of 10 km between **620-630** km.

Between 630-645 km, the numerical distribution of earthquakes according to the depths varies between 163-122 for to each 5 km layer, the proportional distribution is 0.02%. The Earthquake rate is 0.02% at 630-635 km; 0.02% at 635-640 km; it is 0.02% at 640-645 km.

0.06% of earthquakes occurred with the depth of 15 km between **630-645 km**.

Between 645-655 km, the numerical distribution of earthquakes according to the depths varies between 206-215 for every 5 km layer, the proportional distribution is 0.03%. The Earthquake rate is 0.03% at 645-650 km; It is 0.03% at 650-655 km.

0.06% of the earthquakes occurred with the depth of 15 km between **645-655 km**.

Between 655-685 km, the numerical distribution of earthquakes according to the depths for each 5 km layer varies between 81-34, the proportional distribution is 0.01%. The Earthquake rate is 0.01% at 655-660 km; It is 0.01% at 660-665 km. 0.01% at 665-670 km; 0.01% at 670-675 km; 0.01% at 675-680 km; It is 0.01% at 680-685 km.

0.06% of earthquakes occurred with the depth of 30 km between **655-685 km.**

Between 685-705 km, the numerical distribution of earthquakes according to the depths varies between 23-10 for every 5 km layer, the proportional distribution is zero (0.00%). The Earthquake rate is 0.01%. The number of earthquakes for each 5 km layer is 23 in the layers of 685-690 km; It is 10 in the layers of 690-695 km, 16 in the layers of 695-700 km and 10 in the layers of 700-705 km.

0.01% of the earthquakes occurred with the depth of 20 km between **685-705 km**.

Between 705-740 km, the numerical distribution of earthquakes according to the depths varies between 1 and 0, for each 5 km layer, the proportional distribution is 0.0%. The earthquake rate is zero (0.00%). The number of earthquakes is 1 between layers of 705-710 km, the number of earthquakes is 1 between layers of 710-715 km; the number of earthquakes is 0 between the layers of 715-720 km; the number of earthquakes is 1 between layers of 730-735 km, and the number of earthquakes is 1 between 735-740 km layers.

The number of earthquakes occurring with the depth of 35 km between **705-740 km** is **4** and the earthquake rate is zero (0).

The number of earthquakes occurring with the depth of 60 km between **740-800 km** is zero (0).

The number of deep earthquakes at **300-740 km** is **3.72%** of the total earthquakes.

According to the depth of focus, earthquakes with a depth of 0-60 km are defined as shallow earthquakes, earthquakes with a depth of 70-300 km are defined as medium depth earthquakes, and earthquakes with a depth of more than 300 km are defined as deep earthquakes7.

In this study, the rate of shallow earthquakes with a depth of **0-70 km** is **83.25%**; the rate of medium depth earthquakes with a depth of **70-300 km** is **13.03%**; the rate of deep earthquakes with a depth of **300-740 km** is **3.72%** in the world

B. Graphical Analysis According to Digitalised, Superposed Depth of Earthquake Data of National Erthquakes Information Center

Since the surface of the earth is the upper code (zero code) of the earth and ocean floor, earthquake depth data shows the depth of its mountains (rock mass of lithosphere) that extend under the ground and the ocean. Fig. 1 shows the Digital, Superposed, Global Earthquake Depth Map (Çelikhan S.).

The lines seen at 10-degree intervals on this digital superposed world map, which earthquake depth data are shown on layers of 5 km depth, are the locations of the sections taken in the latitude and longitude direction. The green lines and dots seen on the same map show the areas on the earth where earthquake centers, that are at depths between zero km and eight hundred km, are dispersed. This map, in which earthquake centers at a depth of 5 km are digitally recorded on layers of 5 km depth, also clearly shows the spreading area of underground mountains.

