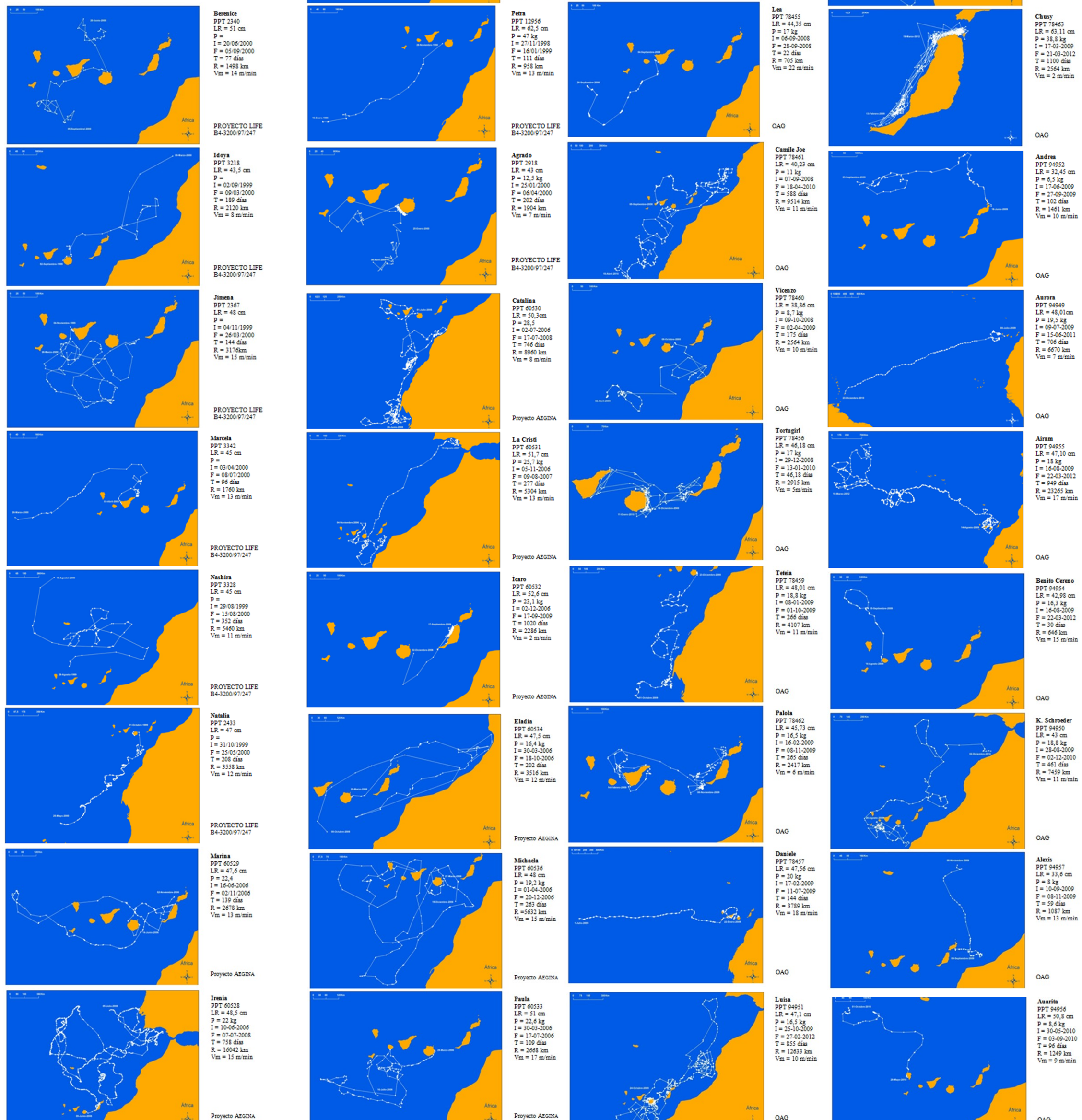
