

Report of data collection on Jack mackerel in South-East Pacific

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Data collection

- n log books of Chinese fishing fleet during 2000-2007
 - n On board measurements by Chinese fishery scientific observers program
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Items of data collected

- n Fishing data:

- q catch per tow

- q fishing time and positions, towing speed etc.

- n Environment data:

- q Current and wind direction and speed, SST, STD etc.

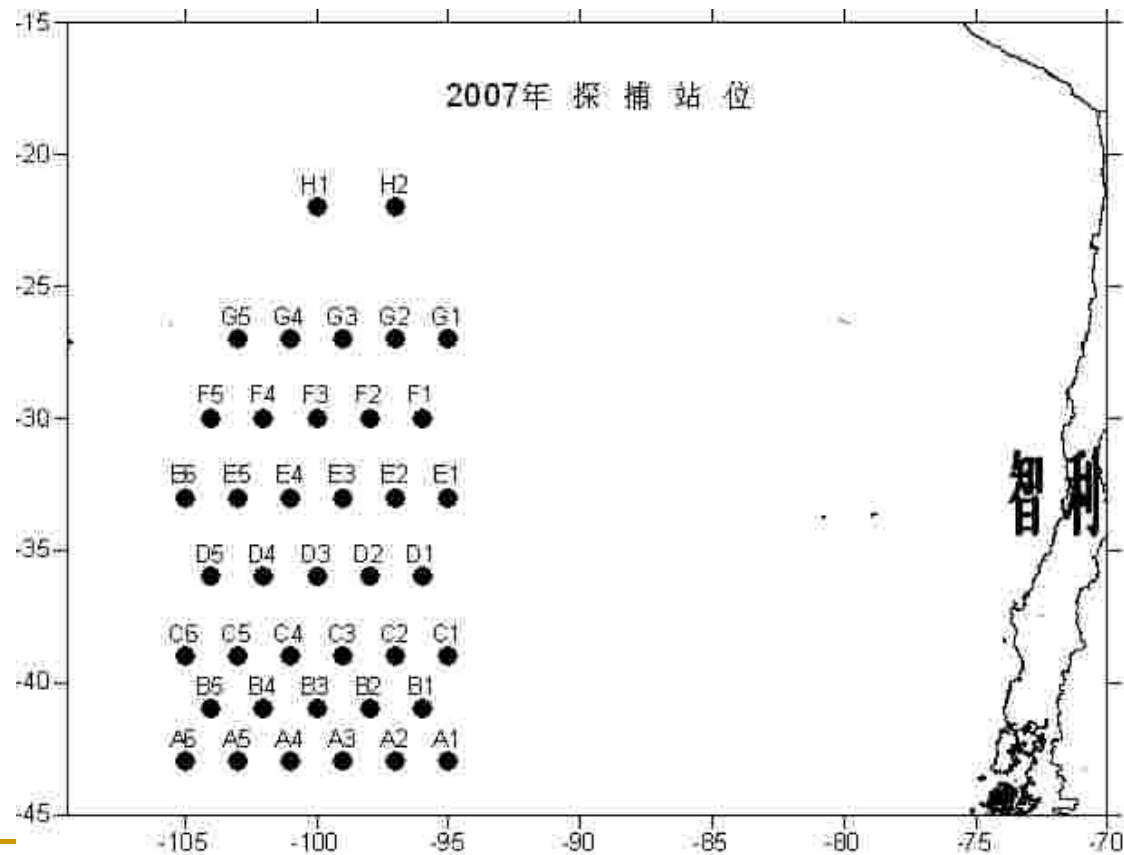
Biological data by the random sampling

- n 11,030 samples have been collected
 - q fork length, body height, width and girth, body weight and net weight without organs,
 - q sex, germ cells maturity, contains in the stomach etc.
 - q Water depth of fish school inhabited and temperature
 - n 2,550 otolithes collected
 - q age and other tests
 - n Plankton, botany and other species etc.
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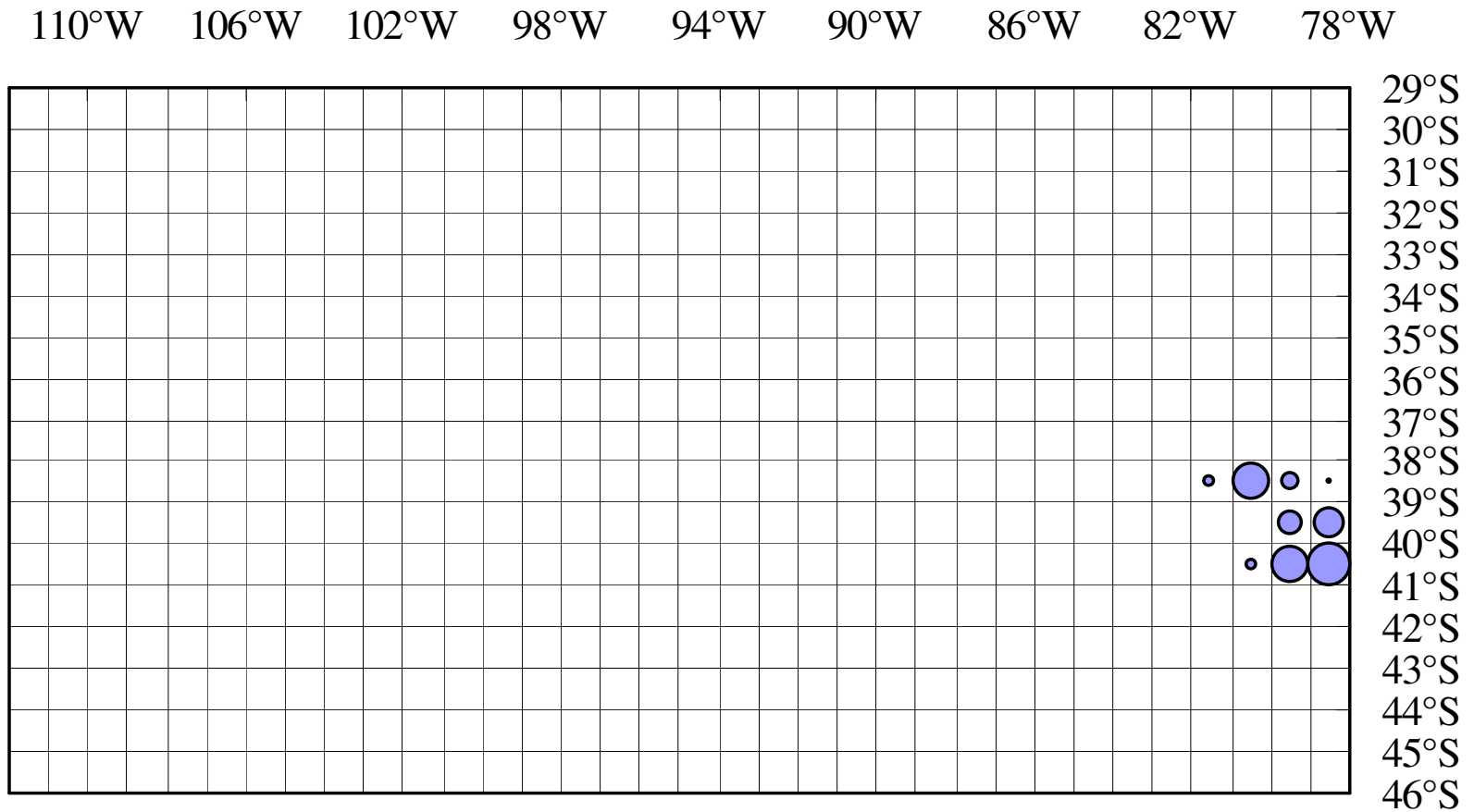
Fishing and survey area

