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The Marine Environment of Arab Scientists Mediterranean (Sea of Rome) as a Model

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Abstract--- *There is a close link between human beings, the environment, and sustainability. This depends on the cultural paths that have emerged and are still showing their environmental impact. It highlights trends that are largely associated with climate change, where the environmental features of the Mediterranean (historical) are sought to reassure humans to survive. And the evolution of the environment. For mankind during the historical and geological phases passed by the study area, the stages of the phases decrease the level and area of the medieval sea (the Sea of Rum). It has undergone complex climate changes that have been accurately described by Arab scientists. This has created an increase in cultural and historical sites, and this is evident from the social diversity coinciding with climate change and the human environment. This has generated a special culture of archaeological sites that clearly surround the areas of the study area.*

Keywords--- *Marine Environment, Arab Scientists Mediterranean, Sea of Rome*.

I. INTRODUCTION

Arab navigation during the period of Islamic civilization, which lasted for about seven or eight centuries with the emergence of Islam in the Arabian Peninsula and northern African continent and reach Europe through Andalusia in the seventh century until the fall of the Islamic Empire in the Middle East and Spain in the fourteenth century. This study focuses on the historical-geographical dimension of the Mediterranean from the geological side through history and the great achievements of Muslim scientists in marine sciences, which began with a special view (Suleiman Al-Mahri 961 H), (Ahmed Bin Majid Al-Najdi 900 H), (Abu Al-Abbas Shehab Al-Din 349 H) Al-Nuwairi 733 H, Al-Biruni 440 H, Al-Maqdisi 390 H, Al-Masoudi 346 H, Qudaamah Bin Jaafar 320 H, Al-Battani 306 H, respectively, as this study sought to show Islamic thought in creativity. Arab scientists in the areas of measurement of the unit area of the Mediterranean Sea, and study the environmental changes of this water body and associate with that Climatology and changes in water levels see this water surface in the field of marine geological sciences as described by Arab scientists and what they are now and to collect and analyze this information, and then make a comparison between time periods, using a quantitative analytical approach to the content of the study aimed at highlighting the role of Muslims in Marine geology and climate impact on Mediterranean levels, measuring the environmental impact of this water body and the interrelationship.

II. THE FIRST REQUIREMENT: THEORETICAL FRAMEWORK

2.1. Research Problem

The Mediterranean Sea (the Sea of Rum) is of great importance to Arab scientists as it is the waterway that connects Africa with land to Europe.

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2.2. Research Hypothesis

Arab scientists have played a role in monitoring the geographical changes of the Mediterranean waters.

2.3. Limits of the Study Area

The Mediterranean basin extends 3,800 km east to west From Portugal to the shores of Lebanon and -1000 km from north to south from Italy to Morocco and Libya. Within the EU, the Mediterranean region comprises seven member states either partially (France, Portugal, Italy, Spain) or fully (Greece, Malta, Cyprus). The Mediterranean Sea (Rum Sea) covers an area of approximately 2.5 million square kilometers (965,000 square miles), but its link to the Atlantic (Strait of Gibraltar) is only 14 kilometers (8.7 miles) wide. In oceanography, it is sometimes called the Mediterranean because it mediates two continents of Europe, and may also be known as the continent of Africa or the European Mediterranean to distinguish it from the Mediterranean seas elsewhere in the world. The countries bordering the Mediterranean are in the clockwise order: Spain, France, Monaco, Italy, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Albania, Greece, Turkey, Syria, Lebanon, Israel, Palestine, Egypt, Libya, Tunisia, Algeria and Morocco, while Malta and Cyprus are the islands of the Mediterranean. The Gaza Strip and the British Overseas Territories also overlook the sea.

The median depth of the Mediterranean is 1,500 meters (4,900 feet), with the deepest recorded point being 5,267 meters (17,280 feet) at the depths of Calypso in the Ionian sea .

2.4. Research Objective

It is the study of the natural dimensions (area and depth) of the Mediterranean (Sea of Rum), and compare what was described by the Arab scientists who have been mentioned above and the natural aspects of this flat now and the resulting changes in levels.

2.5. Research Methodology

The researcher adopted the methodology of the systematic study, available from library sources, books of Arab scientists, and satellite images.

The method of comparison between the measurements where the time dimension of this data and find the difference (Ie find differences and analyze the factors that led to the change in the levels of the Mediterranean - Roman Sea).

2.6. The Geological History of the Mediterranean

To describe the evolution of marine environments over time, it is necessary to remember the main phases that caused the formation of the Tiches Sea to the present Mediterranean.