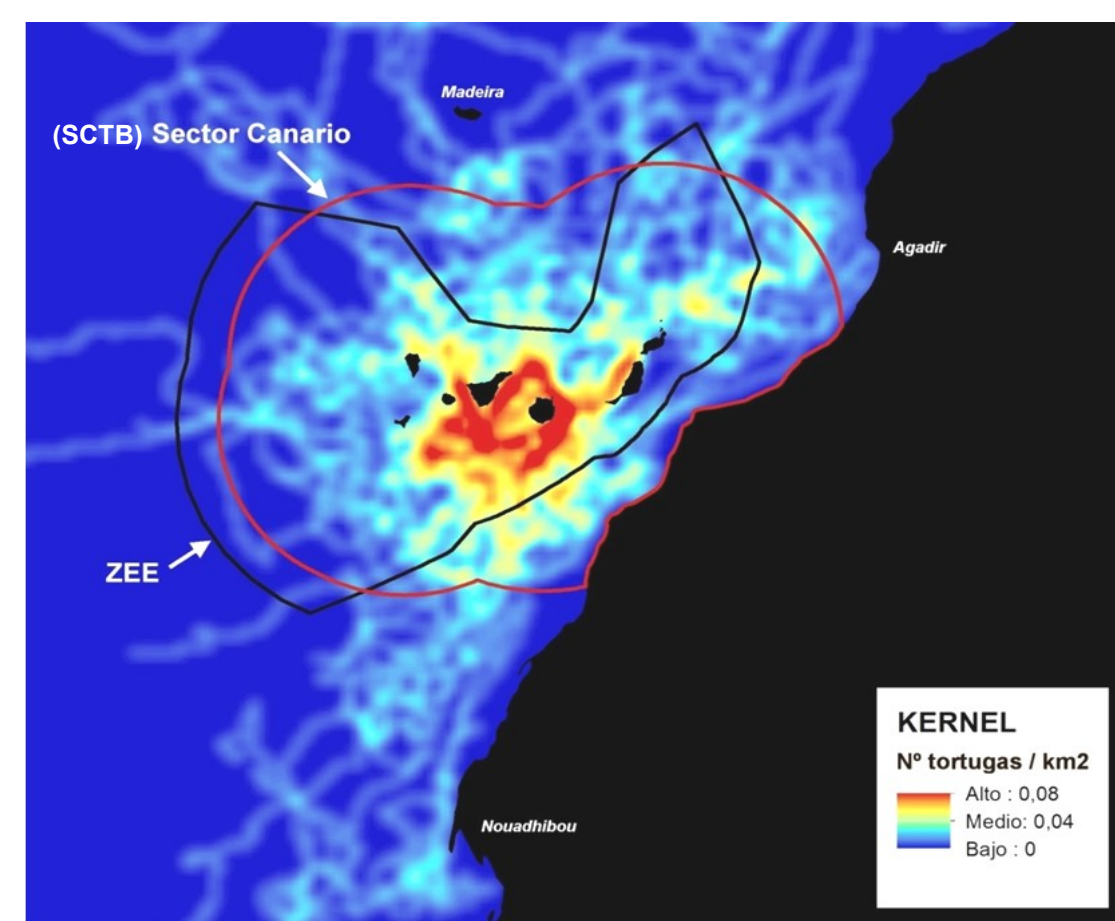


