Topography of Libya:

Libya's geographical position made it occupy a large area of the Sahara, which is considered the greatest natural phenomenon in North Africa, a sprawling plateau and almost flat surface mostly with an average altitude in total between (200-600) meters above sea level, the plateau descends to the north Until it ends at the Mediterranean coast, and gradually ends in some areas, such as in the area around the Gulf of Sirte, and suddenly in other regions so that the northern edge consists of upright or steep cliffs, as in the Green Mountain (Al-Jabal Al-Akhder in Arabic) and the Marmarica Plateau (Batan Plateau in Arabic) in the east, and in the Mountain of Nafusa (Jabal Nafousa or Jebal of Tripoli-Al-Jabal Al-Gharbi in Arabic).

In the West, as these heights are only the northern edges that make up the plateau covering most of Libya, the three rims extend parallel to the coast in general, but it overlooks the sea directly in some places while away in other places composed of coastal plains whose breadth differs from one place to another, in the west away the mountain edges away from the coast, forming a vast expansive plain (Jefara plain) and gradually narrowing in the east until the mountain edge meets the sea shore directly at Al-Khoms.

In the east, the edge of the Al-JabalAl- Akhder leaves between it and the sea, the vast plain of Benghazi, and approaches the sea as we head north and east until it disappears at Talmita, afterwards, to the Egyptian border, the edge of the Al-Jabal Al-Akhder and El-Betnan plateau directly overlook the sea except in limited locations.

The mountainous areas descend southward gradually, forming the areas of Al-Balat south of Al-Jabal Al Akhdar and Al-Qibla south of Jabal Nafousa as transitional areas between the northern mountains and the

desert area, not only in terms of terrain but in addition to the manifestations of climate and vegetation, and the Libyan desert area includes a number of terrain features, which differ from each other either in altitude relative to the sea surface, or in the type of formations of the surface of the earth, where there are mountains and basins low and valleys, and vary in their formations from sand to Al-Sirer and Al-Hamada. etc.

Libya: Shaded height and relief map. (http://www.ginkgomaps.com/maps_libya.html)
(https://ar.wikipedia.org/wiki/ملف:Libya_Topography.png)

In the light of the previous general explanation, Libya can be divided into the following terrain sections:

1-Coastal Plains Region

2-Northern Mountain Region (Jabal Nafousa, Al-Jabal Al-Akhdar)

3-Transitional Regions (Sub-Saharan Region)

4- Inland Region (Desert, Inner Mountains and Oasis).

1- Coastal Plains Region

Coastal plains are visible in areas around Tripoli in the west and Benghazi in the east, with the exception of the area around the Gulf of Sirte where the coastal plain overlaps with the desert plateau so that no clear boundaries appear between them.

The Libyan coastal plains are divided into several subdivisions, considering their local special features. Each subdivision has been called a local name from west to east as follows:

A- Jafara Plain.

B-Misurata Plain (coastal plains between the Al-Khoma and Misurata).

C- Sirte Plain.

D- Benghazi Plain.

E- Narrow eastern plains (from Tocra to the Egyptian border).

A- Jafara plain:

The Jafara plain is one of the largest and most important Libyan coastal plains, It extends from the Tunisian border to the west, and even the city of Al-Khoms east, from the Mediterranean coast in the north to the range of Jabal Nafousa in the south, forming a triangle shape, its peak is located at the Al-Negaza mountains in the city of Al-Khoms on the sea coast, its base is at the Libyan-Tunisian border, with an area of about 18,000 km^2, which represents almost half the area of the plain that extends inside Tunisia to Gabes.

Although the Jafara plain is often described as plain, But this is represented in the western part of it is a large degree of level and there is almost no terrain obstacle except the scope of the Jabal Nafousa Which clearly defines the end of the plain south, however, especially in its vast southern part, it contains ripples containing many hills and sand dunes that rise above sea level, the fixed hills increase as we head south up to the border of Jabal Nafousa, its terrain increases in complexity as we head south and east, and the elevation of the plain from sea level gradient from (15 meters) near the coast and (350 meters) in the southern section.

The Jafara plain is divided into three sections: (Coastal strip - Middle strip - Southern strip).

Coastal strip:

It extends between (10 -15 km) inside the plain, and does not rise above sea level in many locations, and consists mostly of a sandy beach followed by from the south a narrow strip of land not more than (28 meters), except in the eastern section, which is rising as we head east after the city of Tripoli appears in the form of cliffs up to a height of (50 meters), this bar follows the inland series of depressions turned some marshes and the other has been exploited in various human activities, the most important agricultural and urban communities, and the coast of

Jafara plain its entirety free of bays and twists and is divided into two parts:

1- The first section:

starting from Ras Ijdir at the Tunisian border to the city of Tripoli. the surface of the earth gradually rises as we head south, and there is a prominence on the coast, the first at the port of Tripoli, and the second is located to the west of the city of Zuwara, where it runs coast (12 km) towards the northwest where there is a farwa island.

2-The second section:

Starts from the city of Tripoli and extends to the Ras Al-Mesn at the mountains of Al-Negaza in the city of Al-Khoms. in its entirety it consists of a mostly rocky coast, especially its eastern section, Where the edge of Jabal Nafousa is very close to the sea, and it is supervised by high cliffs in some places, and there are no bays but small cavities at the ends of the valleys that reach the sea.

Middle strip:

Located just south of the former coastal strip, and gradually rise from (50 meters) in the north to about (200 meters) above the sea in the south, there are some ripples on the surface, and cut in some places a few valleys advanced in digging their streams for distances far from the mountain edge and most of them do not reach the sea only that run from Mount Tarhuna and Msallata.

Southern strip:

It is located in the shadow of the Jabal Nafousa, and it is the most elevated and complex part of the terrain. Where the height ranges from north to south between (200-380 m.) above sea level.

The shape of the Earth's surface is complex and intermittent, with several short-valleys which descending from the cliffs of the Jabal

Nafousa high.

In its southern part, in addition to the fixed sand dunes, there is a series of rocky hills that abound in particular to the north of Gharian and Yefren, then it decreases as we head west along the Jabal Nafousa.

In addition to these hills there is a range of the resulting docks from the pebble sediment transported by the large valleys of the mountain slopes in the old rainy times, and separated from the blocks of Jabal Nafousa by a wide strip of low basins with covered with mud deposits carried by the current valleys and this phenomenon is known locally as lake or (Gara in Arabic), for examples are Lake Al-Gsor north of Jado area, As well as the sedimentary basins in which it expires valleys of (Jado, Sakfil, Al-Atal)

The topography of the plain is characterized by the existence of valleys, which are divided into two types:

Type I:

The short-flow valleys (wadi in Arabic) that descend from the high cliffs of Jabal Nafousa and end in the plain, the most important (Wadi Zaqzaw) which runs near the Tunisian border and goes north to Wattia, (Wadi Al-Atal)

Which starts from the Jabal Nafousa especially the mountains east of Yefran and the hills in the east of the valley and descend to the Jafara plain to reach the south of Sorman by about 50 kilometers, it passes through the area named after him, Which covers an area of about 500 km^2. wadi Al-Atal was called this name because of its many trees (*Acaia sp*.) Atal in Arabic**,** (Wadi Al-Heera) Up to South Azizia, (Wadi Ghan) which starts from Gharian, where it consists of several sub-sewers clustered and after the slopes of Jabal Nafusa (known Wadi Al-Hai) and It meets long distance in the (Wadi Al-Atal).

Type II:

The valleys have a long stream that ends in the sea, the latter being concentrated in the eastern part of the plain including (Wadi El-Mejenin), which starts from the mountains between Tarhuna and Msallata and ends in the sea at the city of Tripoli, (Wadi Al-Ramel), which starts from the mountains Tarhuna and ends in the sea at the area of (Sidi Ben-nour) east of Tajura, a length of about (45 km), It is one of the few valleys where water in its upper parts for most of the year.

Location and Topographic map of Jafara Plain:
(https://dspace.lib.cranfield.ac.uk/handle/1826/13568?show=full)
(**https://www.researchgate.net/figure/Location-map-of-the-Jifarah-Plain_fig1_298305736)**
(https://azu.edu.ly/ar/universityjournal/13.pdf)

B: Plain of Misurata (coastal plains between the Al-Khoma and Misurata):

This plain extends from Ras Al-Mesn in Al-Nagaza) to (Ras Al-Burj) east of Qasr Ahmed Port in Misurata, bordered to the north and east by the Mediterranean Sea, and the south of the Qibla region, and to the west a chain Jabal Nafusa.

It consists of flat land with small areas and sand dune areas to rugged land overlapping with several valleys, this plain is relatively narrow due to the proximity of the Jabal Nafusa to the coast of the sea, therefore, the area of the plain is limited and confined to the area between Zliten and Misurata.

The beach is characterized by the presence of sand dunes that rise to approximately (50 meters) above the sea surface area between Zliten and Misurata Such as (Zureik, Al-Arar) in Misurata.

And extends behind in most places flat areas small size. and in the south the earth's surface rises rapidly inward especially to the west, where the plain narrows to fade at Al-Khoms where consists of hills of different altitude and rugged slopes cut by many valleys descending towards the coast, and because of the proximity of the Jabal Nafousa most of these

valleys are short and deep, Such as (Wadi Lebda, Wadi Al-Msaed, Wadi Ghanima, Wadi Toghort) all start from the area of Msallata and pour into the sea near the Al-Khoms and Leptis Magna, and some are longer Such as (Wadi Kaam) the length of about (80 km), where it starts from the southern slopes of the Jabal Nafousa and is connected by a number of tributaries on the right side, starting from mountains of (Tarhona and Msallata) and reach to the sea coast north of Zliten.

