**نصوص جغرافية بلغة أجنبية**

**Geographical Texts in a Foreign Language**

**إعــدادPrepared By**

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**( الدراسات العليا)**

**1- Territorial Waters & International Waters**

**Territorial waters are areas of the seas and oceans which the State exercises its authority by a distance of 12 nautical miles (22 km) of coastline, including the rights: Control fishing, navigation, and shipping, as well as marine sources investment, aquatic resources.**

**Include regional water problems in the control of an area or more of the following confrontation Coast State five areas: -**

**1. inland region: include harbors, bays and rivers where there is conflict of state control and sovereignty and also include those adjacent to the coast of the water, which is under a private-Qaeda ground line from which to measure the territorial sea conditions.**

**2. Regional Sea: are those the area where the sovereignty of the state is determined by only the right of innocent passage of foreign ships through these waters is not that far anyway to fly extends over the territorial waters of the coastal State exercises its control necessary to prevent the violation of customs laws, quarantine and immigration control in territory with the exception of those rights is not to state that a judicial authority in the vicinity.**

**3. the Immediate or vicinity region: Additional freely begins with the end of the territorial sea towards the high seas area**

**For a distance of 12 miles a lesson in causing the immediate vicinity of the territorial waters is to allow coastal state control of others areas far from the coasts and in order: Without prejudice to the laws and customs taxes, immigration and health laws and impose punishment for offenders.**

**4. deployment region (or the exclusive economic zone) and later the immediate vicinity no region is not well defined can be called deployment area and can be considered neutral territory, which calls for many of the countries where the rights of one party for the control of fisheries and security of their affairs.**

**5. continental shelf: it is that of the continental slope that descends away from the coast and to a depth of 200 meters in general and increasing gradient after that until it reaches to the depths of the seas or oceans, fisheries important fish over the continental shelf and concentrated in addition to what may exist where the petroleum resources and Gas natural and otherwise.**

**The high seas or international waters are ocean areas that fall outside the jurisdiction of any state. And generally begins after 200 nautical miles (nautical mile is equal to about 1.9 km) from the coast of the adjacent states of the ocean. The ocean areas that States exercise its authority on them, are called territorial waters.**

**In international law, the high seas are considered open to any State for fishing, travel, and research. And all countries have equal rights on the high seas, and all of them must respect the rights of other nations.**

**The adoption of the Convention on the Law of the Sea in 1982. Has been signed by more than one hundred of the Member States of the United Nations organization and, in general, this agreement gives states Exclusive rights in prospecting for oil and gas up to a distance of 350 nautical miles (665 km) from the beach, and fishing in the range of 200 nautical miles (380 km ) of coastline, and within these two hundred nautical miles, which are called exclusive economic zone, have all the rights of states for the high seas navigation, aviation, but coastal States controls all economic resources in this region. Most countries agree, not to the right of mining considered as part of the Marine freedom, but that this right can be established, under the provisions of the Treaty. That is why; the Convention has not become effective until 1994. It states that have not ratified it: the United States and Canada. Although most of the treaty's provisions already are followed now.**

**2- The Visual Display of Quantitative Information**

**"It's the best statistical statement was drawn at all." With these words describe the world of statistics, "Edward Taft" This chart is included in his reference reliable, this graph, or the statistical statement, is also a map, and a map of a bizarre place Moreover they imagine offer great Napoleon's army in Russia (1812) and then retreat of them (1813) The impact of those defeat as a result of combination of factors, including the bitter cold winter of Russia, the Russian army and followed the scorched land tactics. To my knowledge, the origin of the term "scorched land" back to the period when the Russians began to burn everything I can to evaluate the French eat and shelter to protect them weaker than Napoleon's army and weakened seriously.**

**The fee graph, this map combines six different sets of data:**

** Geography: named after rivers, cities and battles and arranged according to occur on a normal map familiar.**

** Army path: the flow path and flow follows the route taken by Napoleon in Russia's entry and exit.**

** The direction in which the army marched: It referred to the color of the road or path: (Golden leading to Russia, Black leading to the outside)**