- n beyond Chile EEZ to 113° W
- n from 29° S to 46° S

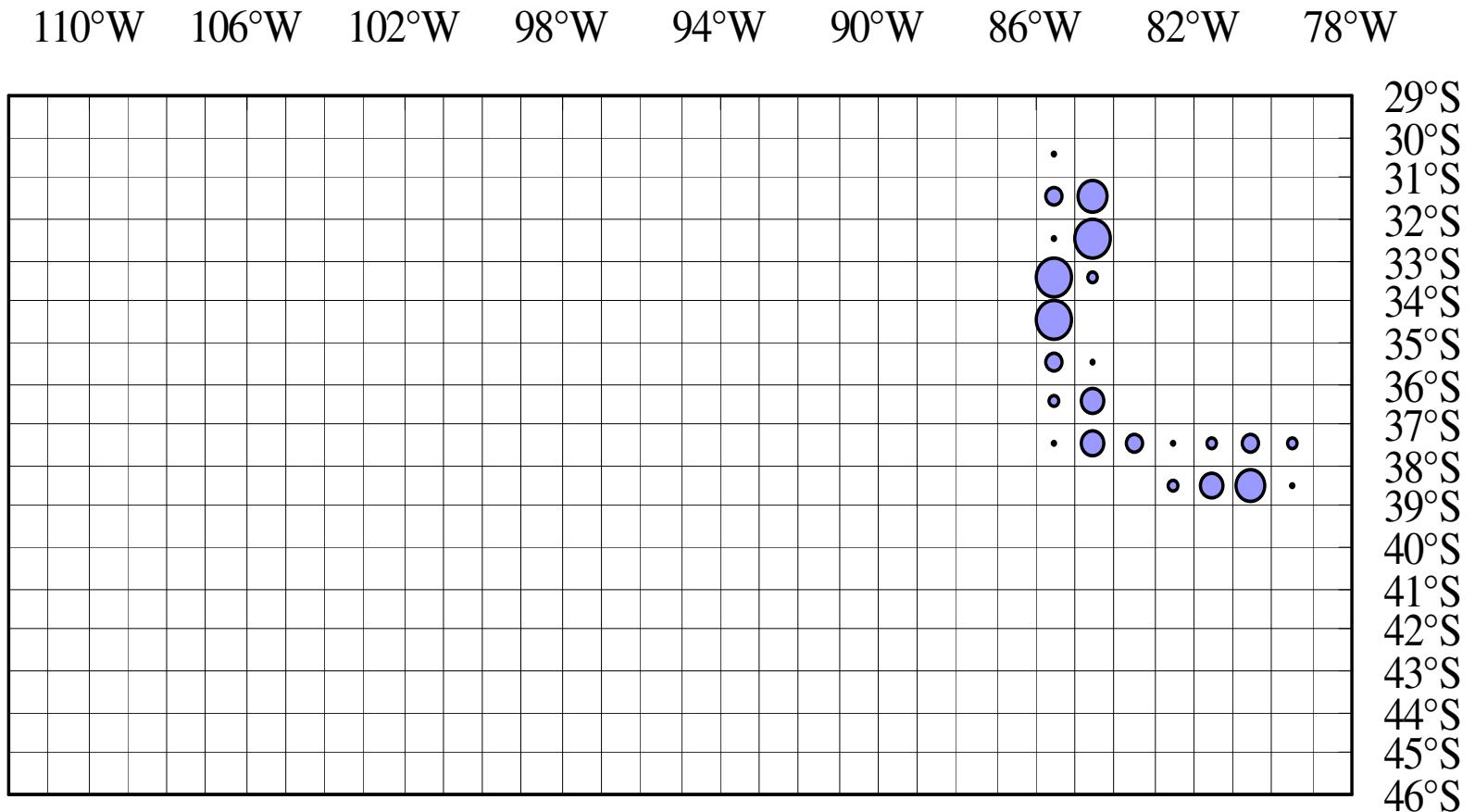
Survey area of
Vessel Fuxinhai in
2007



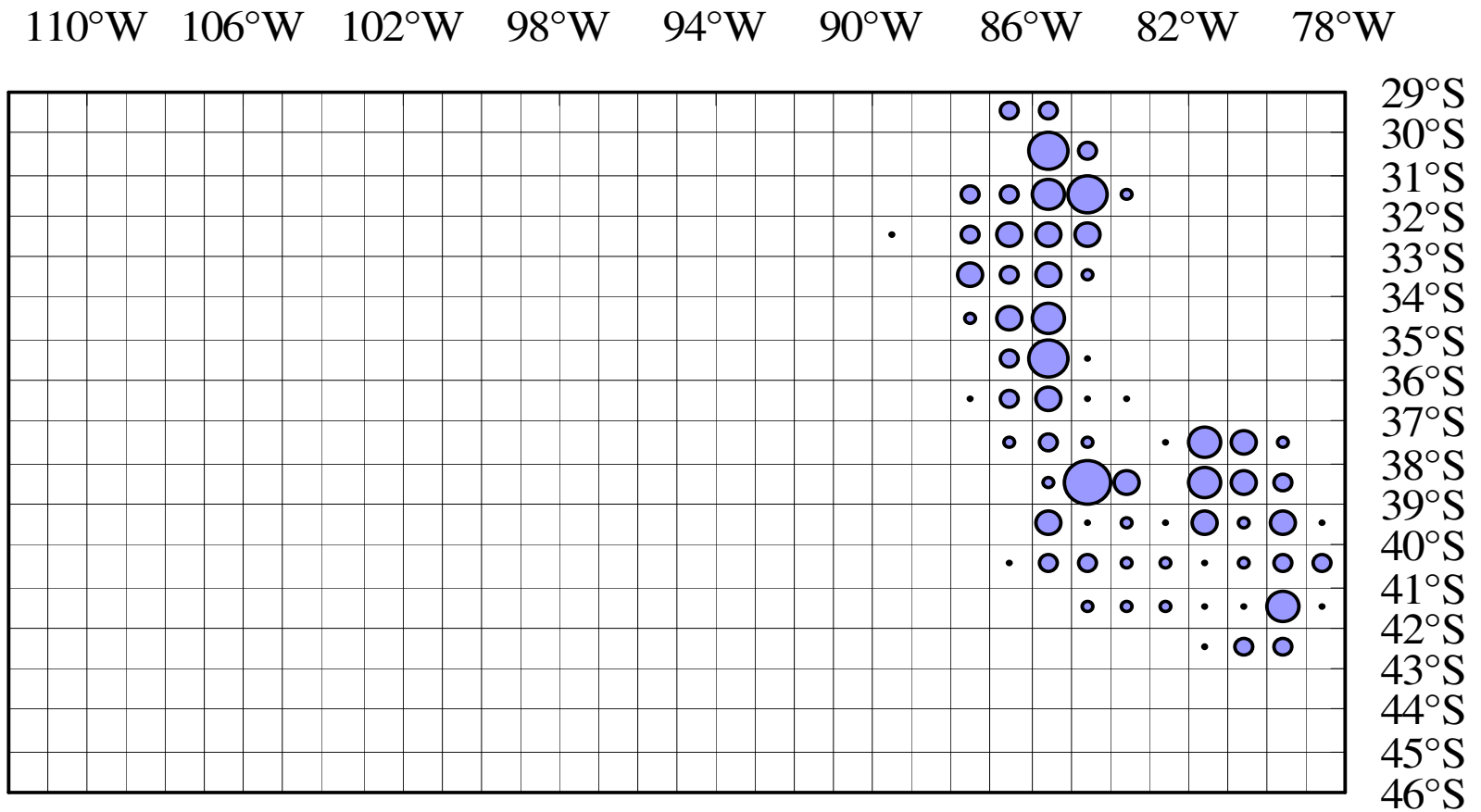
Fishing ground in 2000