The idea revolves around the beginning of the Mesopotamian era, at the time of the Pangea Peninsula, when the marine basins formed the Gulf within the large continental mass: the Gulf of Tethyan. These panels were fragmented and dispersed, composed of African and Eurasian panels, interspersed with small molds, such as Adria and Anatolia.

The creation of a series of sub-basins collectively called Chase, so became the proto-Mediterranean after Eocene, at a time of continental clashing against Eurasia. This process led to the gradual separation of the eastern basins, also

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known as Paratethys, currently represented by the remaining Black Sea and the Caspian Sea. Prevalence and Consumption of Western Mediterranean Ponds Tethyan dominated the oceanic crust on myosin and leucine Mediterranean (23-3 years) until it reached the central guration at the end of myosin. Another 0.6 of my myosin is very important to the evolution. For the Mediterranean, due to the sharp decline that affected the whole aquarium, the dramatic changes associated with it in the dynamics of sedimentation. In fact, huge amounts of evaporation (gypsum, anhydrite, and halite) are deposited, especially in the deepest part of the aquarium, reaching hundreds of meters in thickness. After the opening of the Strait of Gibraltar, natural oceanic conditions re-established, the Mediterranean Plio- Pleistocene developed in conditions gradually similar to the present.

III. The Second Requirement: Contributions of Scientists in the Field of Marine Science

3.1. Elements of Marine Science in the Arabs (Natural Ingredients)

Climate: The climate is characterized by hot and humid summers, cold winters but can also be a surprise for sudden heavy rains and strong winds (eg winds (Sirocco, Mistral) that occur at different times of the year . These climatic conditions have a profound impact on the vegetation and wildlife of the region, as well as its diverse and contradictory topography, characterized by semi-arid steppes, coastal wetlands, sandy beaches and a myriad of islands of various shapes, all of which help the emergence of a civilization on its edges (See Fig. 1).

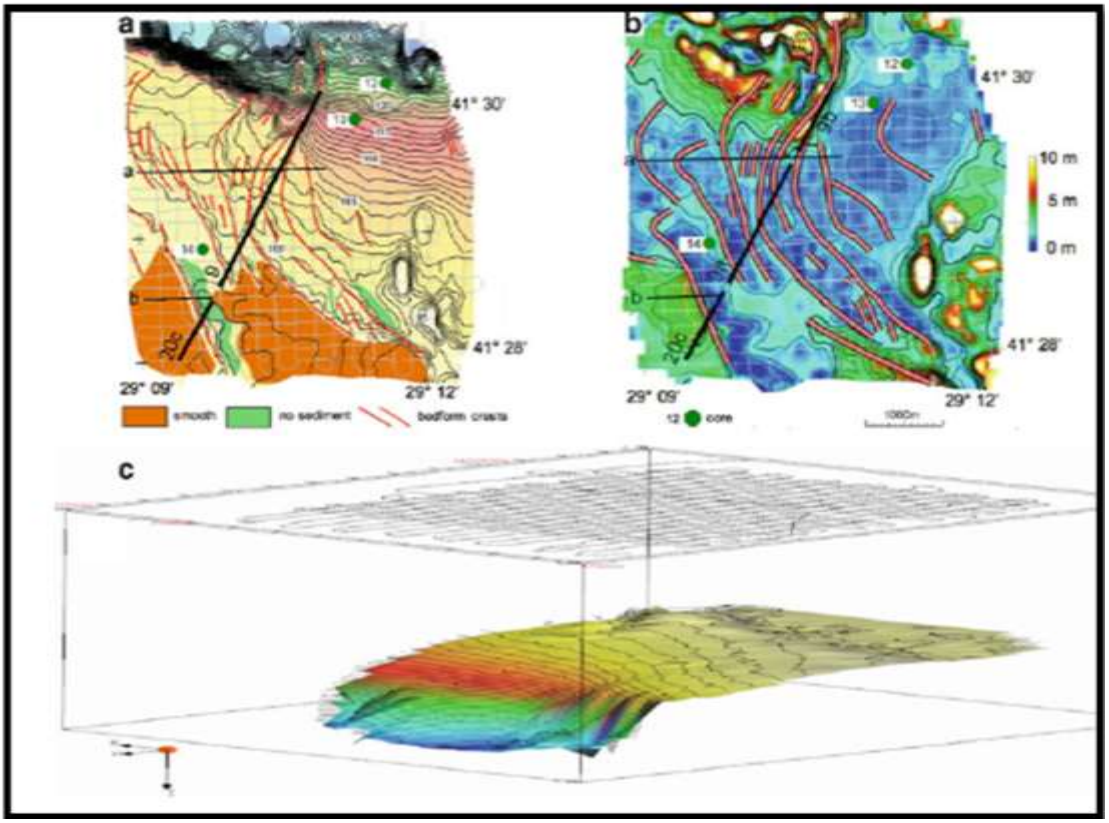

Figure 1: Satellite Visualization that Determines the Temperature Changes of the Mediterranean Satellite Captured

