

Figure 2. 2002 visual sightings and ARP deployments with 10, 20 and 30km detection radius. Season 1: Sightings outside of ARP analysis time (October - March), Season 2: Sightings during ARP analysis time (April - September).

2002 and was quickly covered by ice within a few weeks. This explains the low number of call detections and visual sightings around this site even though the acoustic data was analysed for the entire year, rather than only April to September. Interpretation of these strong differences between visual and acoustic detections are the result of social and seasonally modulated behaviour in this species and are important to investigate further in the context of improving the potential use of passive acoustic monitoring of cetaceans.

References

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Thiele, D., E.T. Chester, S.E. Moore, A.S. Friedlaender, A. Širović, J.A. Hildebrand. 2004. Two years in Marguerite Bay: seasonal variability in whale encounters. *Deep-Sea Research II*: in review.

The SPACC Executive Committee Met in Concepción, Chile 17-18 February 2004

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The SPACC Executive Committee took the opportunity to meet after the SPACC workshop and meeting in Concepción. Our first objective was to review SPACC activities since the last Executive meeting, in Dartington, UK in May 2002:

- Theme 1 (Retrospective Analyses) has had a proposal to the IAI, IRD, CICESE and IMARPE accepted for coring off Peru and the organization of a series of workshops on long time series.
- Theme 2 (Comparative Population Dynamics) has included work by the SPACC/IOC Study Group on the use of environmental indices in the management of pelagic fish populations; reports of two workshops (available on the GLOBEC website); and several publications.
- Theme 3 (Reproductive Habitat Dynamics) focused on the Concepción workshop and meeting (reported in this Newsletter).
- Theme 4 (Economic Implications of Climate Change) is new and will conduct a meeting in September 2004 in Portsmouth, UK, announced on the GLOBEC website.

SPACC activities have expanded recently in Europe and Asia in addition to the Americas and Africa.

Our second objective was to plan for the future. With GLOBEC to end in 2009, the question was asked, "What will SPACC's legacy be?" Synthesis and integration were agreed to be the goal during the coming, final five years of SPACC. We decided that this goal would be best attained by maintaining the four SPACC themes and adding two new activities:

- The publication of a book in 2007 consisting of chapters on the major research areas of SPACC. These would include historical and retrospective studies, status and dynamics of present stocks, the assessment and ecosystem role of small, pelagic fish, economics of their fisheries, and modeling. These chapters would be first presented at a workshop in 2006.
- An international symposium in 2008 at which achievements of SPACC would be presented for all themes and regions. Proceedings of the symposium would be published in a major, scientific journal.

These two activities would represent significant and lasting contributions of SPACC to fisheries science and form the basis for future activities.

SPACC Executive 2003

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GLOBAL OCEAN ECOSYSTEM DYNAMICS

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CLIOTOP planning meeting, Sète, France, 4-7 November, 2003

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Amongst the top predator species in the vast pelagic ecosystem, tunas and tuna-like fishes, billfishes and sharks have the greatest commercial importance, either in terms of catch (e.g. skipjack tuna is the 4th most productive and fished marine species in the World, after Peruvian anchoveta, Alaska pollock and Atlantic herring) or economic value, e.g. the price of

comprise the highest trophic levels, there is an increasing concern about the potential top-down cascading effects that fishing may have on the overall ecosystem. At the same time, environmental variability determines phytoplankton abundance and distribution and then leads to important bottom-up effects on forage species and then on top predator abundance and

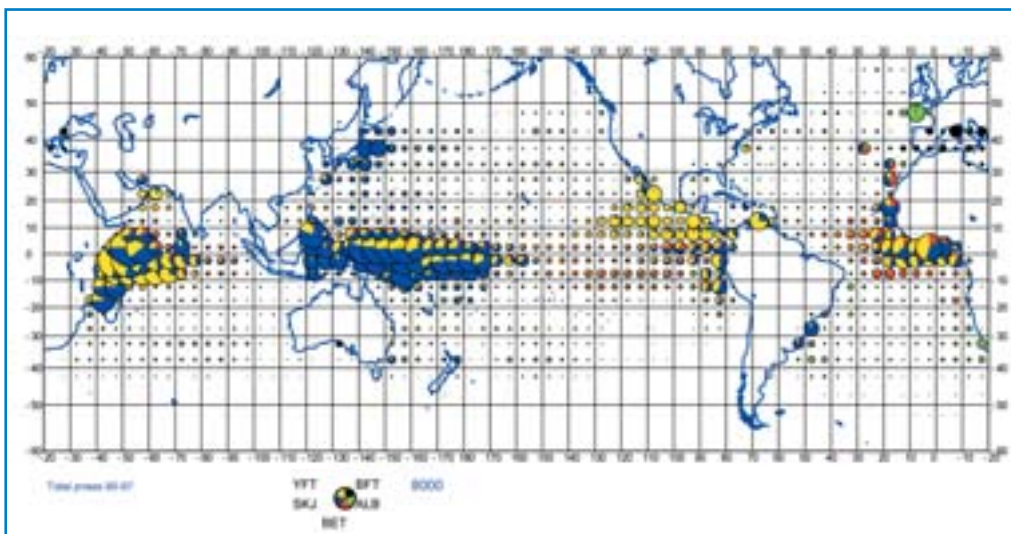


Figure 1. Worldwide distribution of tuna catch cumulated over 1990-1997 (tonnes). Yellow: yellowfin tuna; blue: skipjack tuna; red: bigeye tuna; green: albacore tuna; black: bluefin tuna. Data source: FAO. Figure: courtesy of A. Fonteneau. Picture by P. Lehodey.

bluefin tuna frequently reaches more than US\$100 per kg on the sashimi market. Most pelagic top predators are migratory species that are fished worldwide, from the Equator to temperate regions by multiple national fleets using many different fishing gears (Fig. 1). During recent decades, tuna fisheries have expanded their range worldwide, with a continuous increase of fishing effort and fishing capacity leading to a dramatic increase in catches.

Currently, open ocean ecosystems support catches of approximately 6 to 7 million tonnes per year of large pelagics (mostly tunas, billfishes and sharks). Because they mostly

distribution. There is also increasing evidence for the impact of climate variability on tuna stocks and pelagic ecosystems at seasonal, interannual, or decadal time scales, and long-term global changes will modulate this variability and may have unexpected effects on ecosystems dynamics. Simultaneously studying those bottom-up and top-down effects in the context of climate variability requires extensive collaboration and the development of new approaches and appropriate models of the processes occurring within open ocean pelagic ecosystems. In this context, the GLOBEC CLIOTOP initiative has been developed as an international framework of collaboration and exchange with a multi-disciplinary comparative approach for considering these issues.

The first CLIOTOP meeting was held in Sète, France, 4-7 November, 2003, with the support of IFREMER and the French