Fishing ground in 2001

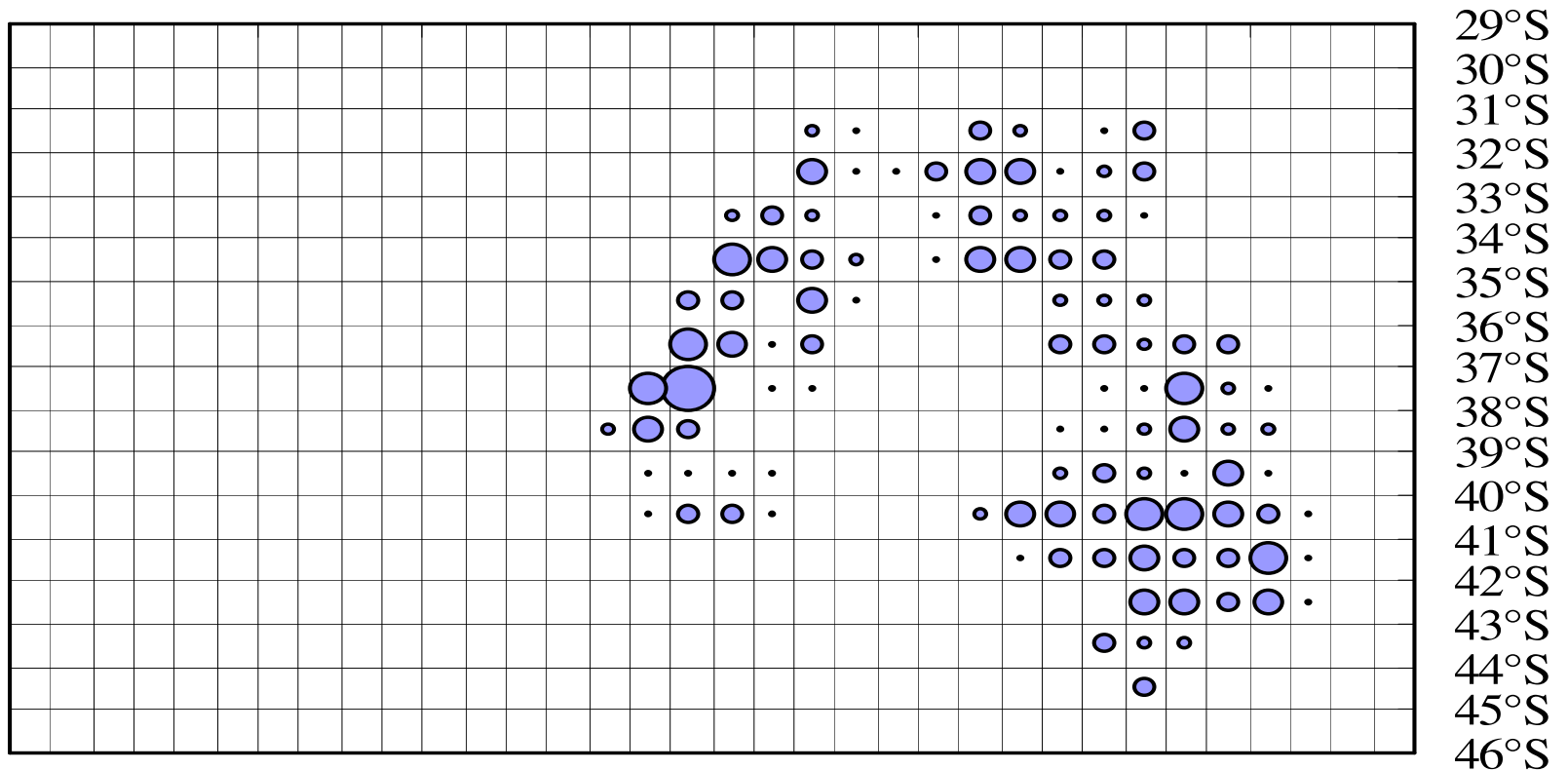


Fishing ground in 2002

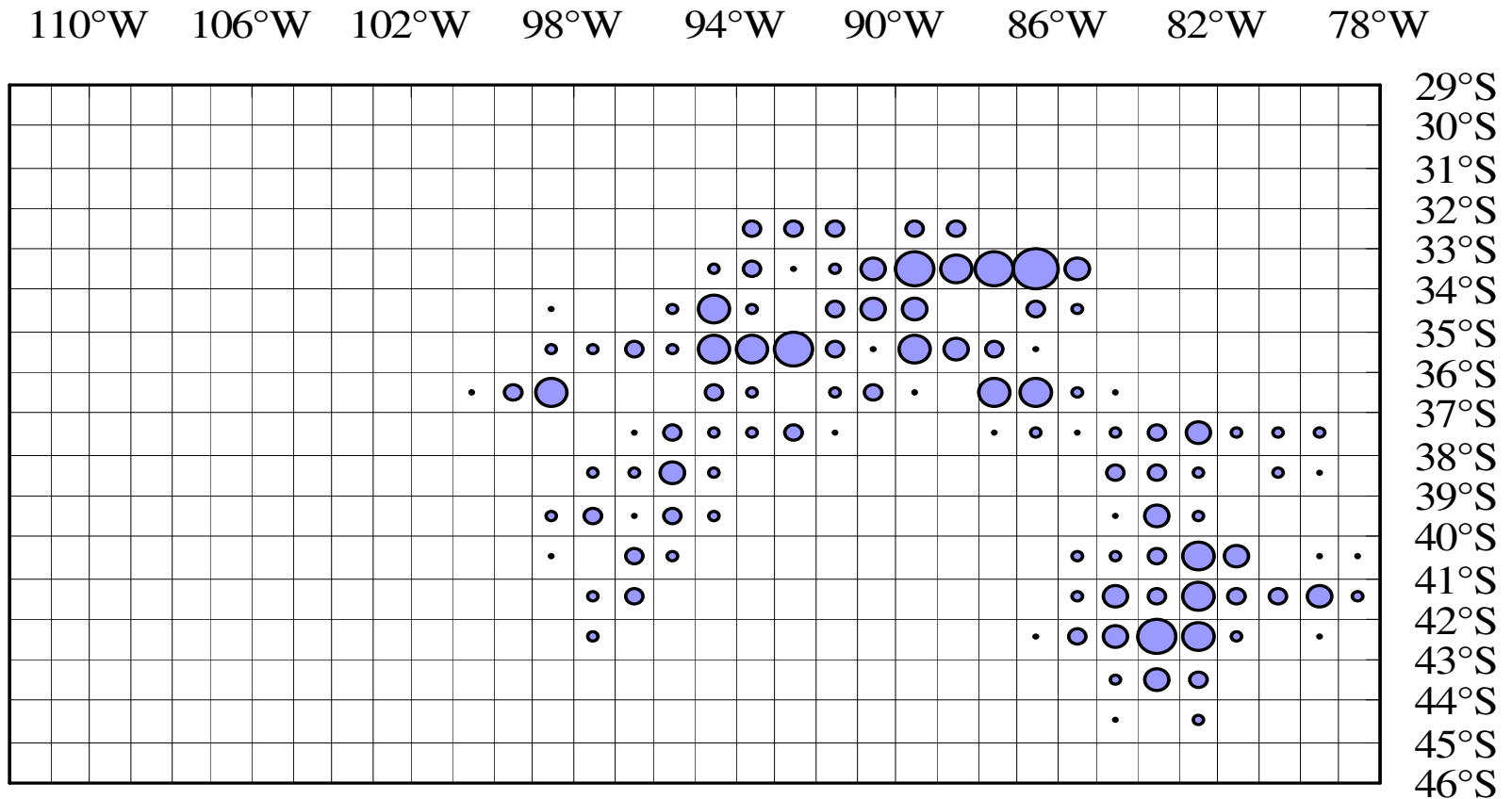


Fishing ground in 2004

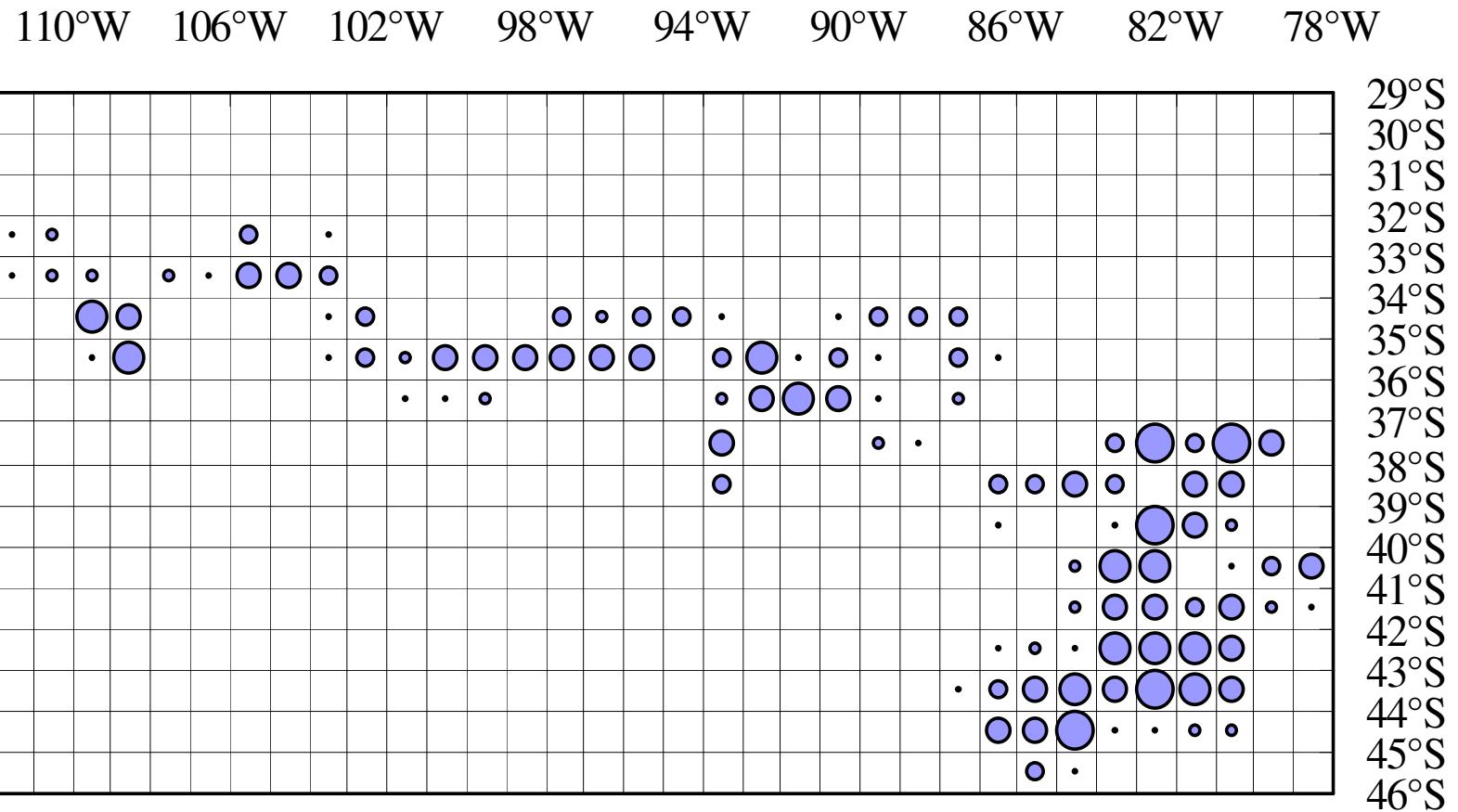
