

Existence of hot spots of large sized baleen whale concentration in pelagic zone of the western North Pacific; its biological and oceanographical features



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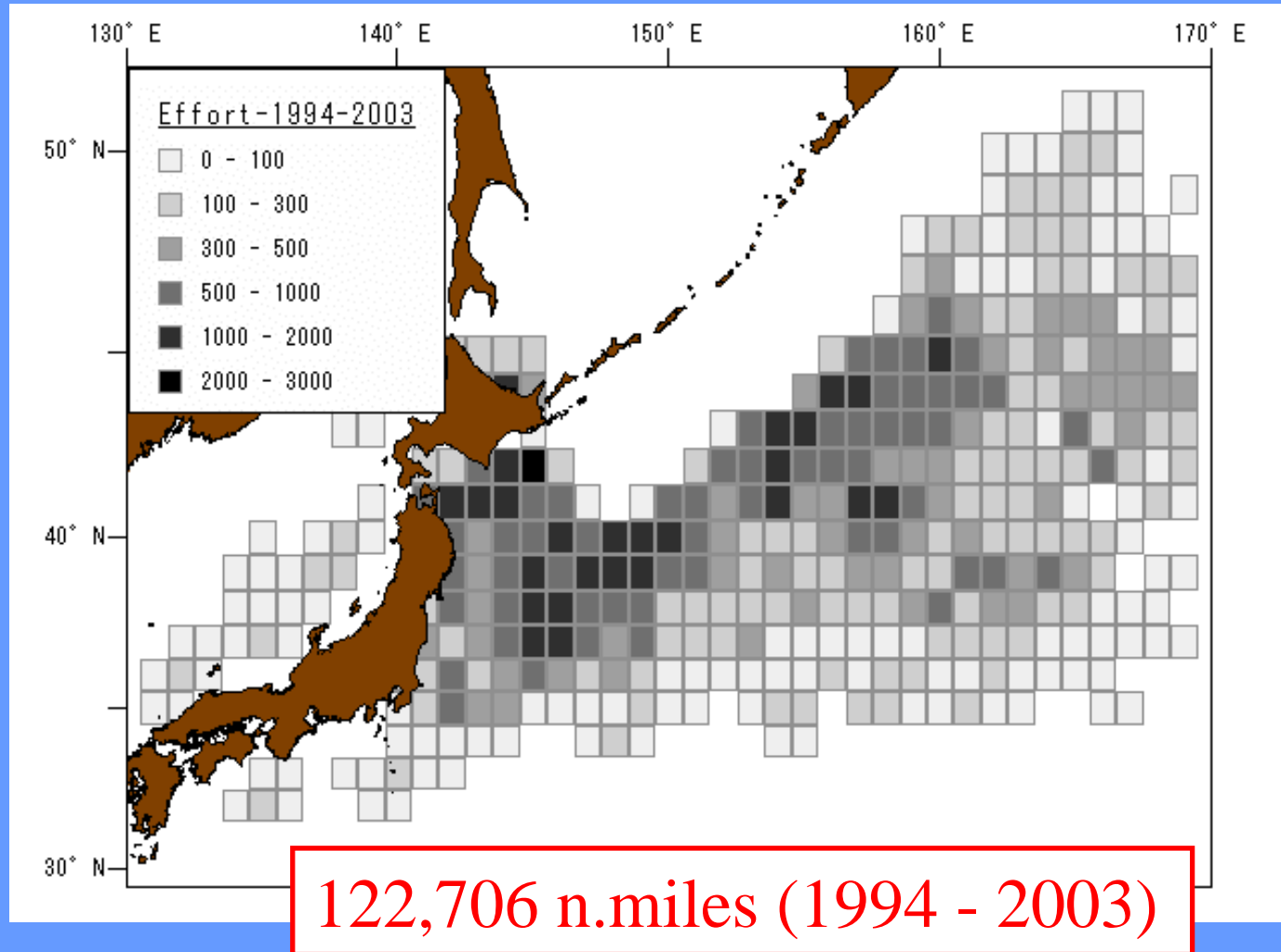
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OBJECTIVES



- Examination of the pattern of distributions of large baleen whales on the basis of the sighting data obtained during the JARPN surveys conducted between 1994 and 2003 with some topics from 2004 survey.
- To examine whether the pattern of distribution is corrected with some oceanographical features in the western North Pacific.