**ARGOS - Satellite telemetry**  
**39 turtles *Caretta caretta***  
**35.000 total signals**  
**Spatial analyst**  
**KERNEL**

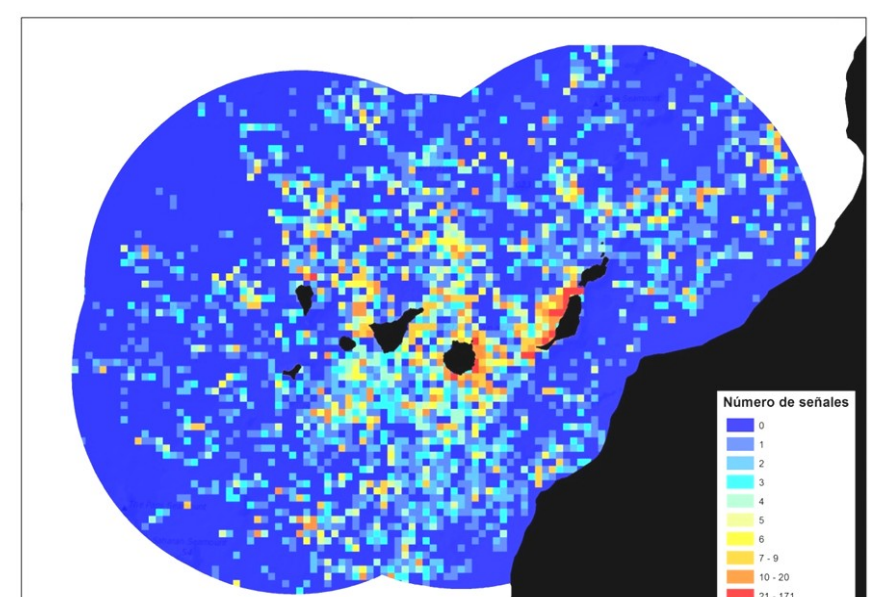
## LET TURTLES DRAW THE MAP



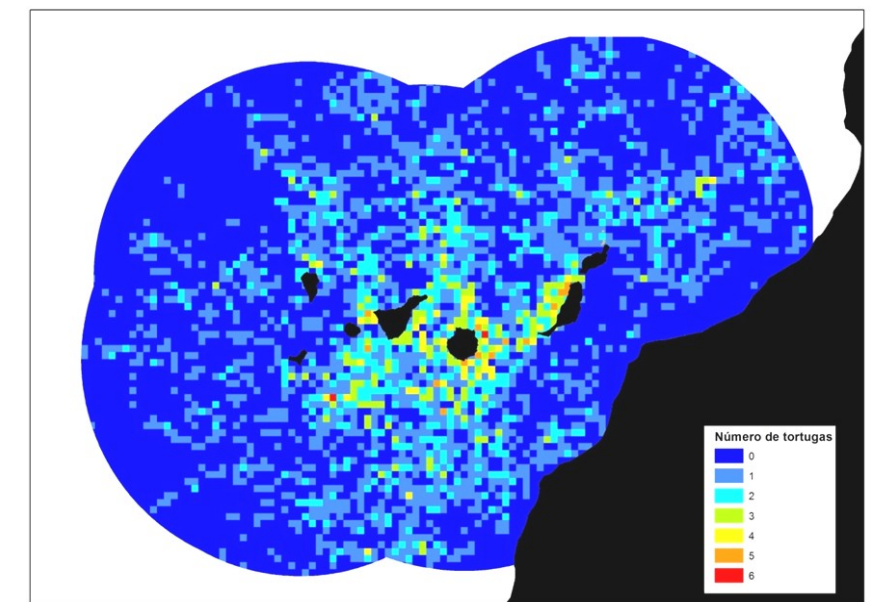
Flexviewer with turtle "Aurora" crossing the Atlantic sea.  
<http://www.redmic.es/flexviewers/tortuga/>