According to the Fig. 1, the earthquakes with the greatest depth, that is the line that can be called the underground spine of the earth, where the stone mass extension goes to the deepest, comes from the south of Alaska, the Kamchatka peninsula and the Japanese islands, passes over the Indonesian islands to the New Zealand islands and reaching the peak of its depth in the east of the New Zealand islands.

[7] Technical Information On Earthquake http://www.koeri.boun.edu.tr/sismo/bilgi/depremnedir/index.htm

The second main line comes from the North of the African continent and the Mediterranean Sea bed and goes through south of the European continent and over Turkey and the south of the Asia, then reaching the islands of Indonesia. The underground mountains are knotted like the three-armed blade of a mixer on Indonesian islands.

Another deep line is located in the west of the South American continent and in the central America. The Magma Ocean, which can be called the Magma Pacific Ocean, is located under the Pacific Ocean, surrounded by the deepest underground mountains from the North, East and West directions. The earthquake points seen on the Magma Pacific Ocean can be named as magma islands that are formed by extensions of the lithosphere descending to depth from the ground.

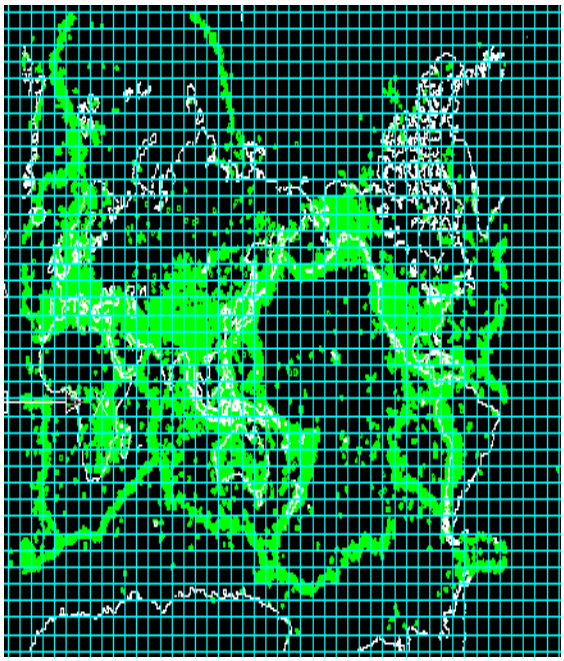

Figure 1. Digital, Superposition, World Earthquake Depth Map (Çelikhan S. 2008)

Under the Atlantic Ocean, between the continents of America, Africa and Europe, there is an interconnected magma ocean, which can be called the Magma Atlantic Ocean. In the south end, east and north of the South American continent, there are magma seas of various sizes, surrounded by underground mountains, in which there are earthquake points that can be called magma islands.

There are magma seas of different sizes are located in the east of the North American Continent, in the north of Kamchatka Peninsula, in the south of the Asian continent, under the Arabian Peninsula, in the west of the European continent and the Scandinavian Peninsula.

There are two magma oceans to the north of the continents of Americas, Asia and Europe, which are surrounded by underground mountains from south, east and west sides, which can be called the Arctic Magma Oceans. There are magma seas / oceans surrounding the

continents of Africa and Australia from their east, south and west directions.

Fig. 2 shows the Digital, Superposed, World Depth Map Longitude Section. Longitudinal white lines indicate the cross-sectional areas. Each longitudinal green line layer on the section lines shows the earthquake locations for every 5 km depth. Each five kilometer layers indicated by the green line shows the earthquake depth at that location and thus the depth to which the stone mass extends. The distribution of magma seas / oceans can be seen among the underground extensions of the lithosphere.