Searching Distance (n. miles by one degree square) in the period 1994 - 2003



Blue whale and fin whale

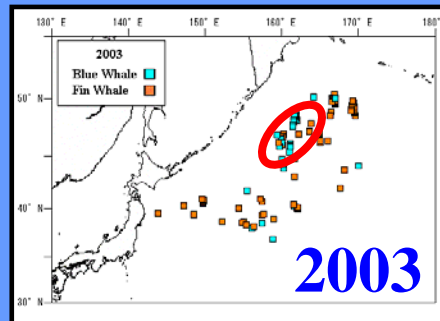
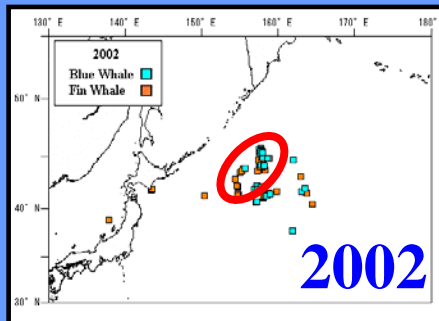
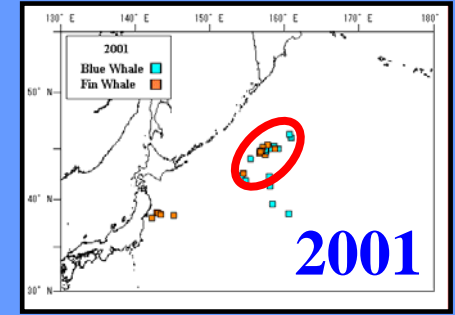
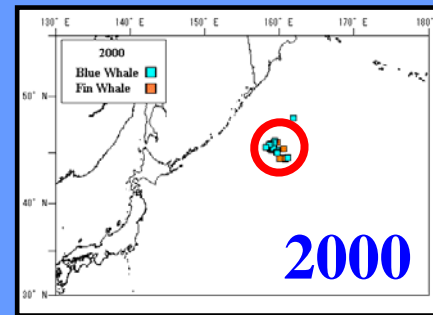
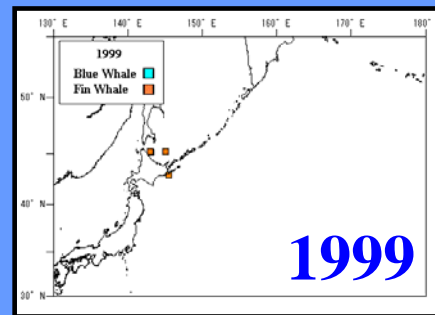
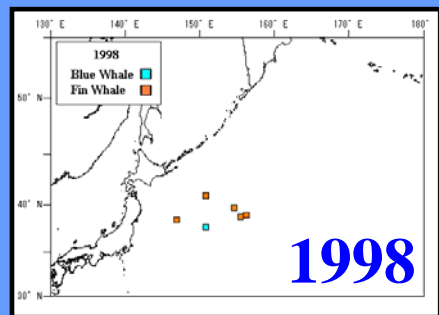
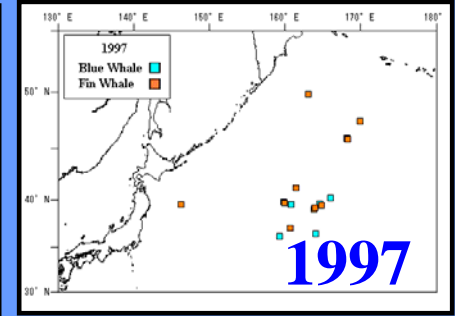
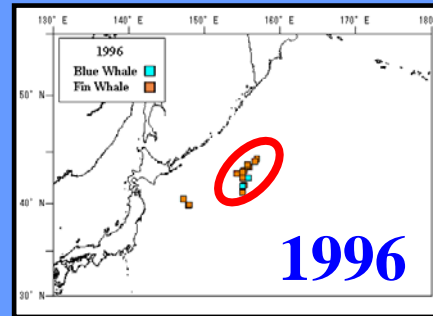
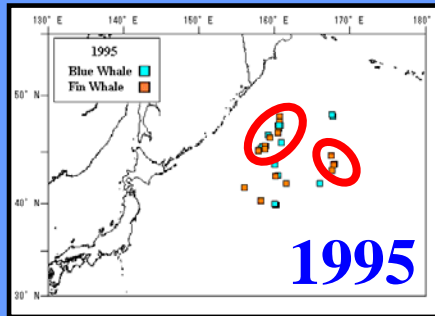
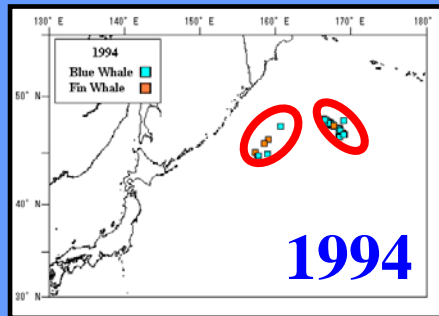