** Number of the remaining soldiers: the track or the road becomes more narrow in quick succession, and the message is clear reminder of human tax for this campaign as each millimeter of it represents 10,000 men.**

** Temperature: cold Russian winter frozen faced by the army returns shown in the bottom (varying according to Romer and that water freezes at zero degrees and boils at 80 Romer).**

** Time period: In connection with the temperature referred to in the bottom of the drawing, from right to left, and starting from October 24 (rainy) until the seventh of December (-27).**

**Let's stop to carefully ponder the terrible human cost represented by this map:**

**Napoleon entered Russia at the head of an army of 442 000 men, and seized the Moscow City Army consists of 100,000 troops was all that remains of the original army. After a little wandering among the ruins of the abandoned city, fled away from the grip of winter Middle deadly on top of an army of 10,000 exhausted shivering from the cold, including 6,000 coming from the north, a man and joined again the main army.**

**Napoleon had not been restored since the magnitude of this defeat painful, to be totally defeated later in the battle of "Waterloo" after two years. After nearly a century and three decades, Hitler repeated the same mistake by Napoleon, and that poor appreciation of the magnitude of Russia and winters is hospitable and determination of the Russians and their determination to defend their homeland.**

**3- Continental Drift**

**Continental drift is the movement of the Earth's continents relative to each other, thus appearing to "drift" across the ocean bed. The speculation that continents might have 'drifted' was first put forward by Abraham Ortelius in 1596. The concept was independently and more fully developed by Alfred Wegener in 1912, but his theory was rejected by some for lack of a mechanism (though this was supplied later by Holmes) and others because of prior theoretical commitments. The idea of continental drift has been subsumed by the theory of plate tectonics, which explains how the continents move.**

**Wegener was the first to use the phrase "continental drift" (1912, 1915)translatedfrom German language into English in 1922, and formally publish the hypothesis that the continents had somehow "drifted" apart. Although he presented much evidence for continental drift, he was unable to provide a convincing explanation for the physical processes which might have caused this drift. His suggestion that the continents had been pulled apart by the centrifugal pseudoforce (Polflucht) of the Earth's rotation or by a small component of astronomical precession was rejected as calculations showed that the force was not sufficient.**

**The theory of plate tectonics explains all this, including the movement of the continents, better than Wegener's theory., Geophysicist Jack Oliver is credited with providing seismologic evidence supporting plate tectonics which encompassed and superseded continental drift with the article "Seismology and the New Global Tectonics", published in 1968, using data collected from seismologic stations, including those he set up in the South Pacific.**

**It is now known that there are two kinds of crust: continental crust and oceanic crust. Continental crust is inherently lighter and its composition is different from oceanic crust, but both kinds reside above a much deeper "plastic" mantle. Oceanic crust is created at spreading centers, and this, along with subduction, drives the system of plates in a chaotic manner, resulting in continuous orogeny And areas of pressure is balanced.**

**4- Global Warming**

**Global warming is the rise in temperature in the environment as a result of a gradual change in streaming thermal energy from the environment and need. It may be high by virtue of the Industrial Revolution and gases resulting therefrom, may be the main reasons, too, is a greenhouse gas or the so-called gas emissions, a carbon dioxide gas, water vapor, methane, and ozone gas, and CFCs, all of this and the other has a big role in the development and worsening global warming crisis. This is usually the name given to the phenomenon of global warming than normal. Global average air temperature at the Earth's surface has increased by 0.74 ± 0.18° C during in the 100 year ended. According to the Intergovernmental Panel on Climate Change, the most significant increase in the average global temperature since the mid-twentieth century seems largely due to the increase of greenhouse gases (greenhouse gases) emitted by activities carried out by humans.**

**The solar radiation is the main source of energy on the surface of the earth as it stems from the sun toward Earth is implemented through atmospheric gases in the form of rays visible short-wave radiation thermal long-wave (infrared) and some ultraviolet radiation that cannot be absorbed by the ozone absorbed by the Earth's surface scan hyphen him are-heated then transmits the temperature about the atmosphere in the form of long-wave thermal radiation (infrared) absorbed by the air near the atmosphere of the Earth's surface are trapping heat are not allowed to access or escape to the top and re-transmitted to the ground, leading to an increase in surface temperature .**