Wadi Kaam (https://ar-ar.facebook.com/media/set)
Wadi Lebda Dam ((https://mapio.net/wiki/Q7959234-en/).

C- Sirte plain:

The plain of Sirte encompasses the entire area surrounding the Gulf of Sirte between Misurata (Ras Al-Burj) in the west, and Zwaitina in the east, and from the coast of the Mediterranean sea to the boundaries of the depressions occupied by the oases of Al-Jofra, Ojla, Jallo and Marada in the south, its western border reaches the Qibla area. With a coastline of approximately (750 km).

In general, the plain of Sirte rises gradually as we move away from the sea coast either east, west or south until it reaches approximately (600 meters) above sea level north of the depressions of Al-Jofra, Ojla, Jallo and Marada.

It is noted that the land around the eastern side of the Gulf of Sirte is more flat than the land around its western side, as the slopes of Jabal Nafousa gradually descend and overlap with the plain, creating a rather complex appearance when compared to the eastern and southeastern side of the plain of Sirte.

Exist in most places long the chains of sand dunes from the coast of (Al-Arar) in Misrata and even Zwaitinh.

The color of the sand varies from yellow and earthy in the western part to the bright white color that can be seen from long distances.

It also contains semi-rectangular basins adjacent to the sand dunes

and in some places overlap with the sandy sea coast and extend to the south of the sand dunes chains, forming large areas of low-humid lands known as salt-Marshes (Sabkha in Arabic) that are submerged by water in most months of the year, the most important and largest Sabkha Tawergha, and Al-Hesha.

Due to the low surface of the plain of Sirte from the surrounding areas east, west and south, a number of valleys descend towards to reach of the Mediterranean coast. including Valleys that starts from the slopes of the Al-Jabal Al Akhdar in the east, the most important of which is the Al-Wadi Al-Fargh that starts from the southern western slopes of the Green Mountain passing through the Al-Balat area, and ends in a sabkha area known as (Maktaa Al-Kabreet), Wadi Al-Mesous, which starts from its east side north of the Al-Wadi Al-Fargh and descends towards the plain of Sirte, on the southern side, the valley section that ends at Sabkha Maktaa Al-Kabreet, and beside the valleys of Aqar, Al-Agar, Tilal, Tamt, Jarf and Bou Meras, all descended from south to north. From the west descend to the Plain of Sirte a number of large valleys, the most important of the Wadi Soofegeen (wadi Al-Batum),which starts from the south slopes of the mountain of Gabal Nafousa passing Mizda and Bani Walid to end at Sabkha Tawrgha, (Wadi Zamzam and Wadi Bay Al-Kaber), which starts from the northern and eastern slopes of the Red Hamada Plateau (Al-Hamada Al-Hamra) respectively, where the Zamzam Valley ends in Sabkha Tawergha, The Wadi Bay Al-Kaber, which is supported by several tributaries starting from the Harooj Mountains and the Suda Mountains in the south, then goes in a single stream to pour into small marshes located south of Tawergha.

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(http://www.ljagric.com/lj/index.php/ljagric/article/view/47)

Khairallah, H. I. (2014) Application of GIS in building a database for the study of morphometric analysis of Wadi Jarf. Journal of the University of Benghazi scientific-Vol.(3-4)-p (52-84).(in Arabic) (https://sjuob.uob.edu.ly/images/SJUOB-Downloads/Previous_issues/vol_27_issues_3_4.pdf

D: Benghazi Plain:

The Benghazi Plain occupies a large area extending from Zwaitinah in the south to Darsiyya (Tokra or Talmaitha) in the northeast, and from the eastern coast of the Mediterranean towards the northeast to the boundaries of the western slopes of Al-Jabal Al Akhdar and the area of the Al-Balt clearly define the boundaries of the plain, forming a triangle whose head is located at the Darsiyya, its base extends a long distance to the south until it overlaps with the plain of Sirte south without clear natural borders.

The surface of the land in the Benghazi plain gradually rises from the sea coast to the edge of the Green Mountain. The surface appears almost flat except for some coastal swamps and some lakes and sand dunes.

The coastal strip of the plain of Benghazi is almost devoid of bays and meandering and the beach is characterized by the spread of sandy dunes, with bright white soil forming a range separating the coast from the area of sabkha that followed in many places, the largest Sabkha Al-kuz, Sabkha Bograr and Sabkha Persis in the area north of Benghazi, in the south there is Sabkha near Abu Qatifa and elsewhere in the coast, and this phenomenon is repeated as in the area between Tocra and Sabkha Persis, there are limestone rocks that form the base of the region and reach in the extension to the sea coast and appear in a pier no more than a few meters in some places and in others equal to almost the sea level,
and may be separated in some places a narrow strip of low land covered with a layer of sediment The modern sandy clay, which is sometimes mixed with pieces of broken rocks of circular shape due to the impact of waves.

One of the phenomena of the coastal strip of the Plain of Benghazi is

the presence of a number of small karst lakes, the most famous of which is Lake Ain Zianah, and Lake Boudzira.

Sediments covering different areas of the Benghazi Plain are the most important phenomena that illustrate the topography of this plain because of its association with the manifestations of the shape of the land, therefore, the territory of Benghazi plain can be divided into four types as follows:

1-Land with rocky surface where the base of limestone is not covered by fine deposits as in the area between Benghazi and Benin.

2-Lands covered by red flooded soil are found especially in the depressions and at the estuaries of the valleys.

3-land covered by saline clay soil and these are found in the areas of marshes.

4-land covered with sandy soil found in many places on the beach and sometimes mixed with red clay soils.

A number of valleys descend from the slopes of Al-Jabal Al-Akhdar, most of them end in a short distance. With the exception of the two Valleys (Wadi Al-Salayeb), which ends at Bu Jarrar, and (Wadi Al-Qattara), which ends at Benghazi.

Benghazi Plain(http://uob.edu.ly/assets/uploads/pagedownloads/94604-.pdf) (https://www.google.com/maps/search/Benghazi+Plain/@32.0811944,20.2750856,59517m/data=!3m1!1e3)

E: Narrow eastern plains (from Tocra to the Egyptian border):

These plains extend along the coast from Dersia (Tocra or Talmith) to the Libyan, Egyptian borders, The first plain begins after Ras Talmaitha along the coast, where the edges of the Al-Jabal Al Akhdar approach the coast of the sea, leaving a narrow strip along the sea coast passing by Ras Amer and Ras Al-Hilal until it ends at the Derna, and begins to widen slightly and then disappears completely to the east of the Derna until the Ras Al-Teen, where the second widens especially around the arch that

forms the Gulf of Pompa, it then narrows its breadth again in the direction of Tobruk and even the Egyptian border, and it is not interrupted except in some places where the edge of the Al-Jabal Al Akhdar or Al-Batan Plateau overlooks the sea, and end to the coast a number of valleys that make up the so-called (Al-Fioradat), and there are areas Sabkha.

There are no islands in the Libyan waters except a small rocky island in front of Ain El Ghazala Marina in the Gulf of Pompa known as the (Jazerat Al-Marakib).

(https://www.google.com/maps/search/Ras+Al-Teen+Derna/@32.1711132,23.6227155,474926m/data=!3m1!1e3)
Narrow eastern plains Ras El-Hilal (https://www.pinterest.com/pin/227220743678970068/)

2-Northern Mountain Region

The region consists of the northern mountains, which represent the northern edges of the plateau that make up the Libyan Desert, the western and eastern regions have been subjected in some geological times to a number of ground movements, which resulted in the rise of their surface above the level of the land that followed from the south, it consists of two clear mountain ranges and a mountainous plateau as follows:

A - Jabal Nfoussa (mountains of Tripoli - The western mountain).

B- Al-Jabal Al Akhdar (Green Mountain).

C - Marmarika Plateau (Buttan and Al-Dafia).

A-Jabal Nfoussa (mountains of Tripoli - The western mountain):

These designations are called mountain ranges between the Tunisian border in the southwest and the Mediterranean coast at Ras Al-Masn (Al-Naqaza) Al-Khoms in the north-east, with a length of about 500 km and they form chains (Mount Nfoussa extends from Yefren to the Tunisian border, Mount Gharian, Mount Tarhouna, Mount Misalata, Mount Al-Khoms), this series suddenly rises with high cliffs resembling walls and steep slopes forming its northern border at the Jafara plain, and gradually descend towards the south until it ends in the area of the Al-Qibla that

separates it from the red Hamada (Al-Hamada Al-Hamra).

The main edge of the mountain is barren in general, and is severely cut by small, very deep valleys; the face of Jabal Nfoussa consists of blocks and clusters of different shapes and compact shapes.

The slopes are covered with stones and pieces of crushed rocks of varying sizes and shapes, it shows the horizontal extension of the sedimentary layers that make up the Jabal Nfoussa, where the base appears thick formations of marl, which appears in different colors, followed by other layers of sand rocks or sand limestone, which tends to whitish or yellowing, above there are thick layers of hard limestone rocks with a thickness of about 30 meters which play the main role in shaping the terrain of the area.

The average height of the highest parts of the Nafusa mountain chain in the area of Tghernh about (837 meters) above sea level, In Al-Klaiba area south of Gharyan, the height of some peaks is about (780 meters),

in the area of Ras Qalizeh on the road between Gharian and Mazda, the height of the peaks is approximately (868 meters), and the highest peak is approximately 981 meters in Al-Arban area.

The Nafusa mountain chain is gradually descending south of the above-mentioned areas From altitude (850 meters) at the Ras Al-Jira to about (510 meters) at Mizda at distance of approximately 60 km, It also descends in the east direction to reach the average height in Tarhuna to (500-400 meters) and less (400-300 meters) in the Al-Khadra area, then decreases to (350-300 meters) in Misalata, and continues to decline until it disappears under the sea in the Al-Khoms and under the plain of Misrata in the east, to the west, the mountain of Nfoussa chain is reduced to about 600 meters at the Tunisian border.