Bluewhale
(BL: 22 m)



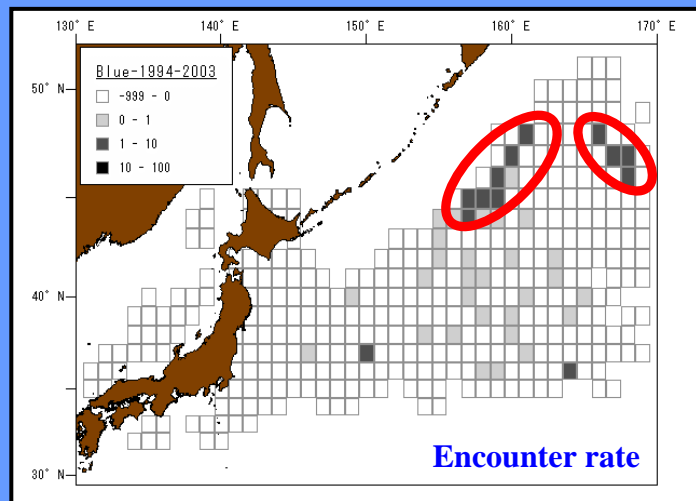
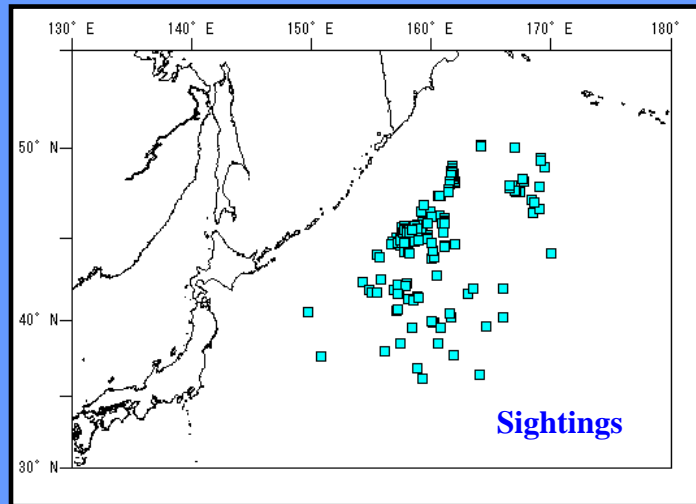
Fin whale
(BL: 19 m)

Sightings of blue and fin whales

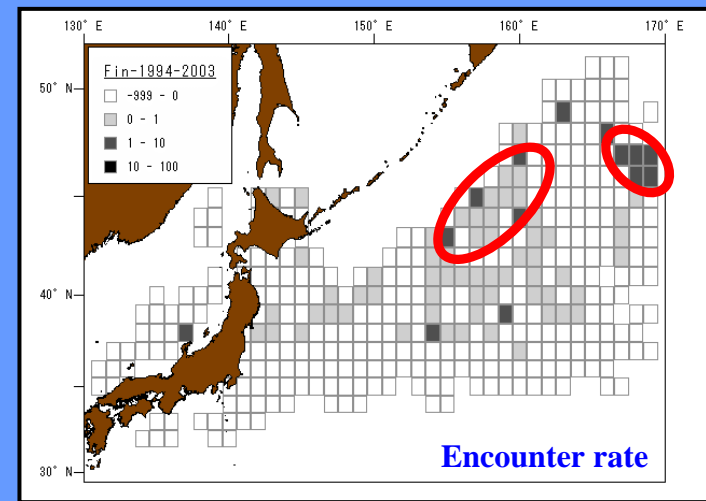
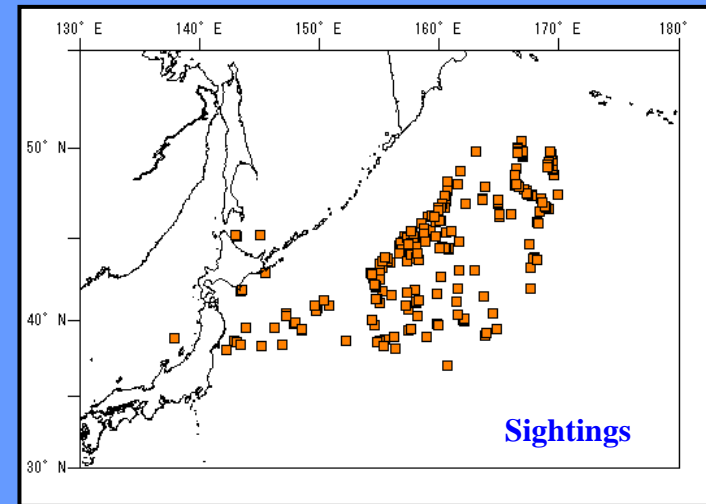