** Temperature changes in the Eastern Mediterranean (Roman Sea) in the 20th century.

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In the eastern Mediterranean a thermal cell is closed, resulting in a significant increase in salt and heat contents of the deep layer. This significant shift in the determination of the transport belt in the Eastern Mediterranean (Rum Sea), although the Mediterranean faces severe and various fluctuations in time scales, EMT is the strongest climatic variability signal ever, and appears to be associated with many different dynamic aspects For the cycle, water to form the mass, the interaction between air and sea. Which has an effect on the deep water.

The impact of climate change on the current Mediterranean environment (pollution of the Mediterranean Sea). The coastal areas of the study area are of great importance in terms of use in agricultural activity, which is considered one of the most important activities upon which the ban on the Mediterranean Sea (the Roman Sea), as well as ancient human activities. And modern (ie aquaculture, tourism, industrial) and pressure from human activities (ie industrial settlements, large cities) that can lead to the accumulation of pollutants in the Mediterranean Sea (See Fig. 2).

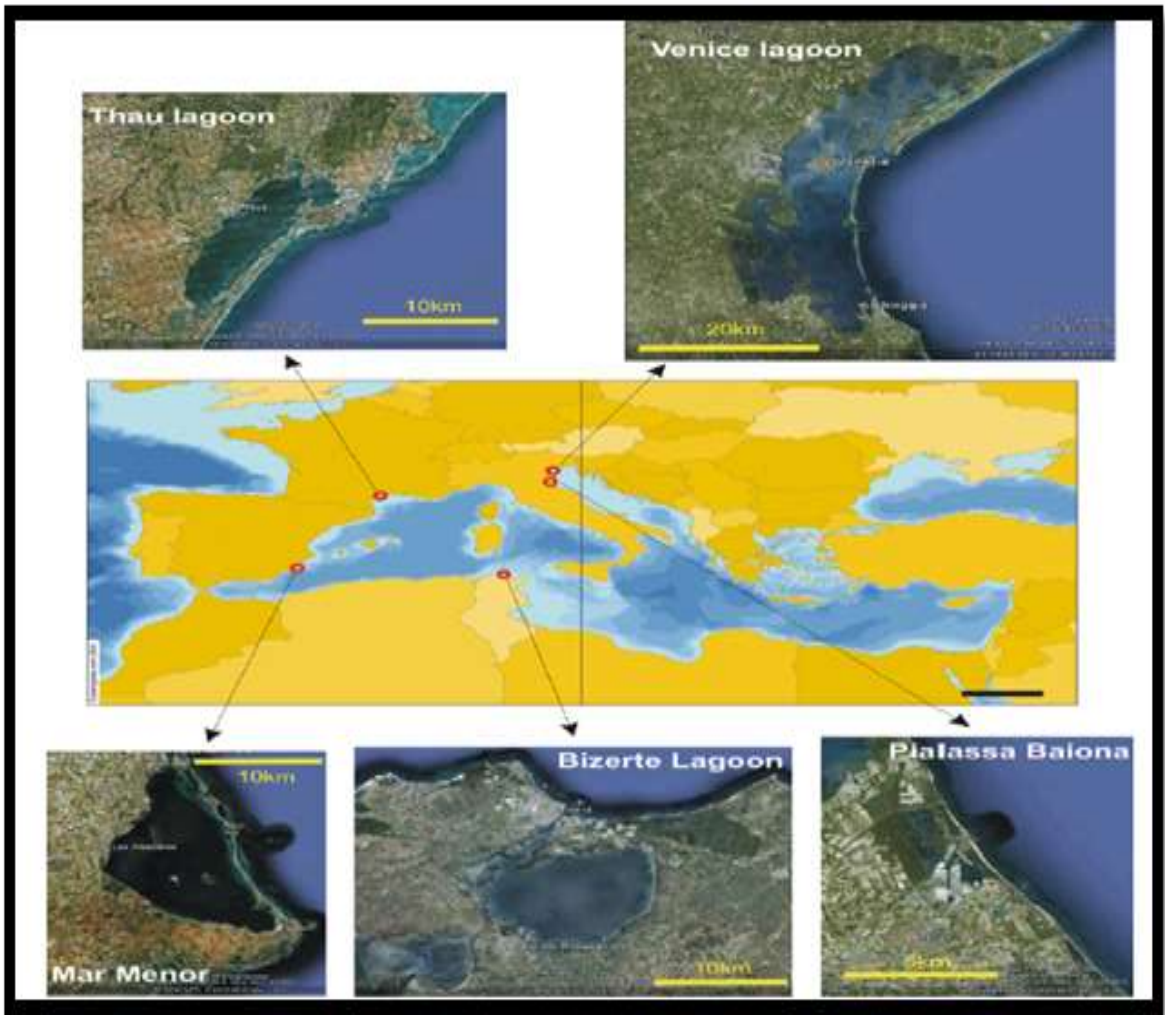

Figure 2: The Most Important Sites (Factories, Cities and Agricultural Land Currently being Exploited on the (Mediterranean - the Roman Sea)

Source: Photo from Cockle Earth

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IV. The Third Requirement : The Study of Changing the Area of the Mediterranean EEA (Roman Sea) throughout History Seeks to Show the Indicators of Climate Change

Before starting to study the environment of the study area, therefore, we must address the most important civilizations that have arisen on the banks of the study area.

This chapter explains the main trends of the overlapping forces that develop Study of changes in Mediterranean levels during the Holocene.

The Mediterranean basin (the Roman Sea) has consistently shifted from climate changes occurring in a global scale during the Holocene era until early, mid and late. In the meantime, the environment contains different civilizations.

Human activities are observed through fossils and sediments of the geologic classes Especially in the East, Central and Western Mediterranean and North Africa and led to the mixing of cultures to accelerate the exchange of ideas, techniques and raw materials, causing the emergence of different civilizations and the emergence of a culture of civilizations that have emerged on the coasts of the Mediterranean (See Fig. 4)