**This is the phenomenon of natural phenomena, but because of some of the factors become one of the big problems of our time being, has become a major concern for many environmental and geologists and scientists meteorology.**

**Scientists differ between the two parts only two, pro and part shows part, you can either agree to this phenomenon is that the reason for this phenomenon is a greenhouse gas, and must work to reduce and minimize the use of greenhouse gases, which are working to reduce them, but the object it says : the nature of the different ground, cold and warm there are, and there are several indicators for the start of this phenomenon, and is linked to the natural causes of volcanoes, and climate change, etc., and is a natural to humans cut trees and reduce green spaces and others.**

**On the previous phenomena or warning of global warming:**

**1. Large and massive increase in carbon dioxide, and methane concentration increased, compared with pre-industrial revolution and steam engines.**

**2. CFC is getting increasing rates in other year; due to increased use.**

**3. 0.3-0.7 Sea level Rise, and high temperatures in some times the annual average.**

**4. melting ice in some areas, mountain peaks and the north and south poles.**

**As to the reasons for this phenomenon and indicators, the results of her, and the results of global warming: -**

**1. The increase in water level as a result of melting ice.**

**2. tremendous damage and all the low-lying areas adjacent to the coast.**

**3. drought and desertification several areas, desertification, "is the process of turning farmland into desert is suitable for agriculture," and killed a number of animals, has been up for extinction.**

**4. occurrence of agricultural disasters, have increased forest fire occurs in tropical and private; as a result of a significant increase in temperature.**

**5. It is expected catastrophic phenomena is the death of large numbers of poor people drowned.**

**5- Nubian Aquifer**

**Nubian Sandstone Aquifer is the largest network layers of water known fossil in the world. It is located underground in the eastern end of the Sahara Desert and is located within the political boundaries of the four countries in northeast Africa, including Sudan's north-west, north-east of Chad, southeast Libya, and Egypt. Sandstone reservoir covers an area stretching over more than two million square kilometers, contains an estimated 150,000 of groundwater, the importance of the reservoir water as a resource potential for future development programs in these countries is very large. Recently a man-made, was Manmade River Project in Libya. Began to extract large amounts of water from the reservoir, and the removal of an estimated 2.37 per year. This system is primarily used to provide water in Kufra oasis.**

**The Nubian Sandstone is the main component of the aquifer in the desert of New Valley is the most important characteristics of the reservoir:**

**Reaches the aquifer area, which the Nubian Sandstone main ingredient him is about 2.4 million square kilometers, including: (Western Sahara Arab Republic of Egypt and extended until the eastern part of Libya, the north-eastern part of Chad and even the northwestern part of Sudan), of sandstone basin area Nubian (aquifer) in Egypt about 670 thousand km2 in the Western Sahara other than an area of 130 thousand km2 in Sinai, and are taken advantage of underground water by drilling wells at different depths.**

**Aquifer is divided into two main reservoirs are first Dakhlah tank, which includes the Western Sahara in Egypt, and secondly Kufra tank in Libya, and add them to a relatively smaller tank Valley and WadiQena&WadiAlgaytah in Eastern Desert region.**

**Studies have shown that the thickness of the aquifer increases in the direction of the north and northeast, and at least in the direction of the south-west and the south, where an estimated thickness of the reservoir in: (beyond 800 meters, entering 1400, Farafra 1600, Navy, 2000, and up to about 3500 m Basin appointed a function of the north-western coast of Egypt).**

**Laboratory results showed to estimate the speed of passage of water inside the sandstone rocks of the Nubian sectors that water velocity up to about 20-30 m / year, was estimated relative age of the groundwater using radiocarbon found that the age of 20-30 thousand years.**

**The presence of feeding areas of the highlands, south and southwest reservoir studies have shown a Tbste Heights and Nida, Chad and Darfur and Kordofan Heights Sudan where maps show contour pressure Bizumtria groundwater flow rocks of the Nubian Sandstone generally from the direction of the south-west to north-east. As groundwater full size Nubian Sandstone Aquifer quantity of 234 thousand billion m3 and under the Western Desert, Egypt amount of 50 thousand billion m3, and the amount of nutrition that link Western Sahara 1.6 billion m3 / year.**