Summary of sightings and encounter rate (sighting made by 100 n.miles researched) of blue and fin whales in the period 1994-2003

Blue whale



Fin whale



Humpback whale and Right whale



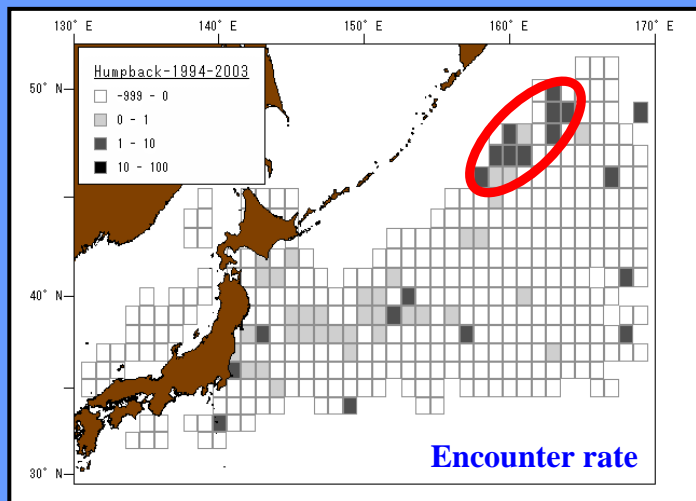
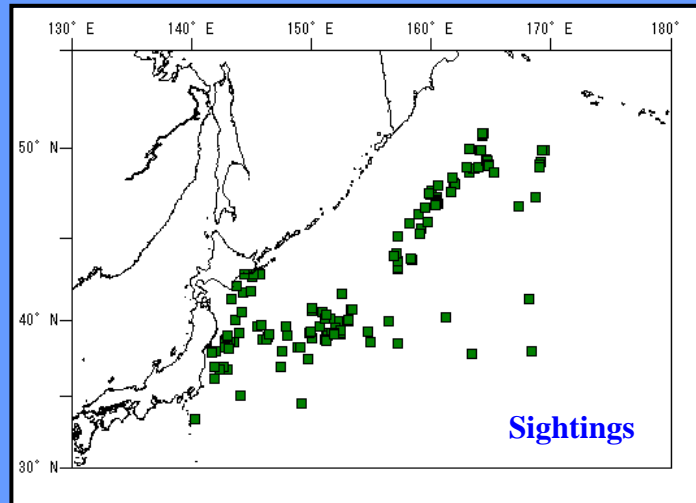
Humpback whale (BL: 14 m)



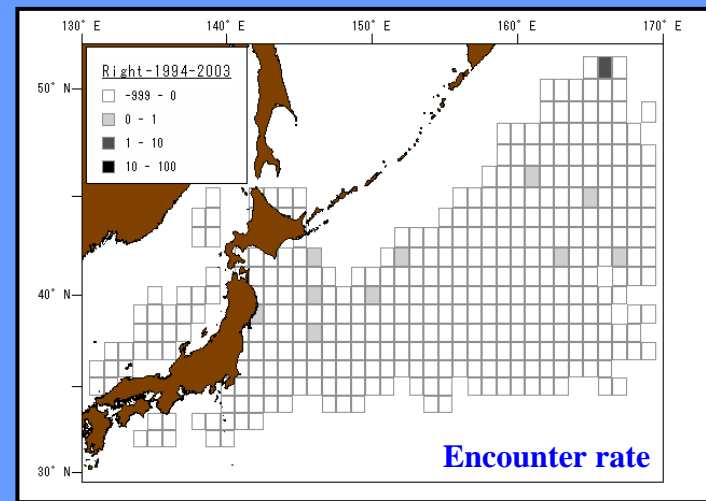
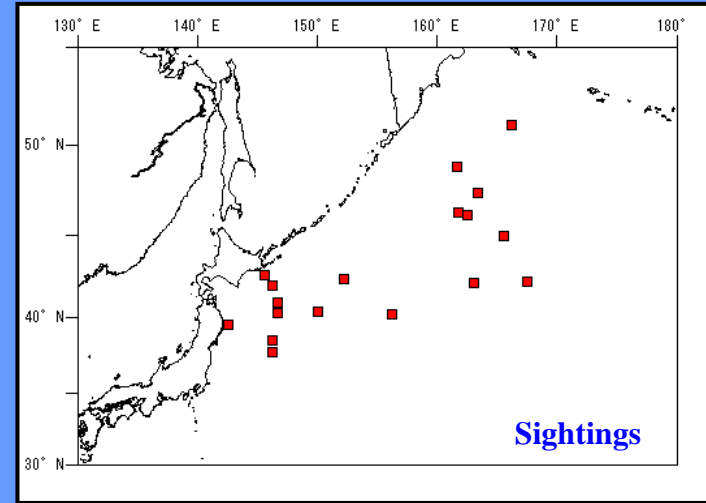
Right whale (BL: 15 m)