In general, the slope of the Nafusa mountain chain towards the Jafara

plain north is the most severe, followed eastward in the Gulf of Sirte and west towards the eastern Algerian race, and at least southward in the Qibla region.

Some tectonic formations also appear in some places on the surface, as some ancient volcanic peaks are spread, especially in the northeast region of Gharian.

Spread over the Nafusa mountain chain a great network of valleys that descend in different directions, including what descends towards the north in the plain of Jaffara (wadi Zagzaw, wadi Al-Heera, wadi Al-Raml, Wadi Al-Atal, wadi Ghan, wadi Al-Mgeneen), from the southern slopes there are many valleys, most of which end in wadi Souf El-jeen, these include wadi Qafalqo south of Gharian with a length of (100 km) where it is known in the upper part of the wadi Al-Mesid,

then continue in the name of the wadi Garjoma length (about 130 km), to contact him from the west wadi Bani Zaghouan and from the west wadi Gramat,

then Wadi Bani Walid to deviate east of the city of Bani Walid and meet to the wadi Mardom, which runs south-east to meet the wadi Souf El-jeen, Wadi Mimoun Drage is about (100 km) long, which is fed by many small branches starting from the eastern slopes of Jabal Nfoussa and walking to connect to the wadi Soufejene, which in turn descends from the southern slopes of Jabal Nfoussa at Yefran and Jado, and Wadi Faisal which is the most important branch in its upper reaches of wadi Soufejene, and some valleys descend to the west, some of them pouring into the Algerian Eastern Race and southern Tunisia, others to the lowlands of Sinawon, Derj and Ghadames such as wadi Zarzir, wadi Zouzam and wadi Cherchouf.

Gabal Nfoussa (https://www.researchgate.net/figure/Location-map-of-the-Jifarah-Plain_fig1_298305736)
Misalata

(https://www.google.com/maps/place/%D9%85%D8%B3%D9%84%D8%A7%D8%AA%D8%A9%E2%80%AD/@32.579418,14.0743262,15646m/data=!3m1!1e3!4m8!1m2!2m1!1z2KfZhNi02LnYp9mB2YrZhiDZhdiz2YTYp9iq2Kk!3m4!1s0x13a66916de078933:0x320761d17576146f!8m2!3d32.5836375!4d14.0362587)
Kekla:(https://www.google.com/maps/place/%D9%83%D9%83%D9%84%D8%A9%E2%80%AD/@32.0608575,12.7586817,31583m/data=!3m1!1e3!4m8!1m2!2m1!1z2YjYp9iv2Yog2LLYp9ix2Kog2YPZg9mE2Kk!3m4!1s0x13aee76988a4e54f:0xc74f608d4e6cf86f!8m2!3d32.0597348!4d12.696277)
(https://ar.wikipedia.org/wiki/شعبية_الجبل_الغربي)
Wadi Ghan :the valley stream and the dam (https://mapio.net/wiki/Q7959221-ar/)
Wadi Bani Walid
(https://www.google.com/maps/search/وادي+بني+وليد%E2%80%AD/@31.7900741,13.9221064,29794m/data=!3m1!1e3)

B- Al-Jabal Al-Akhder

Al-Jabal Al-Akhdar occupies most of the Barqa Peninsula in the northeast of Libya, It extends from the borders of the Benghazi Plain in the west to the Gulf of Pompa and the borders of the Batan Plateau in the east, and from the Mediterranean coast in the north to the Al-Balat area in the south, forming a mountain range a between (300 - 800 meters).

The Al-Jabal Al-Akhdar slopes towards the north in steep cliffs, and its northern edge is very close to the sea in many places, and it descends to the east, but falls steadily to the area that extends around the Gulf of Pompa, and to the west descends with a clear inclination, forming the front edge of the first terrace, and southward gradually descending towards the Al-Balat area.

On its northern side, the edge of the Al-Jabal Al-Akhdar consists of three terraces or (terraces), each of which identifies a very steep edge as follows:

a-First Degree (terrace):

Its height ranges between (200-300 meters) above sea level, it suddenly rises from the coast, forming steep cliffs over most of the region. this degree is called (Al-Waseta) to mediate between the coast and the second degree, (Al-Argop), being a challenge for mobility and transportation, it represents the degree of longitudinal extension of the general between East and West in the same direction of the coast, and its

breadth varies from place to place.

The surface of the first degree is not completely flat but consists of a large number of hills and is severely cut by a network of valleys, most of which cut the area from south to north, they are deep valleys with steep or steep sides, and there are a number of pelvic areas on the surface of the First Degree (Al-Argop) towards which the valleys descend from adjacent heights, its surface is covered with red soil (Tirarosa), the largest of these ponds is the Al-Marj basin, which is one of the most important agricultural areas in Libya with an estimated area of (25,000) hectares, where he was formerly called the Rome grain store, and Al-Nagaa basin in the north of the city of Al-Abiar.

b-Second Degree (terrace):

Followed by the first degree and its height ranges between (450 - 600 meters), and is called the Al-Thar, which is not very different from its predecessor in terms of surface manifestations, where the city of Shahat archaeological.

c-Third degree (terrace):

It represents the last elevation of the Al-Jabal Al-Akhdar, where it begins with a relatively low edge and its slope less severe than the edges of the first and second degree, after this edge we reach the surface of the third degree, which is a small area near Slunta, the area of Sidi Al-Hamri, which has a maximum height (880 meters).

The gradation of the Al-Jabal Al-Akhdar on its seafront side is such an important aspect of the geological evolution of the mountain.

On the southward direction, we notice that the surface of the earth gradually descends for a distance of kilometers, and then show very complicated ripples covered with pieces of broken rock, and this shear is called (Al-Jisha), as the gradual decline continues, another area called (Al-

Serwal) it has a bumpy surface that is cut by many valleys.

The mountain ends when the surface of the earth is leveled, and in many places turns into flats whose surface is low and covered by fine clay deposits, carried by the waters of the valleys sloping towards the mountain in what is known as the Al-Balat zone.

The discharge of water in the Al-Jabal Al-Akhdar is related to the previous general description, where there is a great network of valleys that start mostly from the area of Sidi Al-Hamri, which is the main area for drainage in the Al-Jabal Al-Akhdar, valleys can be divided according to their estuaries into:

a-Valleys heading north:

Wadi Abu Dahhak, which starts from an area close to the Al-Gaigub, where it runs in a west-east direction, then heading north through the city of Derna (In this part it is called wadi Derna, where water runs all year), its water is derived from Ain Abu-Mansour, which fuses with the Waterfall of Derna (Shalal Derna in Arabic), forming the last part of the valley that ends in the sea.

Wadi El-Kouf (Al-Khouf), starts from the area of Sidi Al-Hamri and runs towards the west to meet the wadi Jarjar-Omma, which cuts the plateau from south to north and ends in the Mediterranean sea.

Wadi Al-Dabousia (called in the lower part of Wadi Al-Atharoun) starts from the highlands heading north directly where water runs all year round.

Wadi Al-Qalaa, it starts from the highlands and ends in the sea with Ras El-Hilal waterfalls (Shalal Ras El-Hilal in Arabic) where water runs all year round.

Wadi Al-Khalig, to the east of Darna and the water runs all year, for the presence of Ain Al-Khabta which mess up from the bottom of the valley.

And also the wadi Al-Enjeel west of Darna, the wadi Estoa near Susa.

b-Valleys heading east:

Wadi Al-Maalaq, which starts from the area between Al-Gaigub and Khulan, and is going east until it ends in Gulf of Pumba.

Wadi Al-Tamimi, to the south of the Wadi Al-Maalaq and parallel to the source upstream.

Wadi Al-Hinnawi, parallel Wadi Al-Maalaq from the north, and the Wadi Al-Maalaq and tributaries of the longest valleys of the Al-Gabal Al-Akhdar.

c-Valleys heading south:

Wadi Samalous (the longest), Wadi Tamatlou, and wadi Al-Ramla, where these valleys start from the area of the discharge of Sidi Al-Hamri and penetrate the southern slopes of the Al-Gabal Al-Akhdar through the area of the Al-Serwal until it flows into the lower basins in the Al-Balat.

d-Valleys heading west:

A number of valleys descend from the slopes of Al-Jabal Al-Akhdar to the Benghazi Plain, Most of them end up with a short distance, With the exception of two valleys, the wadi Al-Salayeb, which ends at Bu Jarrar, and the Wadi El-Ghattara that ends at Benghazi.

The beginning of the first terrace in the waters of the Mediterranean coast (https://mapio.net/pic/p-41507956/)
Shahat on Second Degree (terrace) (https://ar.wikipedia.org/wiki/شحات)
Road of Sosa to Shahat (https://mapio.net/pic/p-42540976/)
Al-Gabal Al-Akhdar (https://ar.wikipedia.org/wiki/الجبل_الأخضر_(ليبيا))
Ain Al-Khabta (https://yallabook.com/blog/show.php?nid=820&وادي-الخبطة-حيث-التقاء-المياه-المالحة-والعذبة)
Wadi Zaza (The valley stream and dam)
(https://www.facebook.com/National.Geographic.Cyrenaica)
Wadi El-Kouf (Bridge) (https://mapio.net/pic/p-46984448/

C-Marmerica Plateau (Al-Betnan and Al-Difaa):

The Marmerica Plateau extends from Ain Ghazaleh in the southeast of Gulf of Pumba to the Egyptian border, and From the Mediterranean coast until it ends in the desert, The name is called Al-Betnan on the area

from Ain Ghazala to Compote east of Tobruk, And Al-Difaa on the area from Compote to Salloum at the Egyptian border.