In Fig. 2, the depth of earthquakes, thus, the depth of the underground / sub-ocean extension appears to be high in the line of the west of South American continent and in the Central America and Alaska, Kamchatka Peninsula, Japanese islands, the islands of Indonesia, Australia, in the line of New Zealand and in the line of Indonesia, South Asia, Turkey, the Aegean, the Mediterranean, Europe. In this section, the undulating structure of the underground and the size, distribution, connections and transitions of magma seas / oceans can be seen. The depth of underground mountains surrounding magma seas / oceans determines the depth of the magma beds. Depending on the depth and interconnection of the magma beds, the magma seas / oceans will integrate and cross over until the magma level becomes equal. The magma bed with the deepest magma ocean, which can be called Magma Pacific Ocean, is located under the Pacific Ocean.

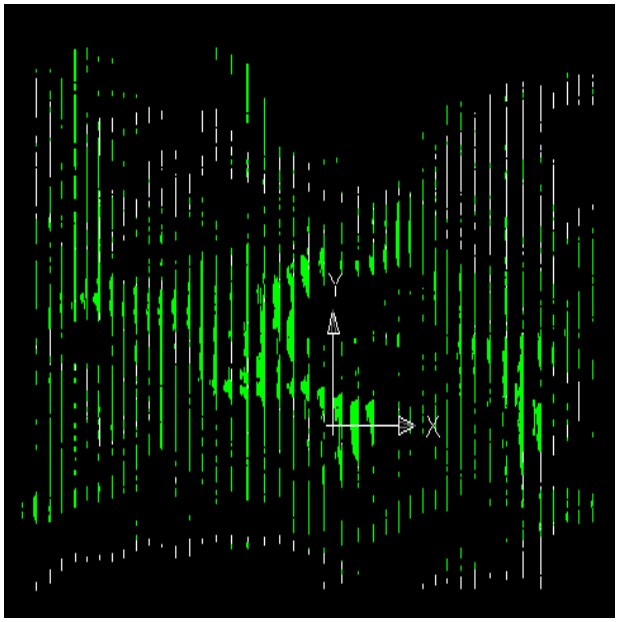

Figure 2. Digital,Süperpozition, World Depth Map Longitude Section (Çelikhan S., 2008)

Above ground volcanoes are also known to concentrate around the Pacific Ocean on the arc of Alaska, Kamchatka, Japan, Indonesia, Australia, New Zealand. This line is the part where the depth of underground mountains is the highest. So, volcanoes are chimneys passing through underground mountains which separate magma seas / oceans from each other and establishing connection between the above ground atmosphere and the underground atmosphere.

The air flow that occurs between the underground and above ground atmospheres through the volcanic chimneys might cause the air in the underground atmosphere to be absorbed by the above ground and then the magma erupts from the volcanoes; or conversely, it might create a pressure on the underground atmosphere forcing the air in the underground atmosphere escape through another volcanic vent as volcanic eruptions, then the magma is pushed out to the earth surface, fluctuating the magma seas / oceans. Waves of magma seas / oceans might shake the underground extensions of the lithosphere, causing earthquakes to happen.

The fact that, above ground volcanoes are located around the Pacific Ocean, where the depth of underground mountains is the highest brings about the hypothesis that the other **"volcanoes should also be there, where the depth of underground mountains is highest"**. For example, the hypothesis that, the Etna volcano in Italy's Sicily Island and White Island volcano in the New Zealand's or Fuji volcano also coincide with the deepest parts of the underground mountains in the Mediterranean and the Pacific Ocean respectively. This situation confirms the hypothesis, that is put forward above, **"Volcanoes, are the chimneys / channel that allow the passage of heat, pressure, air flow, water vapor, etc. between the above ground and underground atmospheres".**