Summary of sightings and encounter rate (sighting made by 100 n.miles researched) of **humpback** and **right** whales in the period 1994-2003

Humpback whale

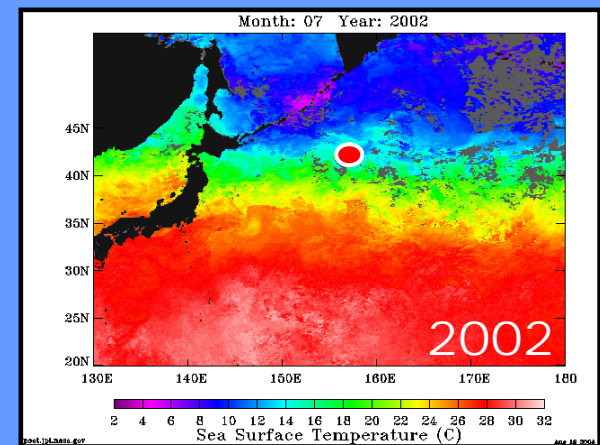
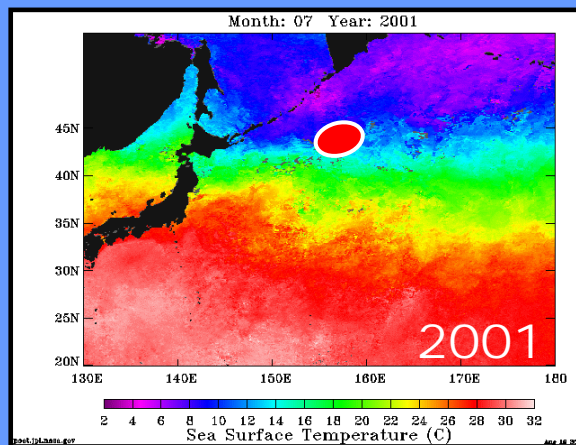
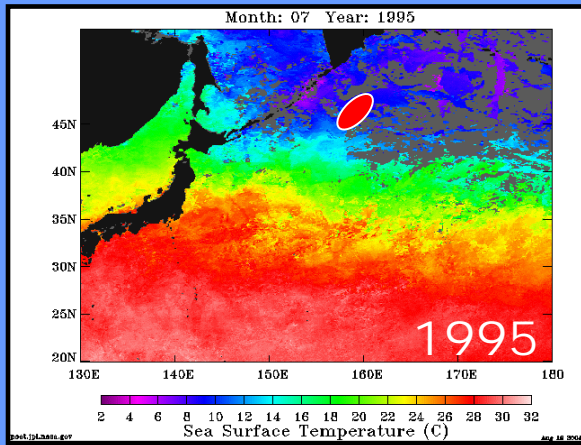