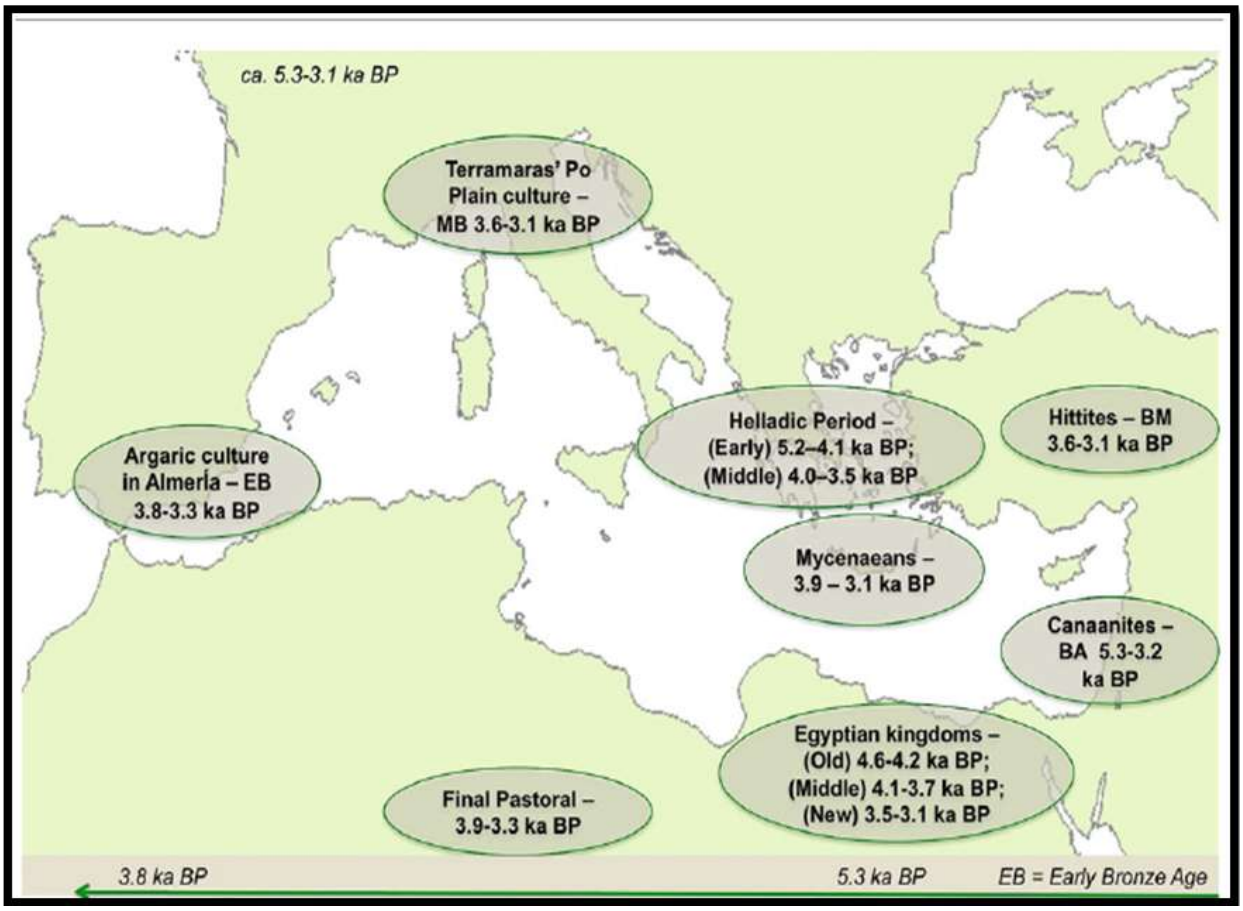

Figure 4: The Embargoes Developed in the Mediterranean Basin during the Middle of the Holocene (The Bronze Came)

**Büntgen et al., (2011).

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Environmental assessment of the Mediterranean Sea (Roman Sea) among Arab scientists in terms of area and depth compared to the current measurements to find the difference of change, which was caused by contemporary environmental changes.

Table 1: Measure the Length, Width and Depth of the Mediterranean among Arab Scientists

No.	*The name of the world*	*The year of his death*		*The space*		*Depth*
		Hijri	*AD*	*Length is miles*	*The width is miles*	
1	Suleiman Al-Mahri	961	1554	-	-	-
2	Ahmed bin Majed Al-Najdi	900	1494	-	-	-
3	Abu Al-Abbas Shehab Al-Din	749	349	-	-	-
4	Nouri	733	1339	5000-6000	300-600	-
5	Al-Biruni	440	1048	5000	600-700-800	-
6	Ansari Damascene	727	1327	3076	711	93.591
7	Jerusalemite	390	999	-	-	-
8	Al-Masoudi	346	957	5000	800-700-600	-
9	Qudamah bin Jaafar	320	932	5000	800-700-600	-
10	Beltane	306	918	-	-	-

Source: The work of the researcher based on the blogs of Arab Muslim scholars.

The visual comparison of the current figures with the figures extracted by Arab scientists shows that there are a big difference (965,000) miles, while the length of the Arab world Nutri, Peroni, Masoudi and Qudaamah bin Jaafar by about 5000 to 6000 miles, which is arranged in descending order from In 1339 AD to 918 AD, we note the increase in the area of the water body (the Roman Sea) from the year (932 AD to 1339 AD) and is contrary to them in measuring the Ansari Damascene length of (3076 miles) in 1327 AD, and here it turns out that this water body (the See of Rome), Mediterranean The increase in length over time of that era, while the visual comparison