The Marmerica plateau is no more than 200 meters high, and from this height its surface slopes steeply towards the sea, leaving a narrow coastal strip whose breadth varies from place to place, while the plateau gradually descends to the south until it overlaps with the desert.

The surface of the Marmerica Plateau includes a number of longitudinal depressions called (Sagaief single Sagefa in Arabic), separated from each other by a high ground called (Al-Hajaj or Al-Dahr). There are also many small dry valleys, which cut off the surface of the highlands, and increase the length of these valleys on the eastern side of the plateau between the Ras-Azaz and Salloum.

The coast of the sea has many cavities that represent the estuaries of the valleys, which formed small bays similar to the Fiorades determined by prominent heads of land, the largest of which is the Gulf of Al-Bordia, the edge of the northern plateau appears in the form of adjacent blocks forming rectangular convergent dimensions of the viewer from the sea, resulting from being cut by a large number of valleys that vary in depth and length, some of them are short and do not exceed the edge of the plateau in the form of small cavities or circular basins with a flat bottom, others are long-flowed, but generally do not exceed a few kilometers

Al-Bardi:
(https://www.google.com/maps/place/%D8%A8%D8%B1%D8%AF%D9%8A%D8%A9%E2%80%AD/@31.7589597,25.0908987,3695m/data=!3m1!1e3!4m5!3m4!1s0x147d7ac94931ac41:0x47c270b5b3b8435e!8m2!3d31.7579946!4d25.0792189)
(https://www.facebook.com/bardia1941/), (https://mapio.net/pic/p-46909069/)

3-Transitional Zones (Sub-Saharan):

In the south of Jabal Nafusa and Al-Jabal Al-Akhdar there are two different areas characterized by their relatively low levels from neighboring areas, Where the highlands descend towards these areas gradually decline either from the mountains in the north, or the desert

plateau in the south, these two regions are transitional zones between the northern highlands (Habal Nafusa and Al-Jabal Al-Akhdar) and the inland desert plateau, known as the Al-Qiblah region, and the Al-Balt region.

a-Al-Qiblah region:

Al-Qiblah region is bordered by the north Misurata Plain water dividing line and the north-west water dividing line separating the eastern and central section of Jabal Nafusa, from the north east Sabkha Tawergha, and from the east the western border of the plain of Sirte, from the south-east is the topography of the valleys that separates it from the Al-Jofra depression, and from the west the dividing line of the Ghadames basin, and from the south-west the northern edges of the Al-Hamada Al-Hamra Plateau, and south-east the northern edges of the Al-Hamada Al-Hamra.

Al-Qiblah region is one of the most important and vast lands, where the Al-Qiblah region gradually descends from west to east, it then deviates north-east, and the Al-Qibla region includes most of the important large valleys basins (Souf el-Gene, Zamzam, Bey el-Kabir), which descends from the heights of Gabal Nafusa and penetrates to its estuaries on the Mediterranean coast at Sabkha Tawergha.

Al-Balt region:

Al-Balt region extends from the southern border of the Al-Jabal Al-Akhdar to the oases strip at latitude (30d. N), and from the western border of the Marmerica plateau to the border of the Benghazi Plain.

Al-Balt region includes three distinct regions, which are from north to south (Al-Serwal-Al-Balt-Al-Shaafa).

1-Al-Serwal area:

Characterized by the undulation of the Earth and its gradual decline towards the south, the land is also cut by several valleys that descend from the Jish area of Al-GabalAl-Akhdar and pour into the Al-Balt basin.

2-Al-Balt area:

Located to the south of Al-Serwal area and is in the form of basins of a little depth, covered with soft overflow sediments brought by the valleys where it flows, each basin is known by name (Balta) such as the (Baltat Al- Zallaq, Baltat Bourkiss, Baltat Al- Ramla), these basins are flooded with rainwater in the winter, but they soon dry up as evaporation and leakage.

3-Al-Shaafa area:

It is the last part of the Al-Balt region and its logic is a transition to the Sahara and is similar in its topography.

4- Inland Region (Desert, Inner Mountains and Oasis).

The Saharan interior region is located south of Al-Qibla, Al-Balat and Sirte Plain from latitude (30d. N) to the southern Libyan border, With an area of approximate (750.000 km^2).

The Libyan desert area is part of the Sahara Desert, it is a sprawling plateau, whose surface gradually rises from its northern border to approximately 600 meters above sea level at the Tropic of Cancer, and to about (1000 meters) in the Jebal Ngii in the far south.

The desert includes several important mountain blocks, some of which are located at the southern border of Libya, and some are scattered over different areas of the desert, In addition to the mountain heights, there are small hills that emerge above the surface of the earth and take different forms called each (Gaara) and plural (Gour), Some of them are in groups, including solo in distant places, as there are special desert formations surface (Sand dunes-Sea sand-Aoroq-Or Al-adhan), as well as marshes, rocky plateaus, or so-called Hamada and land covered with Desert pebbles (Al-Sarir) and Al-Hataia.

The desert is also famous for a number of depressions, which is one of the most important landmarks, including the northern depressions (Jagboub,

Gallo, Ujla, Jakhra, Murada, Al-Jofra and Ghadames), the southern depressions (Al-Kufra, Fezzan.

Different forms of the surface of the Libyan desert((https://www.facebook.com/PhotosOfLibyaSwrMnLybya)
The valley of the planets(Wadi Al-Kawakeb in Arabic)southeast of Libya (https://ar-ar.facebook.com/LIBYANWILDLIFETRUST/photos/)

The following is a brief description of the terrain features of the Libyan desert area:

1-Oases:

Oasis is one of the most important terrain features in the desert, where it is found in depressions where the groundwater is close to the surface of the earth.

The Libyan oases in general are divided into two series (a northern and a southern series) of unrelated depressions.

a- Northern depressions Series:

The northern depressions spread with latitude (29d. N), and it is bordered to the north by the Mayusigne Plateau, which begins to descend southward at a latitude (30d. N) slightly and gradually to the northern edge of the depressions, where the gradient is steep and sudden to be cliffs with high walls, then the surface of the earth begins to rise gradually to the south to reach between (400-500 meters) above the ground at a latitude (24d. N).

All of these northern depressions are located in this range from east to west and their elevation or decline differs from sea level as follows:

1. Jaghboub depression: It is about 29.5 meters below the ground.
2. Gallo, Ujla and Agkhrea depression: Located at sea level.
3. Mrada depression about (41 meters) above sea level.
4. Al-Jufra depression: between (240-330 meters) above sea level
5. Ghadames depression: about 300 meters above sea level.

1-Jaghboub depression:

The Jaghboub depression is located on the Egyptian-Libyan border,

south of the intersection of longitude (25d. E) with latitude (30d. N), it is about 200 km from the Mediterranean coast, and the Jaghbub oasis (Wahat Al-Jaghboub in Arabic) is located in a valley of about 10 km in the northwestern part of the depression.

The depression consists of several small basins separated from each other by chains small sand dunes cut in the form of terraces, and separated these basins by narrow and sometimes wide paths.

The terrain is surrounded by this depression from all sides, especially from the north, which is bordered by the sharp edge of the Marmerica Plateau, and from the south it is bordered by several relatively high rocky hills covered with sand dunes in many places, Which is not only indicated by the existence of a series of small stays that lagged after the removal of the factors of the erosion of the edge that it contained.

There are several salt marshes (Sabkha in arabic), and there are also some salt lakes in some basins, the most important of which are Lake Melfa, Lake Zargoun, Lake Alfredga and Lake Bin Hilal.

Melfa Lake

Away from Jaghboub about (30 km) eastward on the border between Egypt and Libya, an area of about (1 km 2), at a depression diameter of 10 km, and there are a number of small islands, and Lake Melfa is one of the most important landmarks of the oasis of Jagboub, where the water spreads in the vicinity of the eyes of the water and there is to the north of Mount Melfa.

Jaghboub:(https://www.google.com/maps/place/%D8%A7%D9%84%D8%AC%D8%BA%D8%A8%D9%88%D8%A8%E2%80%AD/@29.7407926,26.7640616,1027452m/data=!3m1!1e3!4m5!3m4!1s0x147a38874616a331:0x275db6227a1ae6d2!8m2!3d29.7417348!4d24.5168391)
Jaghboub depression (Melfa Lake) ((https://www.facebook.com/PhotosOfLibyaSwrMnLybya), (https://www.facebook.com/ALhasnonija/?tn-str=k%2AF)

2-Gallo, Ujla and Agkhrea depression:

The depression occupies a wide area between longitudes(21d. 10m. E) and (21d. 40m.E) intersecting with a latitude (29d. N), this low is

characterized by the lack of a rocky edge to be determined from the north, and all there is a number of small rocky hills (Al-Gour in Arabic), which appear in tables in different places, otherwise the surface of the earth appears flat or wavy in some places.

There are a number of marshes that descend into a number of valleys that cut the area in different directions, to the south of the oases of Gallo and Ujla, there are chains of animated sand dunes that sometimes connect so large groups, these dunes are based on gravel areas of bed type, and a section of the low cover layer of gravel (bed), especially in the north.

The oases of Gallo, Ujla and Jakhra are located in separate and spaced basins.

(https://www.google.com/maps/@28.8017443,21.1544508,982285m/data=!3m1!1e3)

Ujla Oasis:

Located in a small rectangular depression extending north and south, it is about 30 meters below the ground, where there is in the middle of the Wadi Nakhfoush, expanding in its southern section and called fox tail (Dayl Al-Thaalb in Arabic).