110°W 106°W 102°W 98°W 94°W 90°W 86°W 82°W 78°W



Fishing ground in 2005



Fishing ground in 2007



CPUE

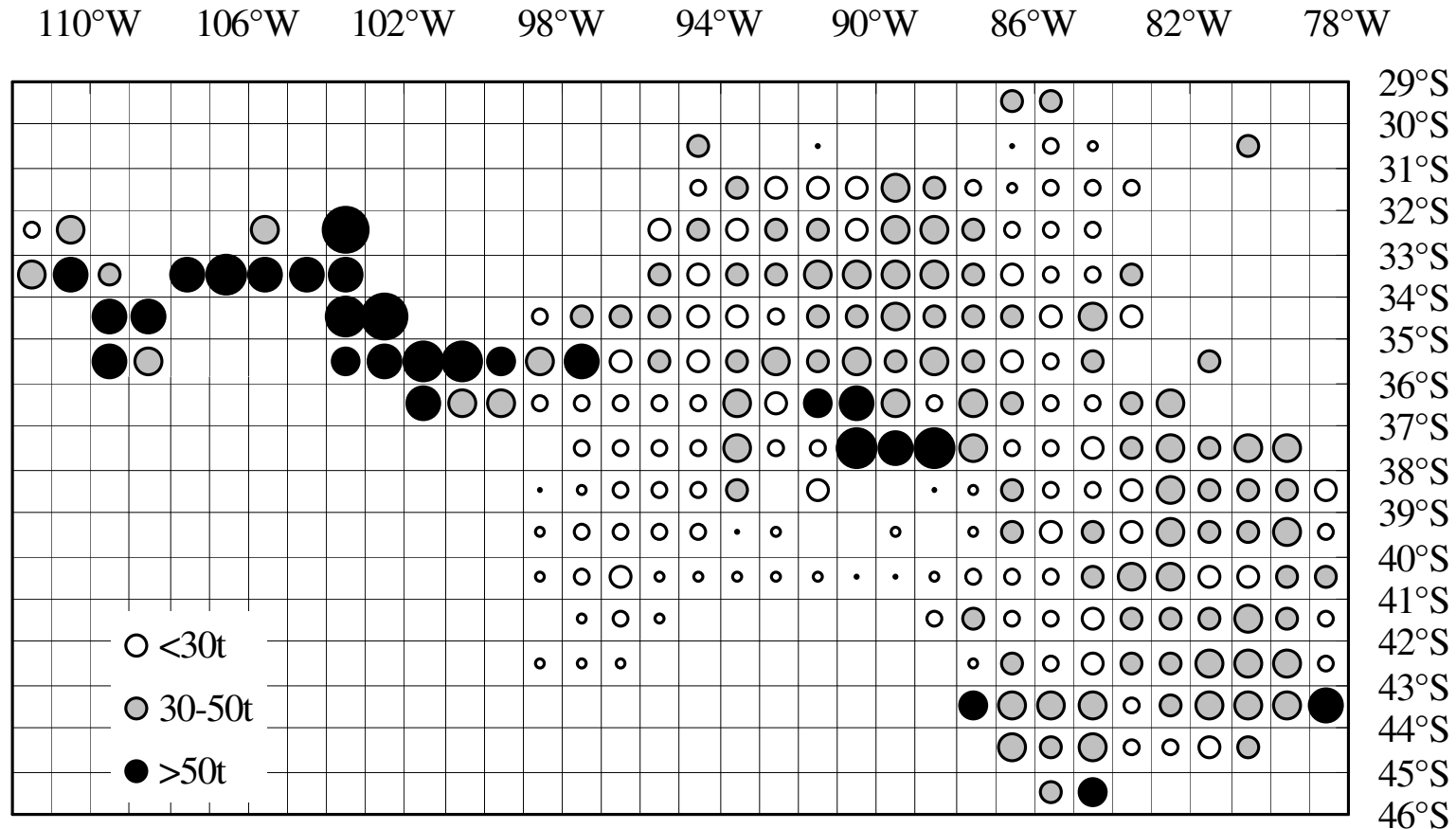
CPUE (ton/hour) of 8 fishing vessels during 2000-2007