of insomnia appears M, which refers to the width of this water body at present 621.37 miles, where increased during 407 m, which is 1,924 miles in length, which is equivalent to 2361.21 miles now., While in 1327 The 711 mile width here is a difference of 1,650.21 miles, whereas the depth of the Ansari Damascene world represents (591, 93)

While the difference between it and the current measurement more (465,00) miles and here we find that there is an increase in the width of this water surface due to contemporary climate phenomena experienced by the natural environment as a result of human activities.

As for depth, it was measured only one world, Ansari Al-Mishqi, where the depth of the Mediterranean Sea (rum) by 591.93 meters, while the depth of now 1,500 meters, which is about 908.07 meters, a significant increase documenting the reasons for the increase in the water level due to change In the climate and global warming that caused the melting of ice in the poles, Arab scientists have clearly demonstrated the scale, length and depth of the Mediterranean water.

V. CONCLUSIONS

1. The Arabs determined the characteristics of the water surface by measuring the length, width, and depth, where they were considered to be the first to measure the accuracy of the Mediterranean Sea (Sea of Rum).
2. proved through their measurements of the presence of environmental climatic changes that control the level of this water body.

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3. Take care of the environmental interaction that generated many of these embargoes that surrounded it.
4. interested in studying the marine environment for the purpose of trade and shipbuilding and a greater understanding of the depths of the passage of their ships.

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