

## Sediments in Alvarado, Gulf of Mexico

This article is a study of the sediments present in a lagoon called Alvarado, located in Veracruz and which flows into the Gulf of Mexico. They analyzed the spatial distribution of superficial sediments, the most present being sand, clay and silt. Nevertheless, although there's a considerable percentage of clay present, in general the most dominant component in the sands of lagoons that flow into the Gulf of Mexico, is sand.

They took samples for five months and 9 different spots in that lagoon and stored them at 4°C, then they did a granulometric assay on the samples, to separate every sediment by its size.

As results they got the following:

The average temperature of the lagoon is 28.6°C with a salinity of approximately 8.64 ups (9.1 ups in dry seasons and 2.2 ups when it rains).

Figure 2 shows a graphic of the salt distribution in the lagoon, the squares represent when it was rainy and the diamonds represent when it was a dry season.

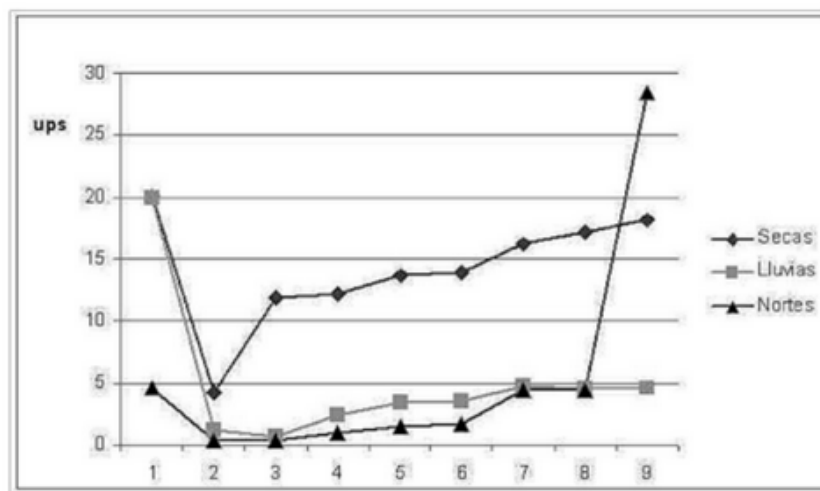
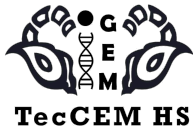


Figure 2. Salt distribution in Alvarado lagoon. [1]

The different samples show that the sediment distribution in that lagoon is very heterogeneous, giving that the percentage of silt was 43.34%, of clay it was 33.29% and sands are 23.38% present., as we can see in figure 3. (the black column is for sand, the dark gray is for silt and the light gray is for clay)



In dry seasons (April and December), the dominant sediment was the silt.

When it's rainy season, the silt percentage decays up to 10% and the clay presence percentage rises 10%.

Some of the strange things that they found in this specific lagoon, is that the sand wasn't very dominant in comparison to the other sediments, and that is strange because it's a lagoon directly connected to the Gulf and it would be expected that a lot of sand should be present. In general, along the Gulf of Mexico shore, sand is the dominant component in lakes and rivers that flow into this gulf.

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Reference:

[1] Calva, L. and Ma. Del Rocío Torres. (May 25<sup>th</sup>, 2011) Textura de sedimentos carbon orgánico el Sistema costero lagunar Ivarado, Veracruz.