	2000	2001	2002	2003	2004	2005	2006	2007	mean CPUE
CPUE	7.86	7.20	6.39	5.26	5.07	5.95	7.52	6.81	6.21

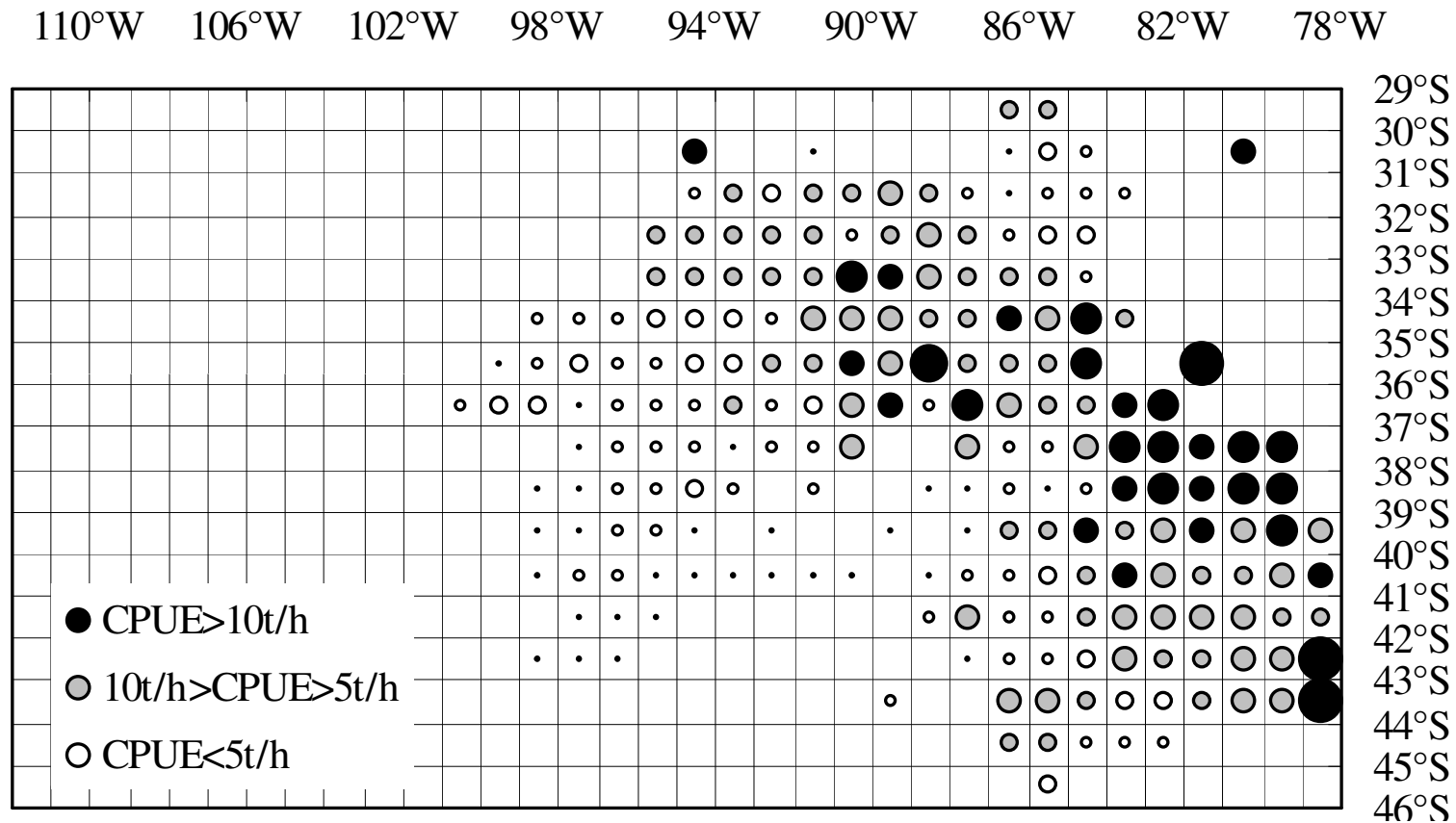
Species in catch

- n Chile mackerel (*Trachurus murphyi*)
 - n Japanese mackerel (*Scomber japonicus*) less than 10-20% in the total catch
 - q pacific scad (*Scomberomorus sierra*),
 - q yellowtail (*Seriola laland*)
 - q lanternfishes (*Myctophidae*)
 - q Jumbo flying squid (*Dosidicus gigas*) has been caught since 2006, about 5-10% in the catch.
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Mean catch per tow by 1°x 1° during 2000 and 2007