The oasis of Gallo is surrounded on all sides by large areas covered with gravel, which is mixed with sand in some places, which is abundant in the formation of large ranges of sand, especially at the area of Bou-Ataf east of the oasis and a well in the knee west.

Ujla Oasis(https://ar.wikipedia.org/wiki/%D8%A3%D9%88%D8%AC%D9%84%D8%A9)

Gallo oasis:

Located to the southeast of the Ujla oasis with an estimated distance of (30 km), separated by flat land of bed type, the Gallo oasis is located in a low rectangular shape, surrounded by sandy areas, followed by large areas of the bed,

The northern section is known as the (Hatiat Mlida), and there is Wadi Al-Shat north of the Ber Bou Atfel area, which is a long depression for a distance of about (80 km) from north to south.

Gallo oasis(http://wahtjalo.freehostia.com/)

Jakhra oasis:

About (30 km) north of Gallo in a rectangular depression where the oasis is located in the course of a valley consists of several branches all end in the main valley, the oasis is surrounded on some sides by sandy sand dunes based on layers of Al-Sarir formations, and on the other by hills of longitudinal sand dunes.

Jakhra oasis (https://www.facebook.com/AlkfrAlan/posts/514398715333746/)

2- Mrada depression:

Located between longitudes (19d. E) and (19d. 20m. E) and north of latitude (29d. N). An oasis is found in a longitudinal depression with an east-west direction with a slight deviation to the south, the land descends north of the oasis towards the south in degrees, as a result of the severity of the border which is bordered by the north turned into groups of (Al-Goor) with concave cavities and mountain heads, In the south, there are only some (Al-Goor) that emerge through thick formations stretching from west to east, in some places, sand accumulates, forming longitudinal sand dunes, there is a large area south of Al-Sarir, which is part of the Great Sand Sea, there are a number of basins separated by chains, some of which turn into marshes, Mrada depression is characterized by a number of basins, which are separated by chains of Al-Goor, some of which turn into marshes.

Mrada depression:
(https://www.google.com/maps/place/مردة%E2%80%AD/@29.2176332,21.4536884,980151m/data=!3m1!1e3!4m5!3m4!1s0x1391c746b2ed65cd:0x11f1aa8ac2b8079b!8m2!3d29.2193021!4d19.2054749)
(https://www.facebook.com/pg/SwrMradh/posts/), (https://www.marefa.org/مرادة)

3- Al-Jufra depression:

The depression is Directly north of the Soda Mountains (Gebal Asoda) between latitudes (15d. 13m. E) and (17d. E) and two latitudes (28d. 40m. N), it is about 260 km south of the Mediterranean.

Al-Jufra depression elliptical shape, about 45 km long and about 24 km wide, divided into two parts by a mountain plateau stretching from

north to south, its surface consists of rocky plains, the depression slope in its western side is semi-circular, and there are important oases are (Waddan, Hun, Sokna, Zilah and Al-Fugha).

Al-Jufra depression
(https://www.google.com/maps/place/شعبية+الجفرة%E2%80%AD/@27.9605303,18.8660995,1045100m/data=!3m1!1e3!4m5!3m4!1s0x13955c337f68ff5f:0x42a05e8fdc80e294!8m2!3d27.9835135!4d16.91225)1(
(https://ar.wikipedia.org/wiki/%D8%A8%D9%84%D8%AF%D9%8A%D8%A9_%D8%A7%D9%84%D8%AC%D9%81%D8%B1%D8%A9)

Sokhna oasis:

Located on the northern slopes of the eastern part of the mountains of Al-Suda on latitude (29.1d. N) and longitude (15.8d. E) at the center of the depression, about 4 km away from Mount Falaji, which rises approximately 268 meters above sea level, Where the surface is cut by a group of valleys running towards the north and northeast, the semi-circular highlands that surround the area in its northern section are called Mount Mukharak.

Hun oasis:

The oasis is located at the intersection of latitude (29d. N) and longitude (16d. E) in the center of a semi-flat plain surrounded by the mountains of Al-Suda it is approximately (15 km) northeast of Sokna, east of the central highlands, and rises approximately (212 meters) from the sea.

Waddan oasis:

Located in the northeast of the depression, With a distance of 19 km from the oasis of Hun South of Wadan Mountain on plateau rises nearly 650 meters.

Zilah oasis:

Located away from Hun (161 km) to the south-east north of the Harrog Mountains directly, it is about 13 km wide from east to west and 5 km from north to south.

Al-Fugha oasis:

It is a mountainous area located in the south of Sokna what

distinguishes it from the rest of its neighboring oases are the springs that come out of the mountains surrounding the area, of which five springs stem from the bellies of the neighboring mountains and the most important of these eyes named eye named Zagharadah, this fountain flows its water passing through a vestibule 200 meters underground.

Sokhna oasis (https://ar.wikipedia.org/wiki/%D8%B3%D9%88%D9%83%D9%86%D8%A9,)
Hun oasis: (https://ar.wikipedia.org/wiki/%D9%87%D9%88%D9%86,)
Al-Fugha oasis: (https://www.youtube.com/watch?v=mijTbO7FmP8)
Waddan oasis: (https://ar.wikipedia.org/wiki/%D9%88%D8%AF%D8%A7%D9%86_(%D9%84%D9%8A%D8%A8%D9%8A%D8%A7)
Zilah oasis: (http://fezzan24.blogspot.com/2010/06/blog-post_4566.html)

5- Ghadames depression:

There is a Ghadames depression between two longitudes (9d. 40m. E-10d. E) and alatitude (30d. N), in the form of an open amphitheater to the west, it represents the eastern part of the Great Eastern Race in Algeria, In the form of an open amphitheater to the west, it represents the eastern part of the Great Eastern Race in Algeria.

The Ghadames depression is bounded by the steep slopes of Hamada Tenggert, which rises about 300 meters above sea level, there is an oasis of Ghadames at the bottom of one of the ancient valleys, which is the result of the convergence of several streams starting from the west and north of Al-Hamada Al-Hamra. to the west of the oasis is a sabkha known as the Gart Masanda, beside a sandy plateau rising to approximately (100 meters), Another depression south of Ghadames is known as the Cabo depression its edges are composed of limestone rocks.

There is also a semi-conical hill in the northwest of Ghadames known as Taggart, and there is also the spring of the Ain Al-Faras, which is one of the most important landmarks at all as the first nucleus to be the city, and the only spring that made the city continue to give what is more, the population has added another importance to the spring through its system of water distribution, the inhabitants were able to exploit every

drop of water that came out of that Ain Al-Faras by placing five water wheels of the spring, varying in size and capacity, with a fantastic mathematical sequence.

There are also lakes including Lake Magzam (Ain Daban) very salty and is two parts, one deep and estimated depth (35 meters)

This lake emerges in a desert valley (Wadi Awal) south of Al-Hamada Al-Hamra northeast of Ghadames, the lake lies in a depression that forms part of the topography of the Al-Shattat Plateau, one of several lakes between the Libyan-Tunisian border, it is called Mjzm Awal meaning Sabkha Awal, it is also called (Ein Daban Lake) because of the two-part lake view that resembles the eyes of flies, it is likely that the lake feeds from groundwater along with the amount of rain water falling on the heights of Mount Nafoussa, and flows through a network of valleys, such as the valley of (Awal, Amgerger, Tenrut, Atnfsquin, Engelsen), they descend from the foothills of the Jadu, Zintan and Rajban mountains through the Hamada Tengernet and the Al-Hamada Al-Hamra for long distances and end in the lake.

The lake is divided into two parts by a dirt barrier that divides it into two brackish lakes, one shallow and transparent water increasing in area and decreasing according to the amounts of water in the rainy seasons, the other is deep, similar to a deep well with a depth of about 250 m ^{2}, and the colors of the waters of dark blue tend to black, because of the depth of which ranges between (35 m to 70 m), with steep limbs, water recedes in the summer, increasing in winter and late spring, growing belts of desert plants around the lake.

Ghadames: https://ar.wikipedia.org/wiki/غدامس
Ghadames (Ain Al-Faras)
http://mirathlibya.blogspot.com/2012/07/blog-post.html
https://www.facebook.com/LIBYANTOURISM.LY/posts/971182119584507/
Lake Magzam (Ain Daban)
https://www.facebook.com/LIBYANTOURISM.LY/posts/971182119584507/

b- southern depressions Series (Al-Kufra, Fezzan):

This range of depressions is located between two latitudes (23d. - 23d. N) and starts from the Arkno-Uwainat mountains in the east, it ends at Tinzoft depression in the west, and consists of two groups:

1-Kufra depression.

2-Fezzan depression.

1-Al-Kufra depression:

Al-Kufra depression is a large basin that is the result of the factors of erosion in the surface of a rocky plateau, whose rocks still appear and clear on both sides of the depression, this basin is known as Wadi Al-Kufra, covers an area of 110,486.79 km^2

Al-Kufra depression is bounded by sequential mountain ranges (Gor), take a western oriental orientation called local names including Jabal Fadel, Jabal Al-Hawaish, Jabal Al-Nari.

Al-Kufra depression infidels include oases (Al-Jouf, Al-Taj, Puma, Buima, Al-Talab, Al-Talalib, Al-Hawari, Al-Hawawiri, Rebyana, Bezima, Tazerbo), where each one is located in a small basin inside the depression, the basin of each oasis consists of three levels, First level: covered with saline soils (sabkha), and sometimes a layer of salts-the second level: the first topped and covered with a layer of red and yellow sandstone - the third level is located on the edge of the plateau covered with dry sandy soil.

There are two small lakes in Al-Kufra depression at an altitude between (200-250 meters) above sea level, their depth is between (4-5 meters) in a very blue water color indicating the high salinity, fresh water is found near the sides of the lake at a short depth.

