

Terms from "Introduction to the Gulf of Mexico"

Where possible, I have used existing definitions from the web. Usually there were several to choose from, so I chose the one (or several) I found fit best in the context of the presentation. All sources are provided directly after the definition in blue (or purple) and with the web address if appropriate. Sometimes there was nothing that provided exactly what I wanted, so I added a few words at the end (my own words are italicized). Please forgive the disparate format. I kept it similar where possible, however, sometimes maintaining the format would have been distracting or delete useful info. I found some of the links to be particularly useful, informative or interesting – do me a favor and them out! JAK 06/2008

Abiotic

A non living component of an ecosystem eg sunlight

www.esd.rgs.org/glossarypopup.html

Abysal Plain

Function: noun; Date: 1954; Any of the great flat sediment-covered areas of ocean floor

<http://curriculum.calstatela.edu/courses/builders/lessons/less/les5/abyss.html>

http://www.scienceandthesea.org/index.php?option=com_content&task=view&id=108&Itemid=10

<http://curriculum.calstatela.edu/courses/builders/lessons/less/les5/abyss.html>

Anticyclone

The clockwise flow of air around a high-pressure mass.

www2.wwnorton.com/college/geo/earth2/glossary/a.htm

A large area of high atmospheric pressure, characterised by outward-spiralling winds - a "high".

www.bbc.co.uk/weather/weatherwise/glossary/

Also known as 'ridge' or 'high pressure', a clockwise rotating area of air that tends to denote good weather. It is the opposite of cyclone.

www.hurricanetrack.com/hgloss.html

Barite Chimney

Abstract: Barite chimneys associated with hydrocarbon-rich fluid venting were recently documented and sampled on the Gulf of Mexico slope offshore Louisiana at 510–520 m water depth. The chimneys are dominated by barite associated with minor amounts of pyrite, iron oxide, Mg calcite, and detrital silicates. The barite displays distinct string-like and dendritic-like morphologies assembled from rosette-shaped crystals that are typically 20–40 μm in diameter. The chimneys exhibit macroscopic growth layers 1–5 mm thick, which alternate between dark gray and light yellow colors. The dark layers are dominated by string barites associated with disseminated pyrite, while the light layers are dominated by dendritic barites with little or no pyrite. The barites are anomalously enriched in Sr (average 15.5 mol% and maximum 30 mol%) and Ca (average 2.8 mol% and maximum 4.6 mol%), and exhibit rhythmic, paired, microscopic light and dark bands. The exact origin of the barites and their mode of deposition has not yet been elucidated, but they are likely to be related to the hydrocarbon-rich fluids venting on the seabed.

B. Fu, P. Aharon, G.R. Byerly, H.H. Roberts, 1994. Barite Chimneys on the Gulf of Mexico slope: Initial report on their petrography and geochemistry. *GeoMarine Letters* 14:2-3,

1432-1157.

<http://www.springerlink.com/content/v557n0773615/?p=595fd2a61f9a4b35a176d8bc625b9469&pi=0>

Brine Pools

A crater-like depression on the seafloor filled with very concentrated brines coming from the Luann Salt Layer (a deposit of salt deposited during times when the Western Inland Sea experienced net evaporation). The brine contains a high concentration of methane gas that supports a surrounding dense mussel bed.

http://oceanexplorer.noaa.gov/explorations/02mexico/background/brinepool/media/brine_pool.html

Carbonate Platform

A sedimentary body which possesses topographic relief, and is composed of [deposits of calcium carbonate from coral, sponges and mussels that have formed in place, frequently by building reef] (Wilson, 1975). ...

revised from [en.wikipedia.org/wiki/Carbonate platform](http://en.wikipedia.org/wiki/Carbonate_platform)

Continental Shelf

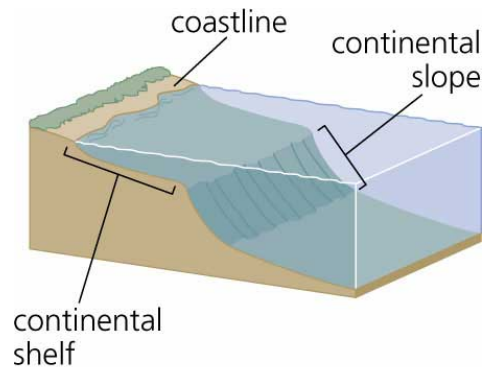
A submerged border of a continent that slopes gradually and extends to a point of steeper descent to the ocean bottom.

<http://www.thefreedictionary.com/continental+shelf>

Continental Slope

The sloping region between a continental shelf and a continental rise. A continental slope is typically about 20 km (12.4 mi) wide, consists of muds and silts, and is often crosscut by submarine canyons

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Cyclone

A rotating mass of air with minimum pressure in its center. In the Northern Hemisphere, such winds move counterclockwise, and in the Southern Hemisphere, clockwise.

school.discovery.com/curriculumcenter/weather/glossary.html

In the Northern Hemisphere, the closed counter-clockwise movement of air referred to as a circulation - around a low pressure centre; typically known as a low. Often this term is used in error to describe a tornado.

www.gozoweather.com/glossary.shtml

Eddy

A small volume of air (or any fluid) that behaves differently from the larger flow in which it exists.

www.wrcc.dri.edu/ams/glossary.html

Escarpment

A comparatively short, abrupt face, often a cliff, terminating an elevated surface of low relief; typically developed by differential degradation where hard and soft inclined strata are interbedded

<http://www.websters-online-dictionary.org/es/escarpment.html>

Extrude

The act or process of pushing or thrusting out.