**It is already clear that the amount of natural annual recharge is part small compared to the amount of water that is being withdrawn and therefore we should deal with the aquifer on the basis that the tank is renewed, although the water potential of a huge reservoir, but the limiting factor for the exploitation of water are operating economics**

**6- Global Positioning System (GPS)**

**System was established mainly during the Cold War for purely military purposes and to provide a navigation system for the US Army and its allies to help aircraft, naval vessels to reach their goals in different weather conditions. The first devices were larger than can carry infantry soldier as easily as necessary and was later adapted for use in system-guided weapons.**

**In the meantime, civilian applications greatly expanded until it became indispensable for the system in the daily life of civilians around the world. It is difficult to imagine the work of systems such as credit cards and ATM systems and many of the networks without a GPS. Where the system is used to adjust the synchronization of the various parts of these systems together. It is worth mentioning that the use of the system to adjust the synchronization of the most important uses of the spatial and other non-conventional, the main reason why the European Union to initiate the Galileo system to reduce dependence on the US military system. It is what the Americans responded with a plan to update the system famous in 1998.**

**Today the system is used in other civil applications, for example:**

**• directing civil aircraft and marine navigation.**

**• personal use such as sports and excursions**

**• car navigation systems and guide the driver to the target.**

**• The system of applications in the field of geology and geodesy measurements faults and the movement of continents.**

**There are differences in the GPS accuracy as military applications more accurate than the GPS as civil, which can have access to the accuracy of a few meters (about 4 meters). Since the United States was based deliberately jamming signals GPS to prevent the use of civilians and reduce quality in civilian applications, but it seems they stopped it since 2000 directed to focus on jamming limited geographic patches.**

**Determine the GPS of the 24-satellite system hovering around the Earth at an altitude of 20,200 kilometers consists. The satellite broadcast signal carrying location of any satellite site also carries the timing or the moment of high accuracy signal broadcast its reference to the atomic clock precision. The receiver to receive incoming signals from the satellite, and by comparing the timing of the arrival of the signal and the timing of the broadcast device can see the signal transmission time and thus calculate the distance between the satellite and the receiver, and the reception of three signals from three different satellites, the cross point determines the receiver site. And increase the number of satellites can be observed for the receiver some way associated with the errors corrected account, thereby increasing accuracy.**

**7- Satellite Remote Sensing**

**Not so long ago, satellites is one of the scientific achievements that have surrounded a large aura of secrecy and mystery, where limited use in the first instance on military purposes only, such as acts of maritime navigation, air traffic control and espionage operations, but now it has become a necessary part of our daily lives and varied uses to include many areas such as the use of their weather forecasting and television reception space, as well as phone calls are among the millions of people in various countries of the world.**

**Equipped with satellite launched by the cells of light to generate the necessary energy from the sun to run, and sometimes processed nuclear batteries in the case of heavy use of energy (energy generated is not enough of the light-cells). As processed Sensorsand transmitters, cameras, radars own depending on the specialty of these satellites. And can be controlled remotely. According to the satellite orbit height is determined by the type and the way it moves and the direction of the area covered.**

**Is loaded satellite on infectious missile specifically for this purpose where the missile to penetrate the atmosphere of the planet extremely rapidly heading towards the specified his orbit by controllers to direct the missile to the right or to the north, east or west, and when the rocket speed of up to 120 miles / hour (ie is equivalent to 193 km / h) are navigational devices missile amend the situation to become vertically and then be installed satellite in orbit him.**

**These satellites to monitor the environment and study in general in the planet without direct contact with the environment (remote) As an example of the year, you can use these satellites to study and monitor migratory birds, determine the mineral sources and distribution, agricultural crop monitoring protect it from the weather, monitor and study the risk form of hurricanes and their changes and monitoring of forests and determine the speed of the decline of vegetation in different regions of the earth, all previous studies to be better than the space it from the ground, because of the great potential to get better pictures and a wide stretch of the visual space that is impossible to get than that of the Earth.**