CPUE in 1°x 1° from 2000 to 2007



Size of circle represents the number of tows

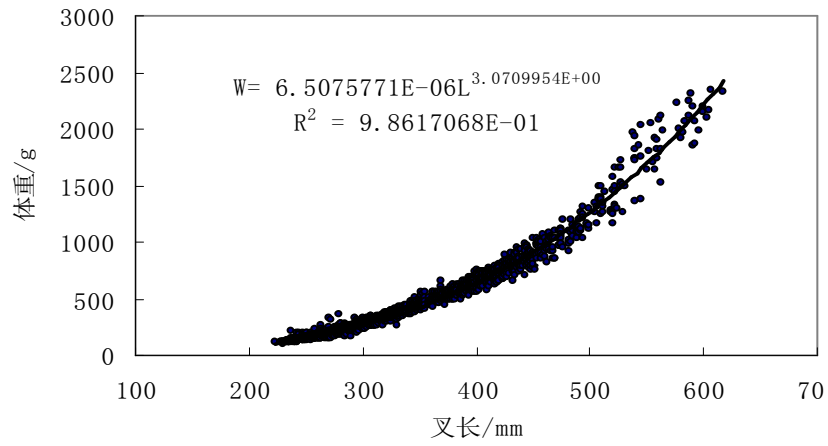


图22 2000年竹筴鱼叉长与体重的关系

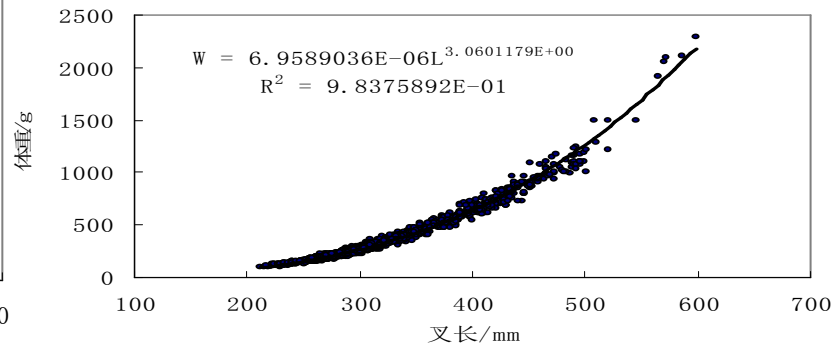


图23 2001年竹筴鱼叉长与体重的关系

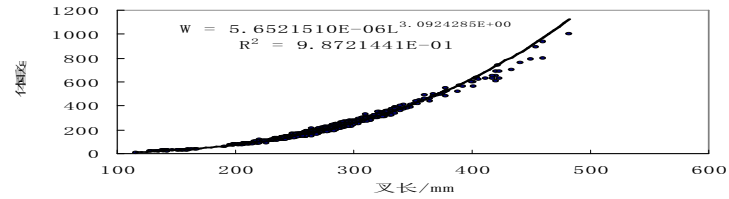


图24 2002年竹筴鱼叉长与体重的关系

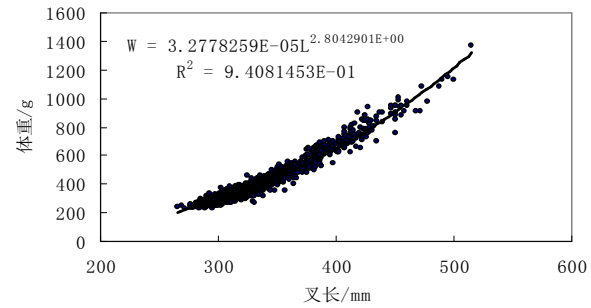


图26 2006年竹筴鱼叉长与体重的关系

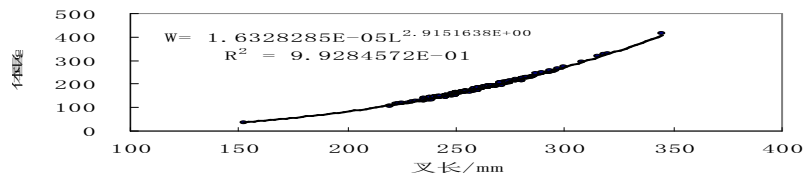


图25 2003年竹筴鱼叉长与体重的关系

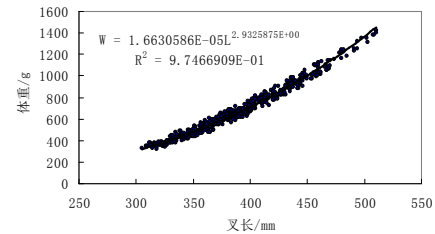


图27 2007年竹筴鱼叉长与体重的关系

Frequency of main habitat water layers where Chile jack mackerel existing

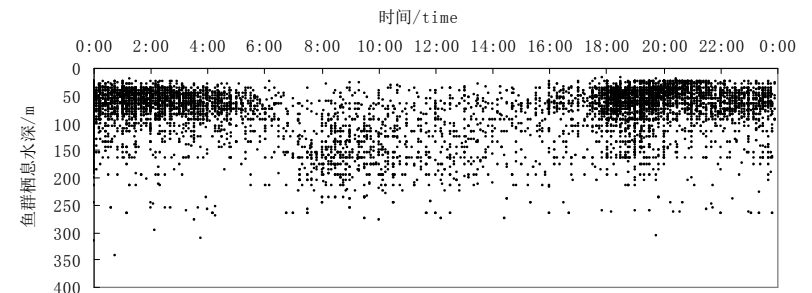
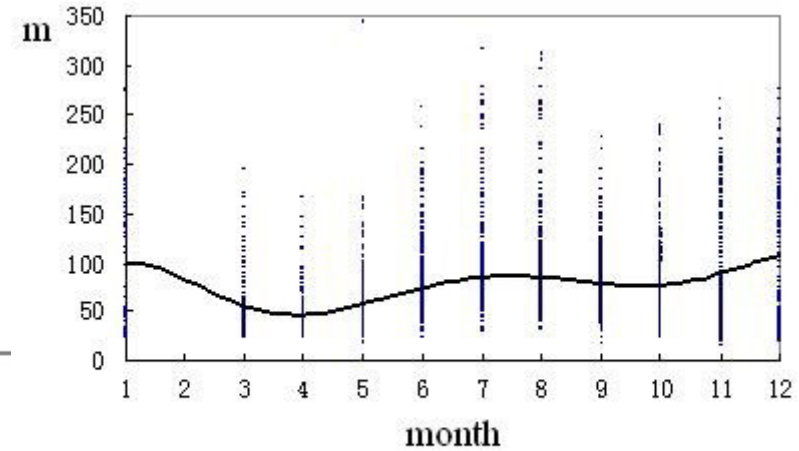
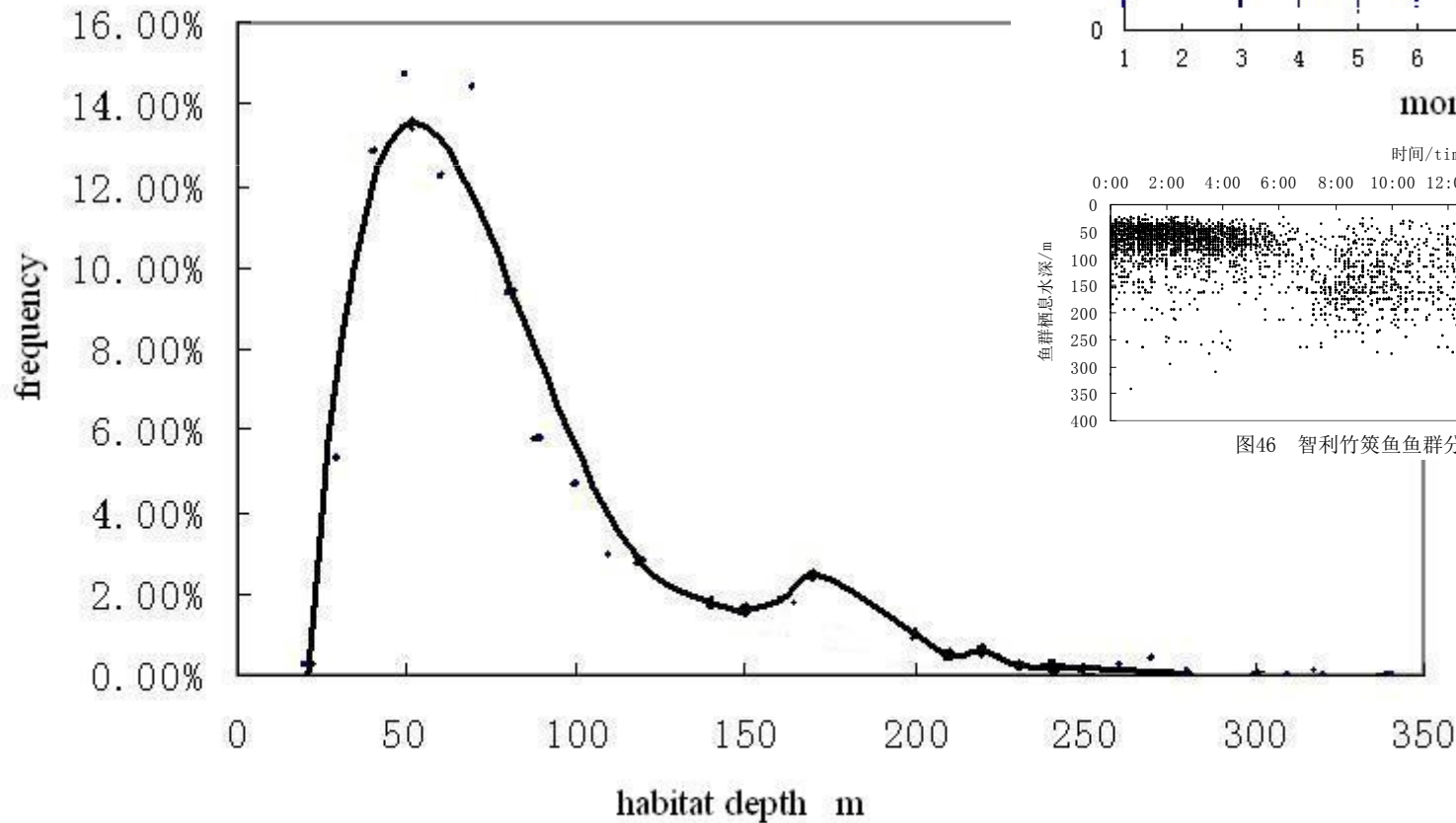