Right whale

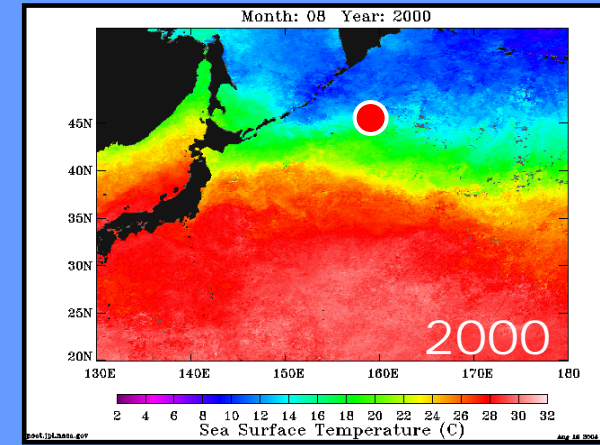
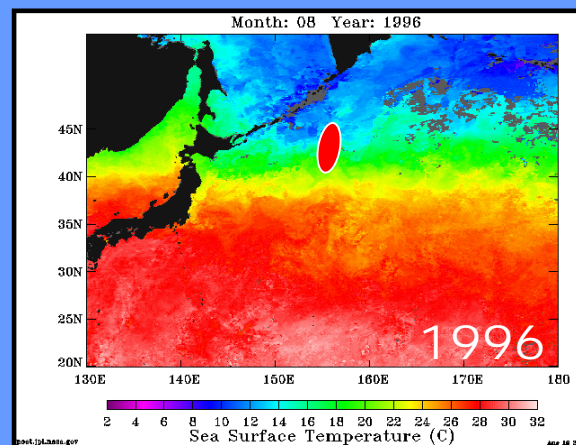
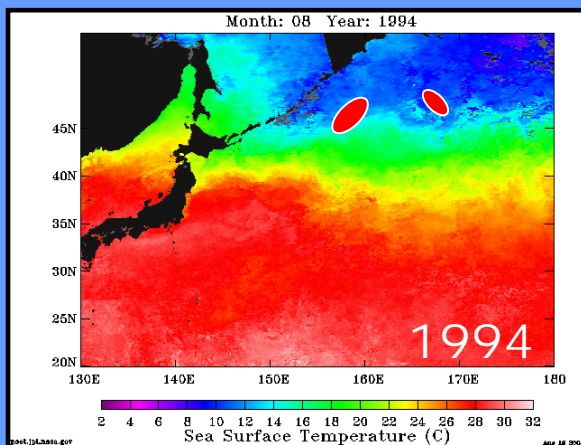


Relationship between SST and whale hot spot distribution

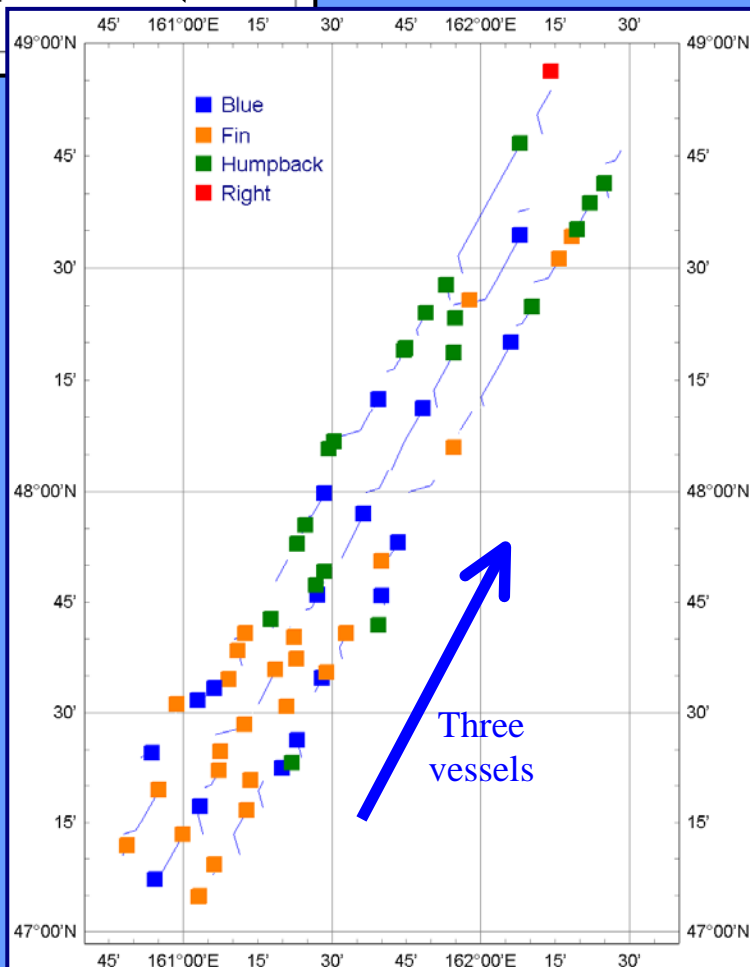
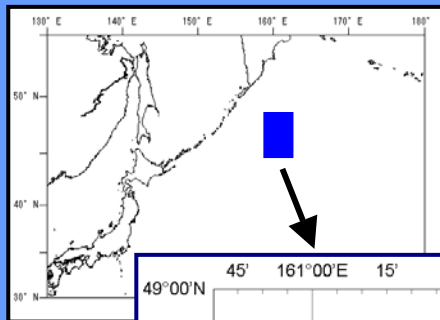
July