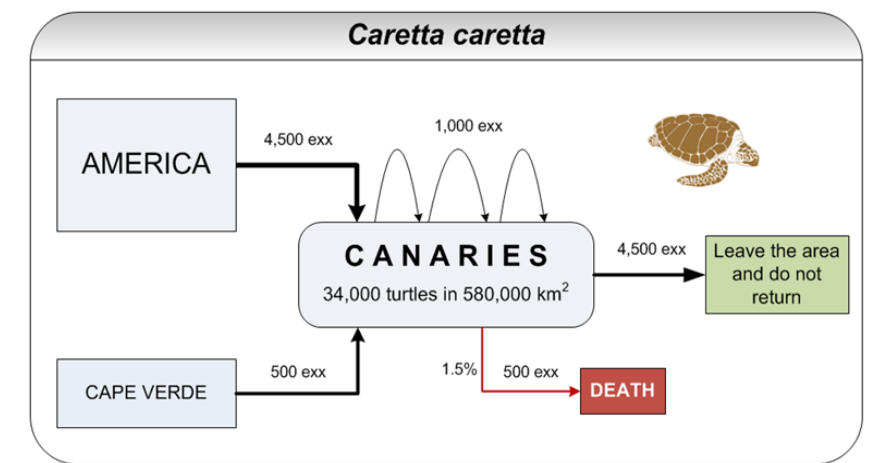
Kernel density for line features



Density map radio transmitter signals as daily records (grid 10x10 km)



Map of different individuals per grid (10x10 km)



Conceptual scheme of mixed contingent of Loggerheads in Canary Islands

## RESULTS

- Loggerheads are present in the archipelago the entire year, but there are no breeding colonies. To study an open resident segment of the Atlantic population, satellite tracking data from previous projects were compiled, and 19 additional animals marked, increasing the dataset to 39 turtles, with 14,608 high quality signals. Each year observation transects were performed on at least three islands for estimating the relative density of turtles. To analyze the segment size/age structure as well as the negative impacting factors on the species, data from all recovery centers in the Canaries were compiled and studied (2,836 specimens, 1998-2012). These datasets are far from being optimal, but constitute the best available information at present.
- There is a clear concentration of loggerhead turtles around the Canary Islands. Using the distribution of radiotracking signals (>50%), a seazone of 583,176 km<sup>2</sup> stretching from the islands coast to 300 km out was established as the "Canarian sector of loggerheads" (SCTB). The contingent of turtles present in that sector is of mixed origin, with the large majority of animals arriving from the breeding colonies of America and a variable contribution from the Cape Verde (>7-12%).
- Despite its universally known carnivorous diet, there is an extended myth in the Canary Islands that loggerheads visit the seagrass meadows of *Cymodocea nodosa* ("sebadales" in Spanish) as foraging grounds and spend a great part of their time there. In light of our findings only 0.96% of their time is spent in this habitat.
- *Caretta caretta* has been used for valuating or selecting several SACs of the Natura 2000 marine network in the Canary Islands, possibly induced by its erroneous association with seagrass meadows. The OAG found that the presence of loggerheads in Canarian SCIs account for 2% of their time. Except for three specific sites placed over the platforms of Fuerteventura and Gran Canaria, the rest of Natura 2000 marine protected areas are not much different in functional value to loggerheads from other portions of the ocean around the Canary Islands.
- The strip of 8 km around the islands harbors the highest density of turtles (0.9/km<sup>2</sup>), dropping down drastically as distance increases. However, only 10% of the turtles seem to move over depths less than 200 m (4% less than 50 m); the great majority keeps in the pelagic realm. Exceptions originate in rich productive platforms, like those of the western coast of Fuerteventura or SW and SE of Gran Canaria, which may attract juvenile turtles that stay for long periods, even years, in such neritic environments.
- Relative density values showed strong yearly fluctuations as expected in a temporary mixed resident segment of distant populations, but the data series is too short to estimate tendencies with confidence. This provides, at least, a broad idea of the magnitudes at stake (see scheme attached): a contingent of ca. 34,000 loggerheads dwell in the Canary Island Sector, with incomes of 4,500 specimens from North America and 500 from the Cape Verde; temporary exits of 1000, and definitive departures of 4,500. The estimate for the EEZ around the Canaries is of 26.500 loggerhead turtles.

Transects turtles of the projects: LIFE, AEGINA y OAG. Information assigned: Turtles names; PTT = Argos (Platform transmitter terminal); LR = straight carapace length in centimeters; P = weight in kilograms; L = release date; F = end of transmission; T = time since deployment in days; R = route in kilometers; Vm = average speed of displacement

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