There is about 200 km north of Al-Kufra depression exist a valley from east to west called Sieghen depression, Which is an ample Hatia, the Tazerbo oasis is located on the west side, which is characterized by a number of ample Hatia.

Through visual analysis of the map, there is a gradient in the altitudes from the southeast and southwest towards the north and northeast, this is evident by observing the map key as it decreases in the northeastern part of the region (the final course of the valley) to reach 300 to 350 meters above sea level, the area then begins to rise gradually towards the edges of the valley (both sides of the valley) between 500 and 510 meters above sea level, and it continues to rise at the extreme south-east and west, reaching more than 700 meters above sea level.

Al-Kufra basin is divided into categories of heights:

The first Level (Plains):

They represent the first level of the basin (valley plain and the subterranean plains), which are characterized by leveling the surface and lack of gear and are represented in the two categories (less than 350 meters, and the category from 351 to 400 meters, together, they represent an area of 6932.56 km 2, or 6.28% of the total area of the Wadi Kufra basin, this group is represented in the valley stream after Ain Ejdid area, northeast of Al-Kufra Oasis, in addition to the sabkha scattered in the valley such as Sabkha Al-Jouf, Bouma, Bawima and Al-Toubat, and Sabkha Al-Hawari Oasis north Al-Jouf, and some of the hills such as the hills of Bawima and the hills of Bir Al-Awadel northeast of Al-Huwayri, and it is spread by oases such as Al-Jouf, Al-Hawari, Al-Huwairi, Al-Talab and Al-Talib, in addition to agricultural projects such as Al-Kufra production and settlement projects.

The Second Level:

It is represented by a class of heights between 401 - 500 meters, it represents 37.76% of the total area of the region, and is represented in the hills spread throughout the valley, such as the hills of Jabal Al-Zarqa, Al-Talab, and hills of Gart Al-Basor, Gart Al-Khamseen, Al-Fareg West of

Al-Kufra Oasis, and Al-Dito Mountains north of the oasis, Gart Al-Duaria, and hills of Tedian Al-Khadem.

The Third level:

It represents the category in which the height ranges between 501 - 600 meters, It represents 45.77% of the total area of the valley with an estimated 50569.67 km2, such as in the edges of the valley, and some of the hills scattered through the stream of valley, such as the highlands of Mount Tarhouni, Mount Bosnabel, Mount Sharif and the Al-Boaib, and hills of Gart Kode, Mount Rokn, and the eastern edges of the valley and the heights of the Gart Al-Sidr and the Al-Shoala in the west.

The Fourth level:

It represents a category that ranges from 601 to 700 meters and represents 8.47% of the total area of the valley, this category represents the enclosed rim of the low and high hills scattered at the bottom of the low such as Mount Espoo and Mount Bahri in the southeast, and The eastern edges of the Andy Mountains in the southwest.

The Fifth level:

Represented in the heights of Mount Andy in the far southwest of the region and its altitudes range from 701 to 800 meters, representing 1.33% of the basin area.

The Sixth level:

It represents the categories 801-900 meters, and the category more than 900 meters and these groups together represent an estimated area of 430.25 km2, or only 0.39% of the area of the Wadi Kufra basin, represented in the southeastern edges of the basin of the heights of Mount Uwainat, the common triangle between Libya, Egypt, Sudan, and Jabal Arkno.

Lake Bzema (https://www.facebook.com/LIBYANWILDLIFETRUST/posts/1638160196229744/)
Khairallah, H. E. (2017) Geomorphological Data Extraction Using Automated Data Processing of SRTM Satellite Images-Wadi Al-Kufra Case Study. Journal of Research-Faculty of Arts-University of

Sirte-Vol-9. pp. 133-180.
(http://swideg-geography.blogspot.com/2017/07/srtm.html#.XbAjLJLXKUk)

2-Fezzan depression:

The bulk of the Fezzan depression consists of a large-scale basin, which is penetrated by a number of longitudinal depressions (valleys) that generally extend between the southwest and the northeast, this basin is clearly defined from all sides, from the north it is bordered by the southern edge of the Al-Hamada Al-Hamra and the Soda Mountains, from the east by the Harrog Highlands, from the south by the Tamu Heights, from the west by the Tassili Mountains.

The Fezzan Basin is divided into two main parts separated by the Hamada Murzuq Plateau, each penetrating several valleys (depressions) which generally extend from the southwest to the northeast, namely (Wadi Al-Shati, Wadi Al-Haiat(Al-Ajaal), Wadi Al-Hofra, Wadi Al-Hikma, Wadi Tunzuft)

a-Wadi (depression)Al-Shati:

The valley extends in the northeastern part of the Fezzan basin between the southern edges of Al-Hamada Al-Hamra, and the Ramlet Al-Zalaf in the south between longitudes (13 d. -15d. E) and latitude ((27d. 20m. - 27d.39m. N), It is about 200 km long and about 10-20 km wide, and rise from sea level between (250-300 meters), The edge of the Al-Hamada Al-Hamra, which overlooks the lower part of the north, consists of a clear chain of connected cliffs that rise in degrees, in most places, the first class consists of a small (Gor) chain, The Wadi Al-Shati is characterized by a steep slope which gives it the appearance of the deep valley in most of its parts, at the bottom of the depression there is the valley stream, which in some places is about a kilometer wide, where rain may accumulate in seasons apart.

There are a number of natural springs along the Wadi Al-Shati,

especially in (Edri, Brak, Al-Mahroga), the water layer appears in the bottom of the valley in the form of lakes and swamps, there are in the Wadi Al-Shati a number of oases, the most important (Barak, Achkda).

To the south of Wadi Al-Shati, about one kilometer, there is another parallel depression that penetrates Ramlet Al-Zalaf from west to east in a semi-circular form, known as the Wadi Ramlet Al-Zalaf, which wide is between 100 meters to 2 km, and equal to the length of the beach valley.

Wadi Al-Shati area is characterized by a number of natural water eyes, which most of the cities of the valley, such as Ain Kasbah El-Bedour in the town of Al-Ras in a Al-Mahroga area.

Wadi Al-Shati:
(https://www.google.com/maps/place/شعبية+وادي+الشاطئ%E2%80%AD/@27.8457645,13.9141944,523343m/data=!3m2!1e3!4b1!4m5!3m4!1s0x13c82c1d3ed61b27:0x3cf352232bf1de69!8m2!3d27.7351468!4d12.4380581)

b-Wadi (depression)Al-Haiat(Al-Ajaal):

Valley is located to the south of the Ramlet Al-Zalaf, between two longitudes (12 d. 30m. -15d. 30m. E) and two latitudes (26d. 30m.- 27d. 30m/ N), it extends in an arc of its general direction between the south-west and the northeast, with a length of (120 km), and it is bordered to the north by the Ramlet Al-Zalaf, which gradually descends towards the hall, and to the south by Hamada Murzuq, they form a very steep rugged edge, characterized by the presence of a large number of bays and heads of which the most important (Ras Jerma, Ras Tekrkiba, Ras Al-Fagej).

Wadi Al-Ajal can be divided into two equal parts, called the name of the Western Al-Ajal, and the eastern Al-Ajal according to their location, and they meet in the middle of the valley, which is so narrow, so that it appears as a bottle neck, At the bottom of the valley there is a large Gara, also there is valley of Hamada Murzuq descends towards the Western Valley,called Wadi Maknousa.

There are a number of oases in the most important (Al-Jaded oasis

(Sabha), Uubari oasis, Tamanhint oasis, Samno oasis).

https://ar.wikipedia.org/wiki/شعبية_وادي_الشاطئ
Lake Tindakma is the smallest lagoon in Wadi Al-Ajal
https://www.pinterest.com/pin/346847608777360711/
Ein Beer Al-Shab (sulfur water) https://www.pinterest.com/pin/404057397799388602/
https://libyaschannel.com/2016/04/15/عين-قصبة-البدور-ببلدة-الرأس-ما-تزال-تت/
Ramlet Al-Zalaf
https://www.pinterest.com/pin/477170522994242792/
https://ar.wikipedia.org/wiki/شعبية_وادي_الحياة
https://ar.wikipedia.org/wiki/أوباري

c- Wadi (depression)Al-Hofra:

The is the largest valley south of Fezzan that runs between two longitudes (13d. 40m.- 14d.40m. E) and runs along a latitude (26d. N), It is bordered to the north by Sarir Al-Qatousa, and Ramlt Murzuq from the south. The Wadi Al-Hofra includes two valleys:

Wadi Ataba whish starts at longitude (14 d.30 d. E), and bend to the west with a length of (100 km), passing through the area of Sarir Umm Al-Ula, until it ends at the Ramlt Murzuq.

Wadi Barjouj, which runs parallel to the southern edge of Hamada Murzuq, starts at a longitude (11d. 20m. E) heading south-east to northwest until it reaches the Ramlt Murzuq, and then proceeds towards the northeast, ending almost at a longitude (13 d. 10m. E).

There are also other valleys that are part of the water group that descends from the mountains of Imsak Melit towards the Ramlt Murzuq, and there are a number of small lakes, including lakes located near Murzuq and Traghan.

There are oases of Wadi Al-Hofra (Murzuq, Traghan, Umm Al-Hamam).