August



Aggregation of large baleen whales in the 2004 JARPN survey



Date of searching:

4th August, 2004

Latitudinal range: 47°N ~ 49°N

Longitudinal range: 160°45'E ~ 162°30'E

Searching distance: 204.5 n.miles.

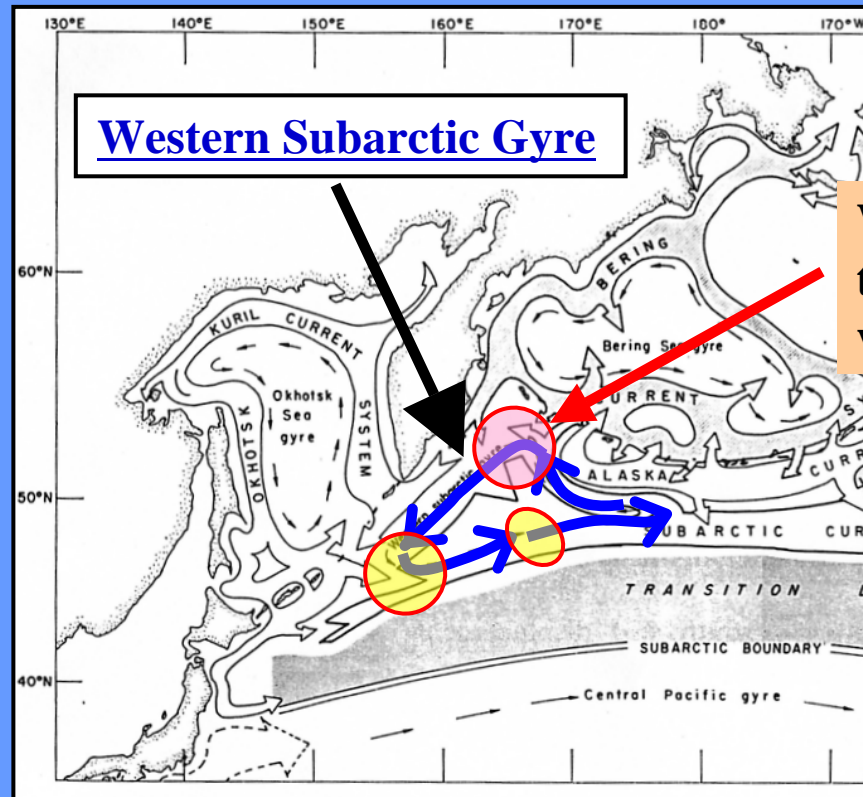
Range of SST

10.0°C ~ 10.8°C

Number of sightings

	School	Animal
Blue whale	17	<u>28</u>
Fin whale	27	<u>47</u>
Humpback whale	20	<u>28</u>
Right whale	1	2
Unidentified large whale	19	32