**There are several satellites used in remote sensing revolve around the Earth. They are divided according to their uses into two parts: industrial environment satellites and weather satellites, but may be involved in the tangle studies.**

**Of the most important satellites used by the Governments of Remote Sensing:**

**-Radarsat NASA remote sensing Canadian.**

**- European satellite remote sensing ERS, Europe.**

**- Landsat, NASA, the United States.**

**- SPOT National Center for Space Research, France.**

**- Indian remote sensing IRS ISRO Indian Space Research Foundation.**

**- QuickBird, the United States.**

**- WorldView, the United States.**

**8- Digital Elevations Models (DEM)**

**The Digital Elevation Model of one of the important means of modern applications within the GIS program, which allows to see three-dimensional terrain, which provides that the application enormous potential in many science fields, including use as a tool for geographical researcher, especially in the field of geomorphologic as digital elevation and approved model Satellite Images, Arial photography, and global position system and digital maps and even topographic maps corrected provide measurements and analysis and the results of minutes when extracting digital elevation of which model it can see the slopes and locating potential landslides and guidance any knowledge of the impact of wind and rain and the solar beam and then determine the extent of the development of erosion of soil and land operation or distribution natural vegetation and to identify the main feeding basin and sub-basin and trends and the length of the different dimensions of the network output and estimate the best sites for the construction of dams and identification of candidate areas for floods.**

**Definition digital elevation model: is a digital representation of the data data file, depending on the retina formula every pixel which has a numeric value that represents the average ground elevation in the area of the pixel, these files are located within the GIS program and are usually large scale and are useful for planning purposes. This model uses the geographical coordinates a network of any network longitude and latitude, especially in the event that there is a data change and separated because of the curvature of the earth or used Universal Transverse Mercator Projection in the case of a common set of data, if the scale digital elevation model of a small file, it uses geographical either coordinates that was great, it can be used as any kind of them and always shows the high terrain bare ground naked rise of natural plant and phenomena that man-made on the contrary, "Digital Surface Models" which represents the high tree tops values, rooftops, towers and the rest of the features that stand above the earth's surface.**

**Sources produce digital elevation model:**

**- From aerial photographs and satellite visuals: includes aerial photographs triple data dimensions and we obviously with Sterioscop manually or private so plotters and be in digital format As for satellite images, there are many satellites specialized for the production of bitmaps representing digital high like the moon models (SPOT) Ortho spatial accuracy 2.5-4 m The satellite images most common are (Strp) which covers the countries of the world between 60 degrees north and south, precisely 90 m or more, a free The digital models of high quality are those used application (SAR) radar interoperability which gives after rising less and more than 30 m carefully m and could reveal small changes in altitude.**

**- Rising to bitmaps produced by specialized bodies such as data (GTOPO) produced high accuracy discrimination by the US Geological Survey.**

**- Various sources, including numbering topographic maps and contour lines that have operations and ground survey data useful to rise and widespread obtained from Global Positioning System devices.**

**- Interpolation methods: are mathematical algorithms require a sample of the information points rise in the region, as in the process of predicting Account for all the region altitudes and stores the output in a bitmap.**

**Digital elevations models applications: using digital elevations models assist in the analysis and interpretation of the phenomena of some of the applications, including models:**

**1. Geology: You can create and interpret geological maps and places a three-dimensional drawing model of digital elevation and can draw contour lines of the digital elevation model and this gets when matching satellite image of the geological map and the digital elevation model and requires the use of satellite image used for this correction highs and adjust the Ground control points purpose where to fit a digital elevation model, also provides a general knowledge of the effectiveness of the cracks in that region.**

**2. Geomorphology: enables these models to see the terrain three-dimensional body they navigate the largest amount of information than in the case of an ordinary topographic map as it can distinguish units determine the surface topography and geomorphologic processes that run it.**

**Can be many important topographic characteristics of the digital elevation model and derive these properties: (slope, Aspect, curvature, Hill shadow, contour lines, hydrology).**