East depression starts from the protruding branch of the Sarir Al-Qatousa at a longitude (14d. 40m. E), and ends at the longitude of (16d. E), it is confined between the Sarir Al-Qatousa in the north and the plateau of Magdoul in the south, with a width of approximately (40 km), and it enters part of Ramlet Merzak, and depression edges is almost empty

of sand, and there are oases (Zwila, Umm Al-Aranib, Tmsa, Wow Al-Kaber)

Murzuq, Traghan:
(https://www.google.com/maps/place/مرزق%E2%80%AD/@25.8507798,14.498139,133095m/data=!3m1!1e3!4m5!3m4!1s0x13c5980d91a06a59:0x44ca65bef0915879!8m2!3d25.9182262!4d13.9260001)

d- Wadi (depression)Al-Hikma:

The Wadi al-Hikma depression extends from the Ramlt Murzuq to the Al-Sarer and Al-Hamada areas, which border the Fezzan basin from the east, it begins at Mount Magdol in the north, and continues to the south to encompass the western slopes of Jabal Bin Ghneimah, then the bed, which starts north of the Gart Dabbasa, and continues to the south, creating a plain and wide area known as (Wataya Q), where over the plain there are a number of Gor that make up the Tamu Heights, in general, the surface of the earth is large areas of Al-Sarir, sometimes mixed with sand, there are also a number of hills of varying heights and shapes, which abound between Tjrhe and Tamo.

Despite the low depth of depression Al-Hikma, a number of wadis cut their way through it to reach the Ramlt Murzuq, including Wadi Al-Qatrun, which starts from Mount Magdol in the north and walks south to include the western slopes such as Jabal Bin Ghneima and the Sarir Tibesti area, the surface of the land in Al-Qatroun consists of a Al-Sarir punctuated by sand in some areas.

Al-Qatroun:
(https://www.google.com/maps/place/القطرون%E2%80%AD/@24.9331402,15.7540052,536171m/data=!3m1!1e3!4m5!3m4!1s0x13c4cacace0f0161:0xfc18906b4cf4ead0!8m2!3d24.933333!4d14.633333)

e- Wadi Tinzoft:

Located in the center of the Tassili Mountains in the south - west of Libya, the main course of the Tinzoft valley runs from south to north, breaking through a large valley that generally broadens northwards, it is bordered to the east by the towering Acacus-Tadrart Mountains, which steeply descend towards it, from the west and south-west is bordered by

the higher Tassili Azjar mountain range, but to a lesser extent, from the south, the basin is not bordered by very high terrain and from the north and northwest, the basin almost overlaps with neighboring basins because of the simplicity of the terrain and the spread of sand dunes.

There are oases (Ghat, Tonnin, Leviot, Al-Brakt, Serdles) also features natural springs.

Ghat:
(https://www.google.com/maps/place/غات%E2%80%AD/@25.4164665,11.6687846,267316m/data=!3m1!1e3!4m5!3m4!1s0x122d6c9e7e2136ef:0x7c6eaa078b5d9b8c!8m2!3d24.9640371!4d10.1759285)
(http://www.lrsgis.org.ly/libyageotec2/ar/paper/13-6-B5-AR-Rev.pdf
Nasser, S.S. (2016) Comparison between the digital elevation models (SRTM3&ASTER GDEM) in extraction of morphological characteristics of the Tinzoft Valley basin (southwestern Libya) International Geospatial Technologies Conference & Exhibition-Libya Geotech2.Libya Tripoli. (6-8) December 2016.
(http://www.lrsgis.org.ly/libyageotec2/ar/paper/13-6-B5-AR-Rev.pdf)
Ghat (Eisen) https://libyaismylove.blogspot.com/2017/04/blog-post_80.html

Desert Mountains:

1-Tamo Mountains:

Located to the west of the Tebesti mountains, and be the natural border of southwest Libya, extending towards the west until it connects to the northern chain of the Tassili Mountains in the southwest corner of Libya, the elevation rate of these two mountain ranges is about (1000 meters) above the sea level, the Tamu mountain range is the natural southern boundary of the Fezzan basin, Tamu Mountains consists of a series of high plateaus remnants of a plateau of sandy rocks carved by stripping factors, Ghat Oasis is located in the center of Tassili Heights and is surrounded by highlands from all sides, one of the most famous mountains north of Gatt (Adner mountain), which was influenced by the factors of nudity and gave him a special appearance, which consists mostly of limestone Dolomite.

2- Al-Uwainat Mountains:

It is located in the southeastern part of Libya where the borders of Libya, Egypt and Sudan meet, Al-Uwainat mountains consist of several

mountains which are from south to north as follows:

Al-Uwainat Mountains

(https://www.google.com/maps/place/جبل+العوينات%E2%80%AD/@21.8999866,25.1078401,69477m/data=!3m1!1e3!4m5!3m4!1s0x1403771ba7c8dca7:0x6e416c8e84e63fc9!8m2!3d21.9!4d24.9666667)

Mount Uweinat (Jebel Uweinat):

It is located at the intersection of a longitude (25d. E) with a latitude (22d. N), it is a distinctive granite block surrounding (160 km) and covers an area of (800 km^2)

and a height (1934 meters) above sea level, (600 meters) above the surface of the surrounding desert, mount Uweinat differs from one side to the other and resembles the slopes of the south-east and south-wall, and consists of granite rocks and the average height of between (200- 600 meters) above the neighboring land, It extends in front of the desert areas of the type of Al-Sarir, and its north-western slopes consist of Nubian sandstone in general, which is characterized by red or black color, they also appear in the northern and eastern slopes, but in some places they are covered with black tops.

Mount Uweinat is surrounded by a series of valleys, the most important of which is Wadi Al-Ghazala, which runs along a series of sand dunes at a distance of (30 km) southwest of Jabal Uweinat, there are also a number of wells and natural springs, the most famous (Ain Dua) (or Ain Ghazala), which stems from the granite slopes, and (Ain Zawia) which is located (15 km) north of Ain Ghazala.

Mount Arkenu (Jebel Arkenu)

It is similar to Mount Uweinat in the general characteristics of the terrain. It is about 1444 meters high above sea level. it is located entirely within the Libyan border (about 40 km) in the north-west of Mount Uweinat.

Plateau Xu:

Located south of Mount Uwainat, a plateau consisting mostly of sand

rocks and a height of about (1726 meters) above sea level, and some dry valleys.

Jebel Uweinat (https://ar.wikipedia.org/wiki/جبل_العوينات), (http://fezzan24.blogspot.com/2015/07/blog-post_26.html)
Jebel Arkenu:(https://ar.wikipedia.org/wiki/جبل_أركنو)
(https://www.google.com/maps/place/جبل+أركنو/%E2%80%AD/@22.3122592,24.8762719,68537m/data=!3m1!1e3!4m5!3m4!1s0x140479c78c543fcb:0xea87dfdb65616ae7!8m2!3d22.208889!4d24.7375)
(https://www.facebook.com/PhotosOfLibyaSwrMnLybya/photos/a.647859208614745/758450564222275/?type=3&theater), (https://www.pinterest.com/pin/777856166863788986/?nic=1)
Apollo Soyuz Test Project, Earth view, Egypt ,Libya, Sudan (Jebel Uweinat, Jebel Arkenu)
(https://archive.org/details/ast-02-130)

2-Tebesti Mountains:

The Tibesti Mountains are a high mountain mass in the Sahara, located in the central eastern part of the desert, between (24d. -19d. N) latitudes and longitudes (30d. 15m. -20d. E), it extends over a large area of (110.000 km^2) in the Chadian and Libyan territories.

It has a huge triangle shape with three arms, an arm to the north-east enters Libya at Mount Dahoun at an altitude of (2286 meters) above sea level and a Negii mountain at a height of (1650 meters) above sea level,

this mountain triangle is bordered by the gravel desert flats of the Sarer Tibesti from the north, The Tibesti Mountains rise above the desert surface violently, because of the steep slopes and sudden rise, It is rich in many diverse and wonderful manifestations.

Tebesti Mountains in Libya:
(https://ar.wikipedia.org/wiki/جغرافيا_ليبيا)
(https://ar.wikipedia.org/wiki/جبال_تيبستي)
(https://www.google.com/maps/place/ليبيا/%E2%80%AD/@23.3845704,20.2018688,530524m/data=!3m1!1e3!4m5!3m4!1s0x13a892d98ece010d:0xfa076041c7f9c22a!8m2!3d26.3351!4d17.228331)

4- Al-Harooj Mountains (Jebal Al-Harooj)

Al-Harooj is the largest concentration of volcanic mountains in North Africa with an area of 45,000 square kilometers, it is located in the center of Libya north of the Wadi Al-Hayat area, and has 150 volcanoes, The most famous of the volcanoes of the Gart Khalafallah, volcano Umm Al-Dhi, volcano Taibat Al-Dekr, volcano Fayed, volcanoes Al-Sabaa area, volcano Umm Al-Ghanriq, volcano Al-Safra, volcano Al-Galaa and Bu-Naim volcano.

Al-Harooj Mountains :

Al-Harooj Mountains lie between two longitudes (16d.-19d. E) and two latitudes (24d.-29d. N), it is a mountain group occupies a large area estimated at about (33000 km^2), and is divided into two different in appearance and composition are the black Harooj and white Harooj.

Al-Harooj Mountains:
(https://www.google.com/maps/place/الهروج%E2%80%AD/@27.1395728,18.0376608,264967m/data=!3m1!1e3!4m5!3m4!1s0x13eb182b60a2317b:0xd8bb98f6327d67e8!8m2!3d27.140278!4d17.473889)

a- Al-Harooj Al-Asod (Black Harrog):

The Black Harooj Mountains consist of a black volcanic eruption, it is a series of heights are not connected, some of the peaks rise to approximately (1200 meters) above the sea, it extends from the proximity of Zewaila to the Zella Depuration, and descends towards the east gradually to disappear under the desert Sarir, and to the west until disappear completely at the Sarir Al-Qtusa.

b- Al-Harooj Al-Abiad (white Harooj):

It consists of limestone rocks and covers a larger area than the previous one, which extends to the south until it reaches near the area of Waw Al-Kaber, it consists of separate chains, but it is less elevated than the black Harooj, no more than (610 meters above sea level), which is about 10 meters above the surface of the surrounding desert.

