Bathymetry Expert Team Research Project

Animal Species: Olive Ridley Turtle

Animal Name: Lala

Year: 2012

Parameter: Bathymetry

Life and Marine Science: Tracking Live Marine Animals

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Species Information

Animal Name: Olive Ridley Turtle
Scientific Name: Lepidochelys olivacea

Description

- Weight: 75 - 100 lbs (34 - 45kg)
- Length: 2 - 2.5 ft. (.6 m)
- Second smallest sea turtle after the Kemp's Ridley.
- Named for pale green carapace (shell).
- Primarily pelagic, spend much of their lives in the open ocean.
- Occur globally - found in tropical regions of the Pacific, Indian, and Southern Atlantic Oceans.
- Omnivores - diet consists of crab, lobster, urchin, jellies, algae, and fish. Juveniles feed on planktonic organisms.
- Nest worldwide in about 80 countries.
  - Nest in mass "Arribadas" - thousands nest over a course of a few days to a few weeks. Arribadas occur in North and South America, Australia, parts of Africa, and India.
  - In the rest of the world - solitary nesters.
  - Are known to use both strategies in a single nesting season.
- Congregate in the open ocean in large "flotillas" - floating on ocean currents.

Environmental Issues

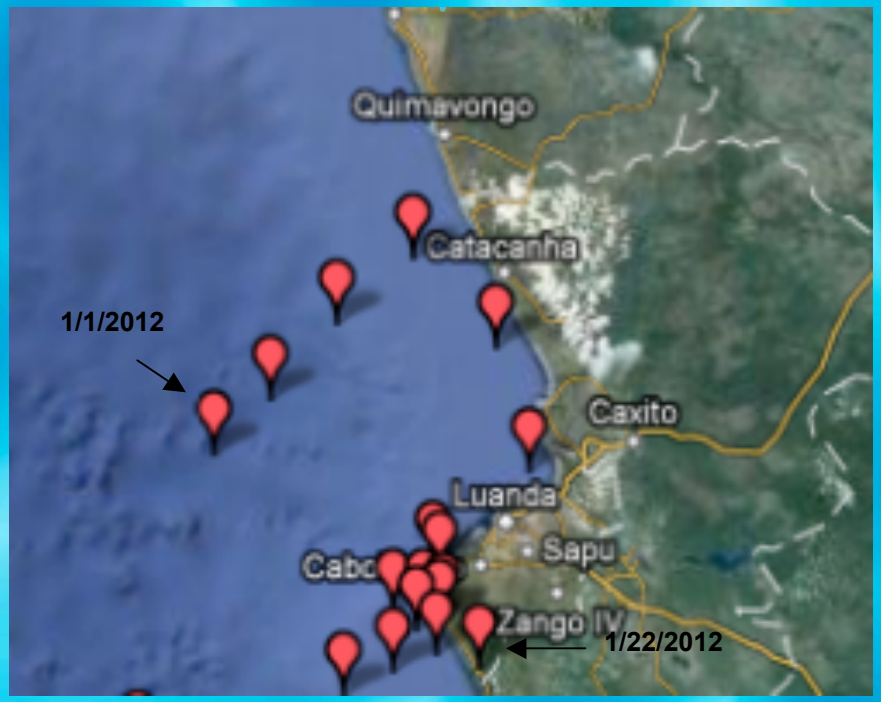
- Most abundant of sea turtles, but numbers have decreased by about 50% since the 1960's.
- Olive Ridley is classified as Vulnerable (VU) on the IUCN Red List (International Union for Conservation of Nature and Natural Resources).
- Threats:
  - Pollution - plastics bags, hydrocarbons, oil discharge, discharge of untreated sewage, agricultural and industrial wastes directly into coastal waters.
  - By-catch Fatalities - commercial fishing trawler nets.
  - Habitat Loss: nesting beach habitats destroyed by coastal development and subsequent erosion, artificial illumination, deforestation, and harbor construction activities.
  - Human Activity - exploitation: over-harvested for both eggs and meat. Massive market for illegal turtle eggs.
  - Climate Change - rising sea levels erode nesting beaches, temperature variations directly affect the number of female/male hatchlings per season and genetic mutations are directly attributed to temperature variation.
  - Feral animal predation of hatchling.
- Conservation
  - Turtle Excluder Devices (TEDs)
  - International trade and traffic of olive ridley turtles and products is banned (CITES).
  - Protection of nesting beaches
  - Conservation projects - artificially rear turtle eggs and release back to the ocean

Olive Ridley Turtle - Lala

January 1, 2012 - January 22, 2012
South Atlantic Ocean - Coast of Angola, Africa

- Observation:
  - On January 1, 2012, Lala is located 63 km off the coast of Angola, above the continental slope, depth -600 meters, traveling towards the shore. On January 4th, she is located 28km from the shoreline, turns south and proceeds to hug the coastline for 202 km for a total of 9 days, at an average 15 km from shore, traveling along the Angola Shelf - average depth is -150 meters with an overall shelf width of 45 - 50 km. Between Jan. 13th and Jan 22nd, Lala circle's the water's just off the coast of Luanda, the National Capital of Angola. On Jan 22nd, data appears to indicate Lala came ashore.
- Justification:
  - During the first four days of tracking Lala, her movement indicated that she was heading toward the shoreline. Over the following nine days she traveled along the coastline for 202 km until she reached the coast of Luanda. Lala circles this small area for an additional nine days. This could suggest two possibilities - either she was feeding or she was mating or both. Research indicates that Olive Ridley Turtles mate just a few kilometers from the shoreline and their diet includes not only jellies, algae, and fish, but crab, lobster, and urchins, which are are more abundant in shallow waters (-150 meters deep or less) above the continental shelf.