图46 智利竹筴鱼鱼群分布水深（时间）

Water temperature where fish stay

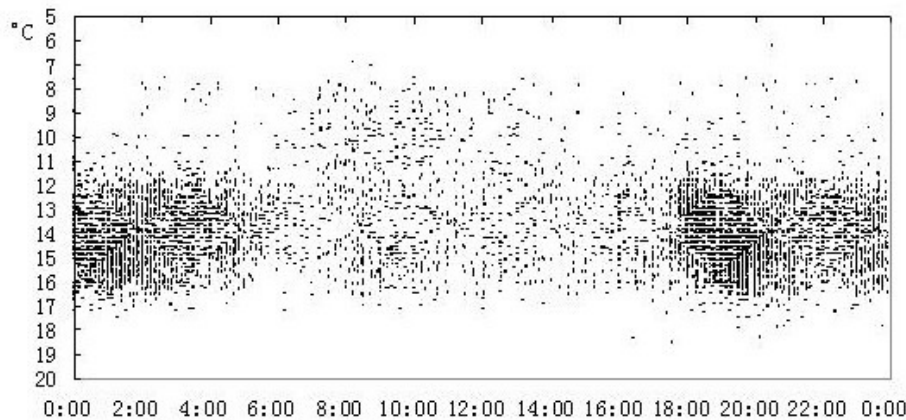


Fig. 28 Water temperature of fish inhabited cumulated at hours

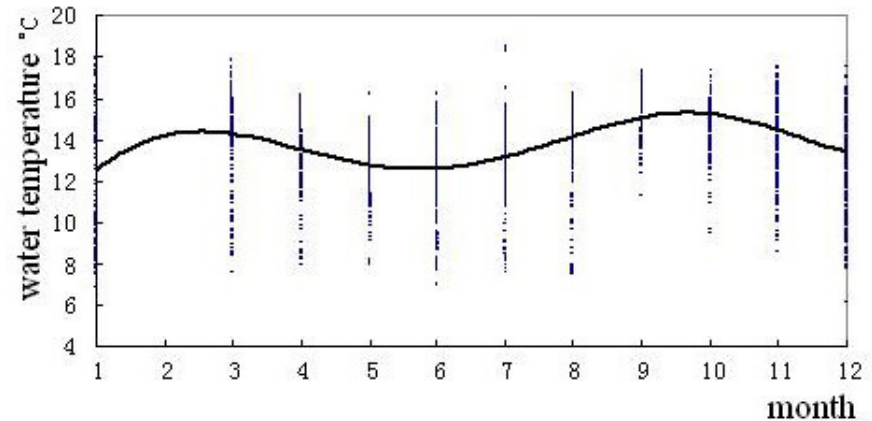


Fig. 27 Water temperature at fish habitat layer by months

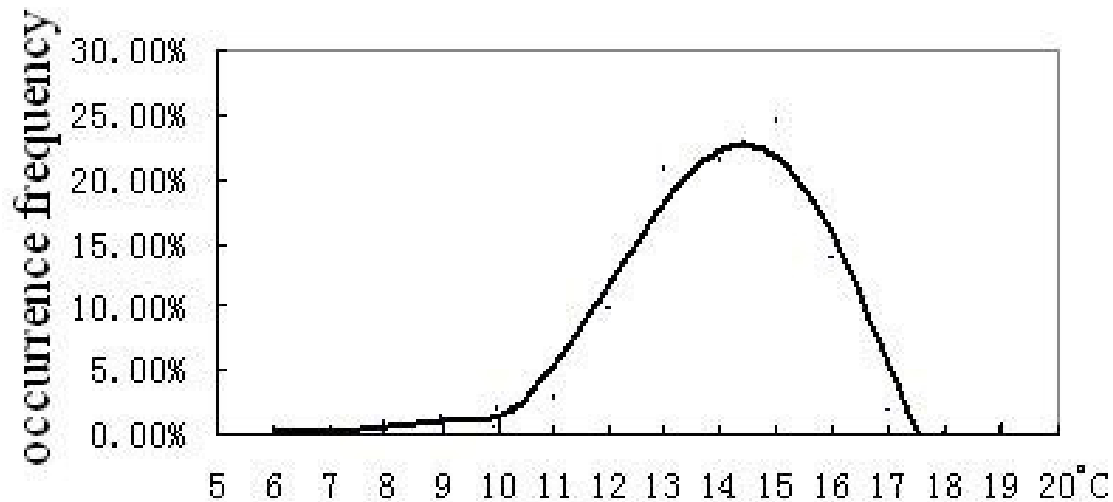


Fig. 29 Frequency of temperature of fish occurrence

Stomach fullness index

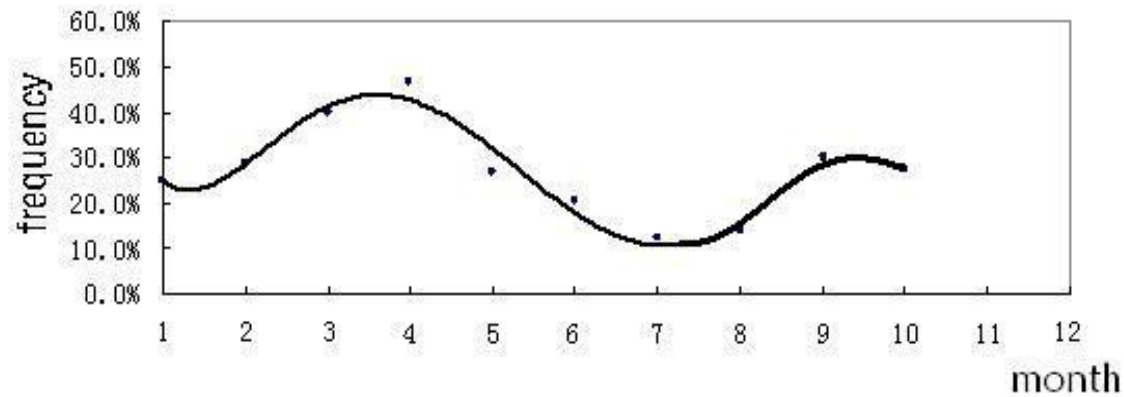


Fig.32 Frequency occurrence of Chile jack mackerel with stomach fullness index 3 and greater by months