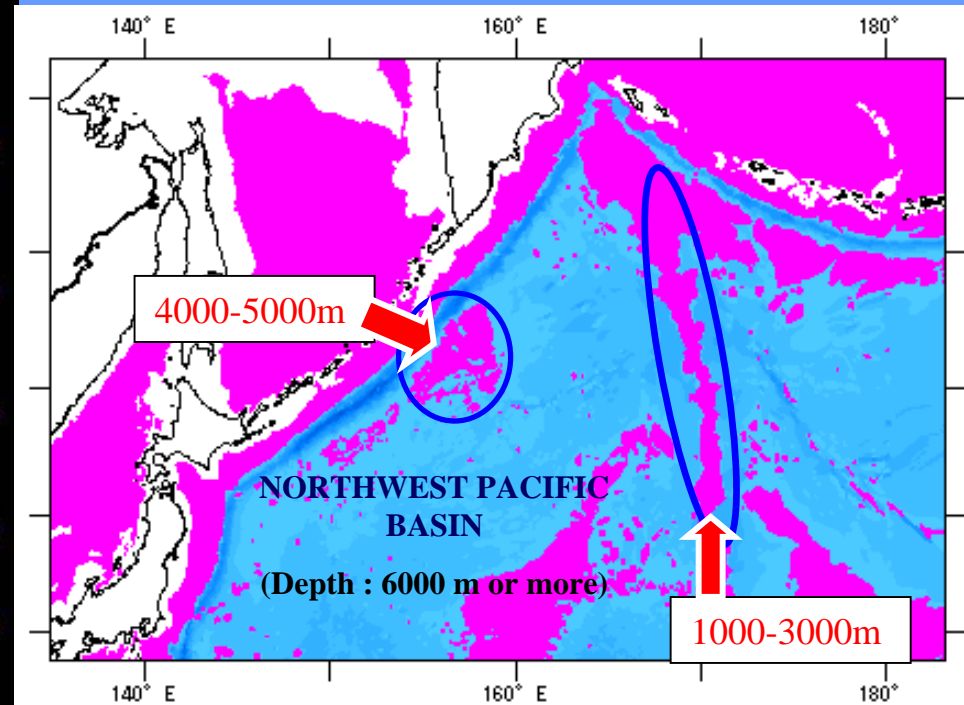
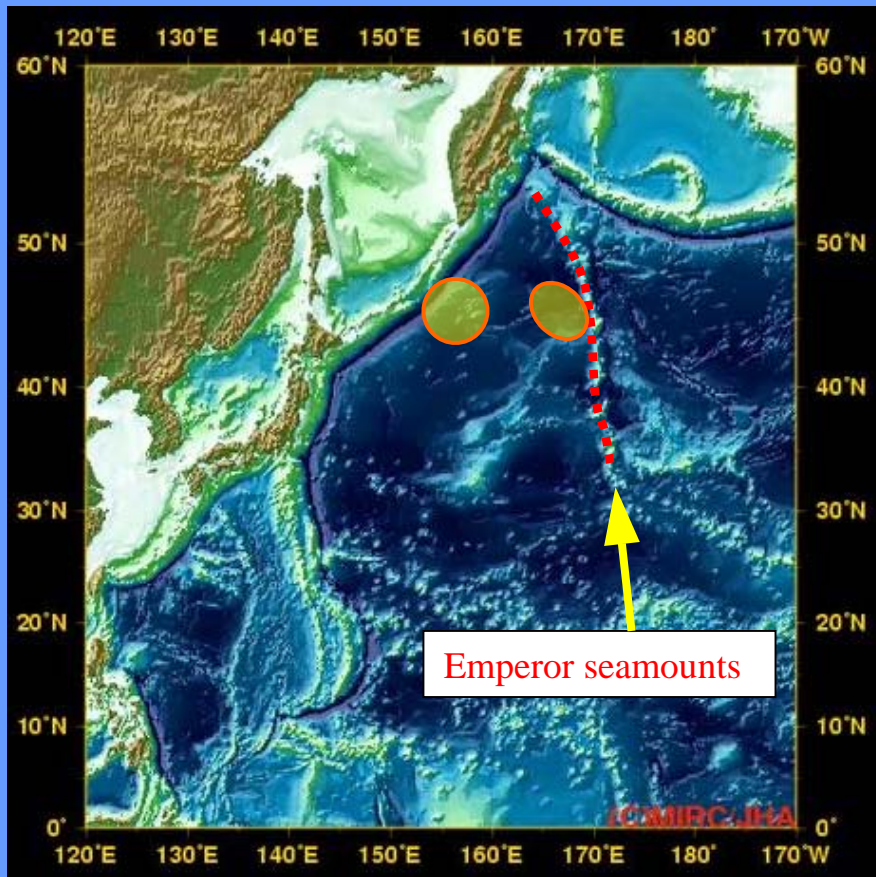
Possible factors explaining hot spot distribution of large baleen whales in the western North Pacific



Modified from Favorite et al. (1976)

Current system (Gyre)

Possible factors explaining hot spot distribution of large baleen whales in the western North Pacific



Topographical feature

Conclusions

- A considerable number of blue, fin and humpback whales were sighted during summer JARPN surveys in the pelagic zone of the western North Pacific.
- Such baleen whales seems to concentrate in hot spots in the middle part of the western North Pacific.
- Such hot spots are detected in each summer season.
- No strict relationship was detected between such whale distribution and the surface seawater temperature (SST).
- Such pattern of distribution could be related to currents and topographic conditions.
- Further examination is needed including the survey for whale prey species.

Thank you for your
attention