  - The tracking data shows Lala came ashore on the 22nd and possibly on the 23rd of January. Perhaps she was nesting. Olive Ridleys can nest multiple times in one season. They can be solitary nesters or be part of an "Arribada" where thousands of turtles come ashore at the same time and nest.



Olive Ridley Turtle -Lala

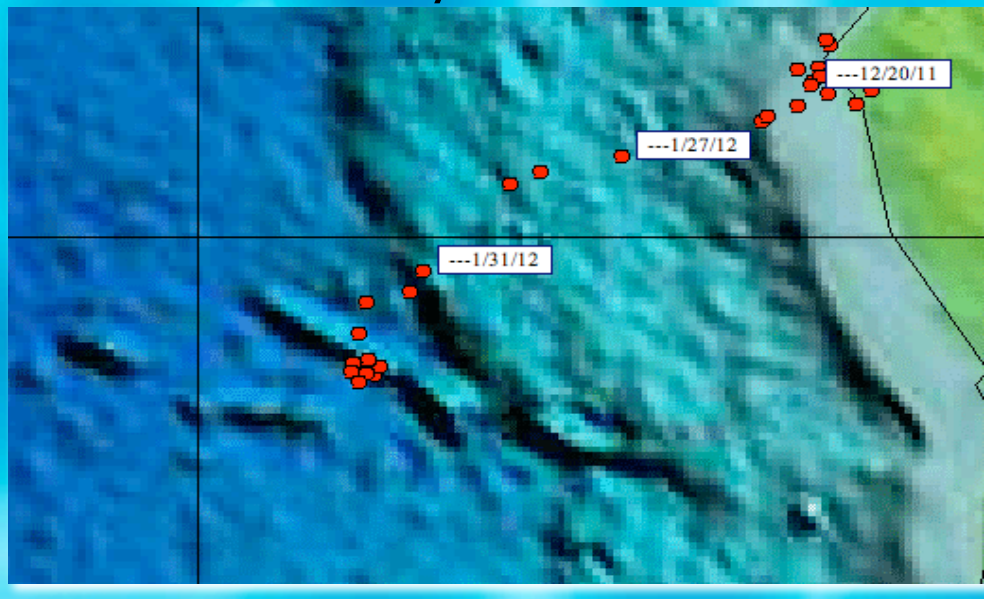
January 25, 2012 – February 11, 2012

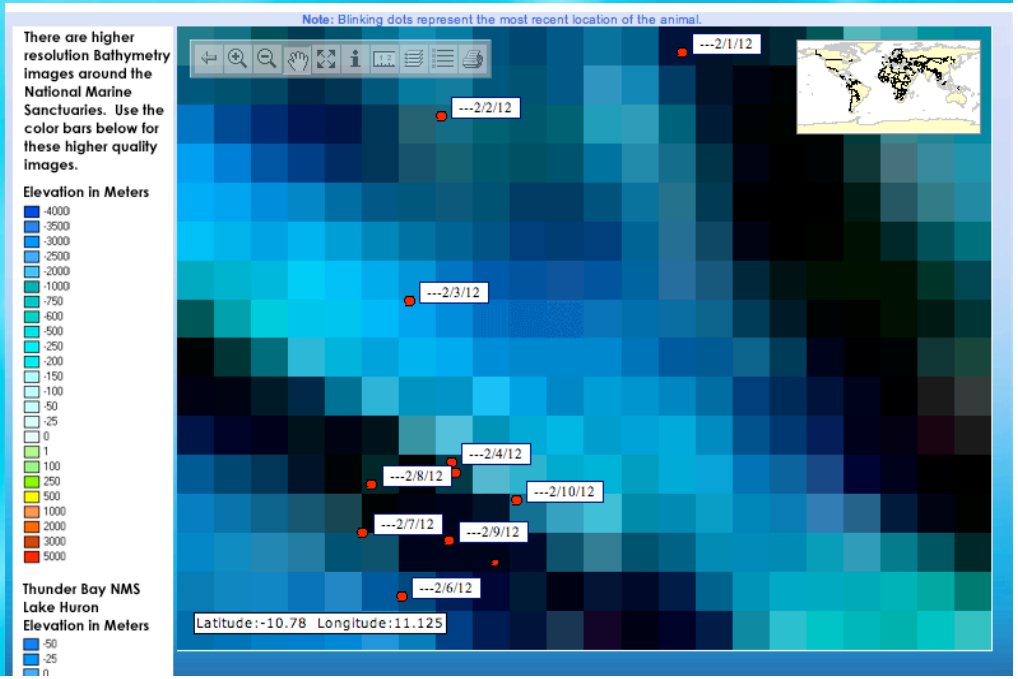
Observation

- Jan. 25th Lala is 50 km out to sea, just above the edge of the Angola Shelf. Six days later on the 31st of January Lala has traveled 197 km west to the edge of the continental slope.
- During Feb. 1st – Feb 11th, Lala travels in a tight circle in the general area of Lat 10.726, Long 10.834. This location has depths between -600 and -4000 meters.

Justification

- On Jan. 25th Lala is about 50 km out to sea traveling in a westerly direction heading out to deeper ocean. She travels for 6 days until on Feb 1st she again contains her travels to an area just at the end of the continental slope. Ocean depth range at this location is between – 600 meters to -4000 meters. She meanders here for 11 days. This would seem to indicate that she is floating on the ocean currents, perhaps sunning herself. The Olive Ridleys tend to gather in great "flotillas" and float in deep ocean waters. Sea surface data indicates that the average water temperature in this area is about 26 degrees celcius. This area is known as one of the planets most powerfull up-welling zones so food sources are abundant in this area.





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