<http://www.answers.com/topic/extrusion?cat=technology>

Flow Velocity

The volume of fluid passing through a unit area perpendicular to the direction of flow in a unit of time.

amsglossary.allenpress.com/glossary/browse

Gyre

A circular or spiral system of movement, especially a giant circular oceanic surface current.

biology.usgs.gov/s+t/SNT/noframe/zy198.htm

A circular motion of water with a diameter of 1000s of kilometers (larger than an eddy).

www.coexploration.org/bbsr/classroombats/html/body_glossary.html

Infauna

Organisms living between the grains of sand or mud.

www.estuaries.gov/glossary.html

Those aquatic organisms that exist buried in the sediment as opposed to those that live at the sediment surface or in the water column.

www.vsv.cape.com/~harharb/shellfishterms.htm

Inland Sea

a shallow sea that covers central areas of continents, when high stands of sea level bring the ocean. Modern examples might also include the recently (less than 10,000 years ago) reflooded Persian Gulf and the South China Sea. On a geologic time scale, inland seas have been greater in extent and more common. The inland sea extending from the Gulf of Mexico into present-day Canada during the Cretaceous is known as the Western Interior Seaway.

Revised from: <http://encyclopedia.thefreedictionary.com/Inland+Sea>

Multibeam Bathymetry

The relatively recent successor to echo sounding. About 30 years ago, the Navy developed a new technology that uses many beams of sound at the same time to cover a large fan-shaped area of the ocean floor rather than just the small patch of seafloor that echo sounders cover. These multibeam systems can have more than 100 [measurement devices], arranged in precise geometrical patterns, sending out a swath of sound that covers a distance on either side of the ship that is equal to about two times the water depth. All of the signals that are sent out reach the seafloor and return at slightly different times. These signals are received and converted to water depths by computers, and then automatically plotted as bathymetric maps. The data acquired by multibeam systems are much more complex than single-beam surveys; this means higher resolution is possible, but also that more involved signal processing is necessary in order to interpret the data.

<http://www.dosits.org/gallery/tech/osf/esm1.htm>

<http://www.divediscover.whoi.edu/tools/sonar-multibeam.html>

Pixel

One of the small units that make up an image on a computer or television screen. It is derived from the words picture and element to make pixel.

cjs.cadmus.com/da/glossary.jsp

Precipitate

v.transitive (prĭ-sĭpĭtĭt). Chemistry: To cause (a solid substance) to be separated from a solution.

n. (-tĭt, -tĭt). Chemistry: A solid or solid phase separated from a solution.

Pycnocline

In the ocean, a region where the water density increases rapidly with depth.

eobglossary.gsfc.nasa.gov/Library/glossary.php3

Salt Domes

A mushroom-shaped or plug-shaped formation made of salt.

www.seed.slb.com/en/scictr/watch/seismology/glossary.htm

A mass of salt that has risen up under overlying formations, causing them to bulge upwards and form an anticline.

www.energyinst.org.uk/education/glossary/

They form because salt is less dense (~1.2g/cm³) than overlying rock formations (~2.6 g/cm³).

Sea Surface Temperature

The temperature of the ocean surface. The term sea surface temperature is generally meant to be representative of the upper few meters of the ocean as opposed to the skin temperature, which is the temperature of the upper few centimeters.

<http://mkwc.ifa.hawaii.edu/glossary/index.cgi?letter=s>

Surface temperature data collected using IR satellite imagery, buoy and ship data.

ggweather.com/glossary.htm

Sediment Composition

The composition of a material refers to the proportion and combination of elements or components to form a substance.

[en.wikipedia.org/wiki/Composition \(natural science\)](http://en.wikipedia.org/wiki/Composition_(natural_science))

Sediment Texture

Texture in geology refers to the physical appearance or character of a rock, such as grain size, shape, and arrangement, at both the megascopic or microscopic surface feature level. *In unconsolidated sediments, texture refers to size, shape and sorting of particles.*

[en.wikipedia.org/wiki/Texture \(geology\)](http://en.wikipedia.org/wiki/Texture_(geology))

The relative proportion of clay, silt and sand sized particles in a soil.

farahsouth.cgu.edu/dictionary/

Seep

Noun. a place where water, oil, etc. oozes from the ground to form a pool

<http://www.yourdictionary.com/seep>

Semi-Enclosed Sea

A gulf, bay, basin, or sea surrounded by two or more states which has a narrow outlet to the ocean or whose waters consist entirely or primarily of the territorial seas or exclusive economic zones of no fewer than two states.

Bernaerts' Guide To The 1982 United Nations Convention On The Law Of The Sea, articles 122-123. <http://www.bernaerts-guide.de/english/islands-enclosed-seas.pdf>

Stratification

The division of water in lakes and ponds [and the ocean] into layers with different temperatures and oxygen content. Oxygen content declines with depth, while the uppermost layer is warmest in summer and coolest in winter.

www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookglossS.html