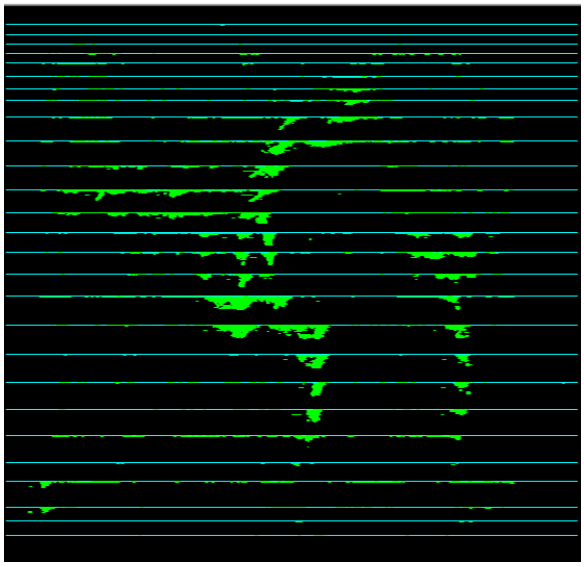

Figure 3. Digital,Süperpozition, World Depth Map Latitude Section (Çelikhan S., 2008)

Fig. 3 shows the Digital, Superposed, World Depth Map Latitude Section. The latitude lines in Figure 3 show the cross-sectional areas. The green lines on the section lines indicate the places where earthquakes occurred. In the latitude direction on the cross section lines, each green line indicates earthquake locations at a depth of five kilometers. The intensity of the green lines indicates that the earthquake depth is high. The depth distribution of

earthquakes also shows the distribution and heights of the above ground and underground mountains (underground spine). In this cross-section, the rugged structure of the underground and the size, distribution and connections of the magma seas / oceans can be seen roughly, yet more clearly compared to the longitudinal section.

In Fig. 3 also, the depth of earthquakes, thus, the depth of the underground / sub-ocean extension appears to be high in the line of the west of South American continent and in the Central America and Alaska, Kamchatka Peninsula, Japanese islands, the islands of Indonesia, Australia, in the line of New Zealand and in the line of Indonesia, South Asia, Turkey, the Aegean, the Mediterranean, Europe.

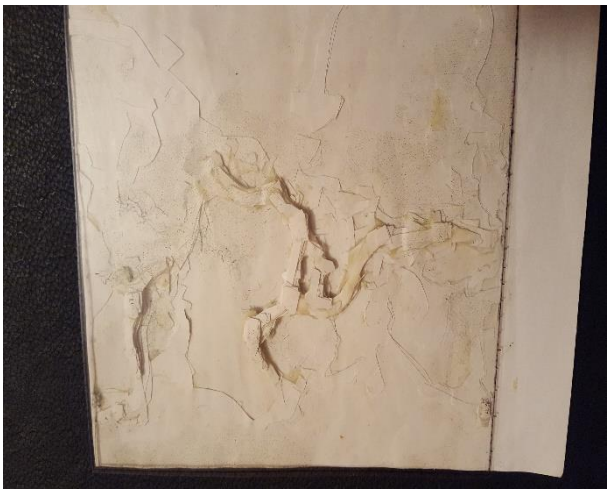

Figure 4. Earthquake Depth Mode (Çelikhan S, 2008)

Figure 4 shows earthquake data on a model with a rough scale. Each layer seen on the model indicates the earthquake areas that occurred at every 5 km depth. The model roughly reveals how the underground mountains are knotted over Indonesia like a mixer's three-armed blade and the formation of the underground topography. The model shows the depth grading of the magma oceans / seas and illustrates that the underground, just like the above ground has rough areas, mountains, hills, peaks, pits, etc

Thus, the hypotheses (Çelikhan) stated above that "the sub-surface of the lithosphere has a structure resistant to magma heat" and " just as the above ground surface of the earth there are, mountains, caves, stalactites, stalagmites, magma seas / oceans, gulfs, islands, etc. under the surface of lithosphere" have been confirmed.

III. Results

"The literature shows that the most of the studies on the solid world are on its easily accessible surface properties; The spread of linear mountain belts is not random; one of the youngest mountain groups in the two main zones, The Pacific Rim belt (Circumpasific belt), extends into the Pacific in the form of volcanic island arcs through the Alaskan Islands, Japan, the Philippines and New Guinea, and the other begins in the Alps, extends eastward to Iran and the Himalaya and from there to Indonesia"[8].

