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Lineage – Scientific methodology

Annual distribution of Campbell albatross

1. Literature sources were searched for distribution information.
 - a. Scientific papers, published texts, unpublished reports and university theses available to the expert who prepared the distributional layers.
 - b. Aquatic Sciences and Fisheries Abstracts for 1960-2007.
 - c. *OSNZ News* and *Southern Bird* for 1977–2007.
2. Other sources.
 - a. NZSAS (New Zealand Seabirds at Sea) database maintained by Natural Environment, Museum of New Zealand Te Papa Tongarewa, Wellington.
 - b. A database of daily seabird sightings off Kaikoura, January 1999-October 2007 (www.oceanwings.co.nz).
3. Summary
 - a. An expert scientist integrated information from the literature and expert opinion, and produced hand-drawn distributional zones on a template map. These maps were then digitised and imported into a GIS software package as layers. The areas of the zones were calculated, and the layers were linked to attribute and metadata files.
 - b. The primary sources of distribution data for Campbell albatross were the NZSAS database, papers published in refereed journals, texts and unpublished reports.
 - c. A distribution “hotspot” for New Zealand seabirds is defined as “an area of increased abundance of a species, as considered by the expert compiling the species account”. Typical examples of hotspots include areas around breeding locations during the breeding season, regardless of the absolute size of the breeding colony, and areas that are consistently and repeatedly favoured as feeding locations.
 - d. The Campbell albatross is endemic to New Zealand, breeding only at the Campbell Islands (Campbell Island and Jeanette Marie) (Taylor 2000). The species has only recently been separated

taxonomically from the very similar black-browed albatross (Robertson & Nunn 1998), and so many earlier at-sea observations do not distinguish between the two species.

- e. During the breeding season (September-May inclusive) breeding birds forage mostly over the Campbell Plateau and along shelf areas off the east and west coast of then South Island (Waugh 1998, Waugh *et al.* 1999a, www.oceanwings.co.nz), with the Campbell Plateau being a hotspot of distribution. In addition, satellite tracking of seven birds feeding chicks in February showed that some undertook long trips over pelagic waters to the south-east of Campbell Island (Waugh *et al.* 1999a). This is one of the most numerous species around the Snares Shelf during October (Petyt 1995). From about mid-April to October there is a marked decline in the frequency that this species is observed off Kaikoura (www.oceanwings.co.nz). This coincides with an increase in the occurrence of the species off Victoria during May to July and New South Wales from May to September (Waugh *et al.* 1999b). Recoveries of banded adults also indicate a more northerly and dispersed distribution from April to August (Waugh *et al.* 1999b). Recoveries of banded juveniles show that birds fledging from Campbell Island move north past eastern New Zealand in April, through the subtropics in winter, and then southward through the western Pacific Ocean and Tasman Sea during spring and summer (Waugh *et al.* 1999b).

4. References

The following sources provided useful information on the distribution of this species. This is not an exhaustive list of all references to the species.

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