Al-Harooj Mountains are characterized by the presence of rocky valleys, and rocky basins of some depth between (4-5 meters), it is filled with rain water in years apart and the water remains for several months, and it is known locally as Al-Ghdran, and the deep ones are called Qalta, or Al-Hefof.

The Al-Harooj Mountains (Jebal Al-Harooj), which appear as a black spot in central Libya.
(https://ar.wikipedia.org/wiki/الهروج)
Al-Harooj Al-Asod (Black Harrog) (http://fezzan24.blogspot.com/2016/04/blog-post_30.html)
Al-Harooj Al-Abiad (white Harooj), (https://www.pinterest.com/pin/481040803927045198/),
(https://www.facebook.com/1532459753714586-جبال-الهروج)
Qalta, or Al-Hefof (http://fezzan24.blogspot.com/2016/04/blog-post_30.html)

6-Jebel Al-Suda (Mount Suda):

Located to the north of the black Harrooj, and resembles in terms of the overall appearance, Al-Suda Mountain consists of a continuum of mountain heights that extend approximately 200 km in the east-west direction, at an average altitude of about 500 meters above sea level, some of its peaks rise to more than 800 meters, such as Tvermi, which is 850 meters.

Al-Suda Mountains are characterized by their flat surface in the middle section and gradually descending towards the lower east and south, while its edge to the north appears in the form of long chains separated by deep basins with sharp sides, these chains extend to the north until they reach Al-Jafra depression where its southern edge is about 250 meters high.

The general appearance of these mountains is the black rock masses, which appear as great clusters of volcanic rocks stacked on the mountain slopes and bellies of the valleys, and there are several peaks that are believed to be remnants of ancient volcanic cones.

There are several valleys, including the valley of Mons, which extends south and then veers to the northeast to separate the Black Mountains from the Harrooj Mountains.

Jebel Al-Suda:

(https://www.google.com/maps/place/جبل+السوداء%E2%80%AD/@28.6666174,16.0597391,259180m/data=!3m1!1e3!4m5!3m4!1s0x13bee677f900a667:0xd58330ed34ef0b5a!8m2!3d28.6666667!4d15.5)

7- Jebel Al- Hasawnea-Mount Hasawnea:

Jebel Al- Hasawnea is one of the most prominent natural landmarks in the south of Libya, which is a mountain range extending over an area of (800 km^2) north of Wadi Al-Shati area, It is divided into several valleys

and overlapping heights, and valleys form natural corridors of water during the occurrence of floods in the mountain, There are also corridors and lanes between these intertwined and often narrow valleys, known as Al-Shatib.

In the mountain there is what is known as Al-Athamed, which is a hole in the form of a well, which was previously prepared by the people to store the largest amount of water after the displacement of torrent water, There are also other water stores called Galta, which is a natural basins that can accommodate (30 .000 m^3) of water.

Jebel Al- Hasawnea:
(https://www.google.com/maps/place/جبل+الحساونة%E2%80%AD/@30.0022336,14.1305348,64127m/data=!3m1!1e3!4m5!3m4!1s0x13ba5c8979ae7ef7:0xb5030949efcece6!8m2!3d30.0022196!4d13.9904022
)
(https://www.facebook.com/355196831262430-صور-من-جبل-الحساونة)

8- Waw Al-Namos (Waw Al-Kabir):

Located south of Harrog, inert volcanic mountain, a height of 575 meters, it has a large number of multi-colored lakes scattered on its foot, with plants such as reeds and bamboo, and trees near it like palms and Al-Atal, and the region provides habitat and nature reserves for a number of birds and animals.

Waw Al-Namos:
(https://www.google.com/maps/place/واو+الناموس%E2%80%AD/@24.9166838,17.8016328,16718m/data=!3m1!1e3!4m5!3m4!1s0x13e8b8d255ea58a7:0x327aed2253cd1315!8m2!3d24.916667!4d17.766667)
(https://ar.wikipedia.org/wiki/واو_الناموس)
Waw Al-Namos (Waw Al-Kabir) (https://www.marefa.org/واو_الناموس)

Al-Goor.

Is a small hills emerge above the surface of the desert and take different forms and called each of them (Gara) and the plural (Goor), sometimes found in groups and sometimes alone, some of which take the form of a cylindrical or incomplete cone or table, Al-Goor are ancient plateaus removed by nudity, there are many of them around the depressions and valleys in the desert, such as around the empty valley and around the Murada and Jagboub depressions, There is also a group of

them on the road between Ajdabiya and Ojla and is famous for the name (Goor Quitin) and is one of the important signs in the desert trails.

Al-Sarir:

The name of Al-Sarir is called large areas of land that are covered with layers of sand with round or pointed glamid gravel, which vary in size from one place to another, where the pebble diameter averages between (1-3 cm), these manifestations formed on a flat surface (old valleys bottoms) as a result of weathering factors that worked to break up local rocks at the site of their collection, One of the most famous is Al-Sarir that runs from the Sahabi area in the north to the Tazirbo oasis in the south, and the proximity of the Egyptian border in the east to the longitude of approximately (19d. E), with a distance of approximately (400 km) length and breadth, there are also smaller areas such as Sarir Qatousa, Sarir Ben Afen, and Sarir Tibesti.

There is also in the desert what is known as race, it is a desert surface covered with a layer of pure gravel, which it is due to water sediment from which sand has been removed by aerobic weathering.

Al-Sarir:
(https://www.google.com/maps/search/السرير،+ليبيا%E2%80%AD/@26.3128364,22.6681259,256418m/data=!3m1!1e3)

Al-Hamada:

Is a vast plateau of limestone rock, that the aerobic weathering agents removed the thin layer of soil that coats the rocks, the rocks appear naked, making the surface of the earth bumpy, rock formations affected by aerobic weathering factors such as polymorphic gravel are unique phenomena that cover the surface of Al-Hamada.

The most famous red Hamada, which emerges towards the east gradually over the desert, where it extends from the Qiblah region south of Mount Nafusa to the northern edges of the basin of Fezzan in the south, it also extends from the Tunisian border in the west to the Jafra depression

in the east, occupying an area of approximately (8100 km^2), and its southern section is known as Hamada Tengert.

There is also a small Hamada in the basin of Murzuq extending from the south-west of Amsak Mellat, and moving north-east to the entrance of Wadi Al-Ajal (Hayat) known as Hamada Murzuq.

Al-Hamada Al-Hamra Plateau
(https://www.google.com/maps/place/Əl-Xamra/@30.0087733,13.1990472,260477m/data=!3m1!1e3!4m5!3m4!1s0x13b86a19c926cce7:0xb83da95b42de10c9!8m2!3d28.2993745!4d13.9967827)
(http://parga.ahlamontada.com/t1648-topic)

Sand Sea , Al-Ramla , Al-Adhan and Al-Erq:

Sand covers vast areas of the desert in Libya, which are mostly quartz produced by the impact of aerobic weathering, and the sand grains are covered with a layer of iron oxide which gives it yellow and red colors.

a- The Great Sand Sea:

Which stretches from the south of the Jaghbub oasis to the southeastern Libyan border (north of the Arkno Mountains) in the south, from the depression of Gallo and Ujilah to the east of the bed north of Al-Kufra depression.

The sea of sand consists mainly of vast areas of sand dunes, separated by basins-like grooves in some places, where each edge rises to approximately (100 m), all heading south, with a slight slope from northwest to southeast, Hilal dunes are also widely spread in the region, where the prevailing winds contribute, The sand dunes covering large areas of the Libyan desert are one of the landmarks of the region, they are not scattered piles of sediments, but are regular groups in a clear and precise arrangement and varied forms, in addition to the beauty of the ripple surfaces and the diversity of shapes and colors.

b- Al-Ramla , Al-Adhan

It is a large area covered with fine sand and some sand hills, such as

sand Zulaf in Sabha area and Rebiana sand in Al-Kufra, Al-Ramla area near the oasis of Ghadames, and Adhan Awbari and Adhan Murzuk.

c- Al-Erq:

It is a vast low land and covered with a deep layer of clear sand and sand hills, such as Erq El-Idrissi.

(https://unsmil.unmissions.org/ar/خريطة-ليبيا)
(https://www.google.com/maps/place/Great+Sand+Sea/@28.8133416,23.7380002,257259m/data=!3m1!1e3!4m5!3m4!1s0x13888c3e49c12c79:0xb8eb811bedf43cd!8m2!3d29.4902807!4d21.7360472)

(https://www.google.com/maps/place/مرزق%E2%80%AD/@25.4187447,14.8636438,531899m/data=!3m1!1e3!4m5!3m4!1s0x13c5980d91a06a59:0x44ca65bef0915879!8m2!3d25.9182262!4d13.9260001

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(https://www.worldatlas.com/webimage/countrys/africa/libya/lyland.htm)

Maps links

https://www.google.com/maps/search/سهل+الجفاره
https://www.google.com/maps/place/زليتن
https://www.google.com/maps/place/سرت
https://www.google.com/maps/search/سهل+بنغازي
https://www.google.com/maps/place/الجبل+الغربي
https://www.google.com/maps/place/الجبل+الأخضر
https://www.google.com/maps/place/شعبية+البطنان
https://www.google.com/maps/search/منطقة+البلط
https://www.google.com/maps/place/الشويرف
https://www.google.com/maps/place/الجغبوب
https://www.google.com/maps/place/أوجلة
https://www.google.com/maps/place/جالو
https://www.google.com/maps/place/شعبية+الجفرة
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