This work is on the invisible lower face of the solid world. In this work, it is revealed that, Pacific zone, is the sub oceanic mountain belt surrounding the magma Pacific Ocean to the west, in which the deepest earthquakes take place; and there is a second sub-oceanic mountain belt separating the northern and southern magma oceans / seas extending from the North of Africa to the bottom of the Mediterranean and the Aegean Sea passing through Turkey and the South of the Asian continent reaching Indonesia.

In the literature, it is shown that here are very deep (sometimes up to 11 km) troughs on the ocean floors, with some ditches located near the young mountains adjacent to the continents (in the ocean), and some others lying parallel to mountains called volcanic island arcs within the ocean. [9]

In this study also, graphical information and model (figure 4) reveals that there are deep pits following the underground mountains surrounding magma oceans / seas.

In the literature, according to the plate tectonic model, the lithosphere is divided into many parts called "Plates". That these are in constant motion and change in shape and size. The total surface area of the earth does not change. The 7 major plates are North America, South America, Pacific, Africa, Eurasia, Australia and Antarctic plates. In addition to these seven large plates, there are Caribbean, Nazka, Philippine, Arab, Kokos and Scottish medium size plates and a dozen or so small plates. In fact, it is reported that the first attempt to determine plate boundaries was made using earthquake locations[10]

In this study, the plates recognized in plate tectonics which were unearthed using earthquake locations are redefined as deposits of magma oceans / seas, surrounded by underground mountains. The change in the shape and size of these deposits, arise from the results of abrasion, erosion, etc. under the effects of underground atmosphere and natural events, similar to the change of the surface of the earth resulting from the atmospheric and natural events.

In the literature, the phenomenon of sudden ruptures in the earth's crust shaking the earth surface while spreading as vibration waves has been defined as "EARTHQUAKE"[11]

In this study, in line with the hypotheses put forward, the main source of the sudden vibrations and earthquakes in the earth's crust is described with the "Earthquake Magma, Wave Model", which is illustrated through statistical and graphical analysis and modeling using earthquake data.

In this study, earthquakes that occurred between 1973 and 2008, with magnitude from 1 to 9, and depth between 0-800 km were recorded in every (-) 5 km; and the

[8] Faruk Ocakoğlu, 2014

[9] Faruk Ocakoğlu, 2014

[10] Faruk Ocakoğlu, 2014
K. Dirik, 2006

[11] Depremle İlgili Teknik Bilgiler
http://www.koeri.boun.edu.tr/sismo/bilgi/depremnedir/index.htm

resulting156 earthquake maps are transferred to the digital environment in layers, spatially with the circle drawing tool in the Auto CAD program.

If this study is reconsidered according to earthquake coordinates, much more precise maps showing the underground extension of the lithosphere will be obtained. Then, the testing of the hypotheses put forward in this study will be done on much more sensitive data. If the "Magma Wave Model in Earthquakes" presented in this study can be operated with more sensitive data, then it will be possible to reveal an earthquake in a place when and at which points can trigger others with a high probability.

In this study the possibility of the prediction that "an earthquake in one place triggers an earthquake in another has been presented in a rough way.

If this study is carried out with a multidisciplinary study group and if the data to be obtained on the world map can be presented in three dimensions as the interior view of the earth globe, the interactions among the places made up of extensions of the earth's underground stone mass (magma ocean / sea / lake) can be shown along with the locations of earth's continents and countries with regard to these places.

However, the fact that the earthquake record is at a depth of 800 km is an important limitation in knowing the formation of underground places

Above ground and underground meteorological events can be predicted from the interaction of the aboveground and underground atmosphere.

height can be calculated precisely. Accordingly, preliminary measures can be taken within the possibilities of technology and science.

I hope that the hypotheses and predictions presented here will be verified with more precise research and contribute to future earthquake studies.

Conflict of Interest

The author declares no conflict of interest.

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