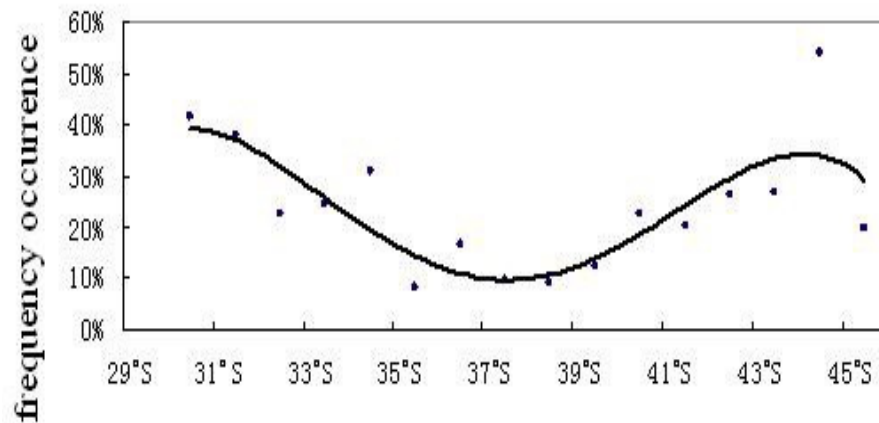


Fig.33 Frequency occurrence of Chile jack mackerel with stomach fullness index 3 and greater by latitude

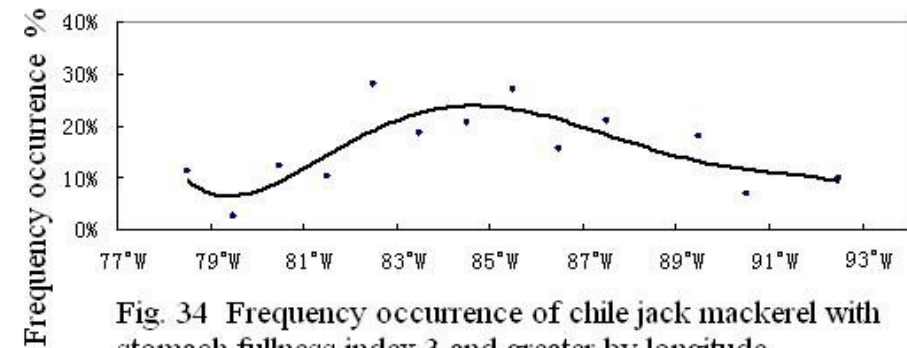


Fig. 34 Frequency occurrence of Chile jack mackerel with stomach fullness index 3 and greater by longitude

Map of Feeding

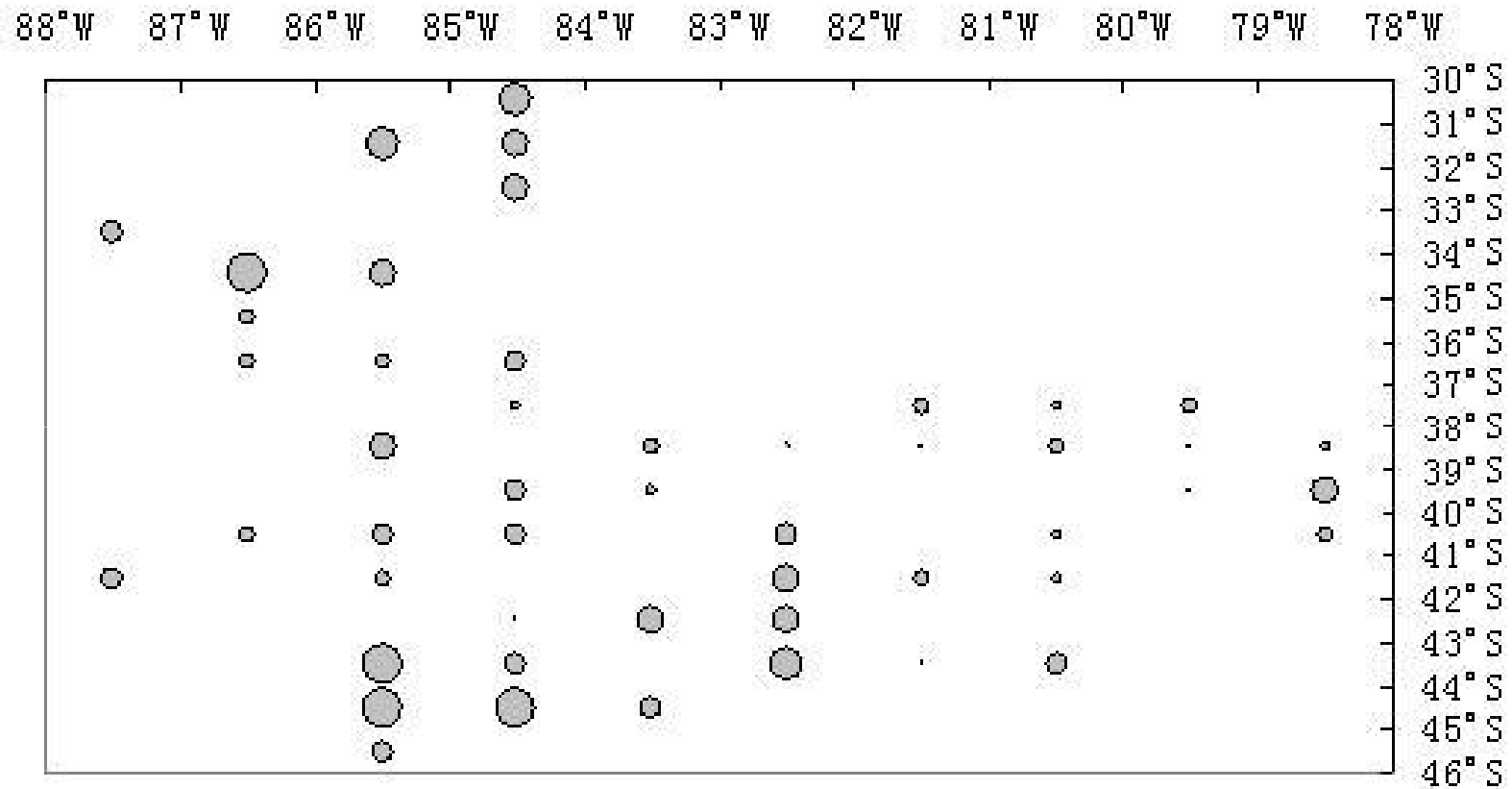


Fig. 35 Distribution of Chile jack mackerel with stomach fullness index 3 and greater

Feeding index

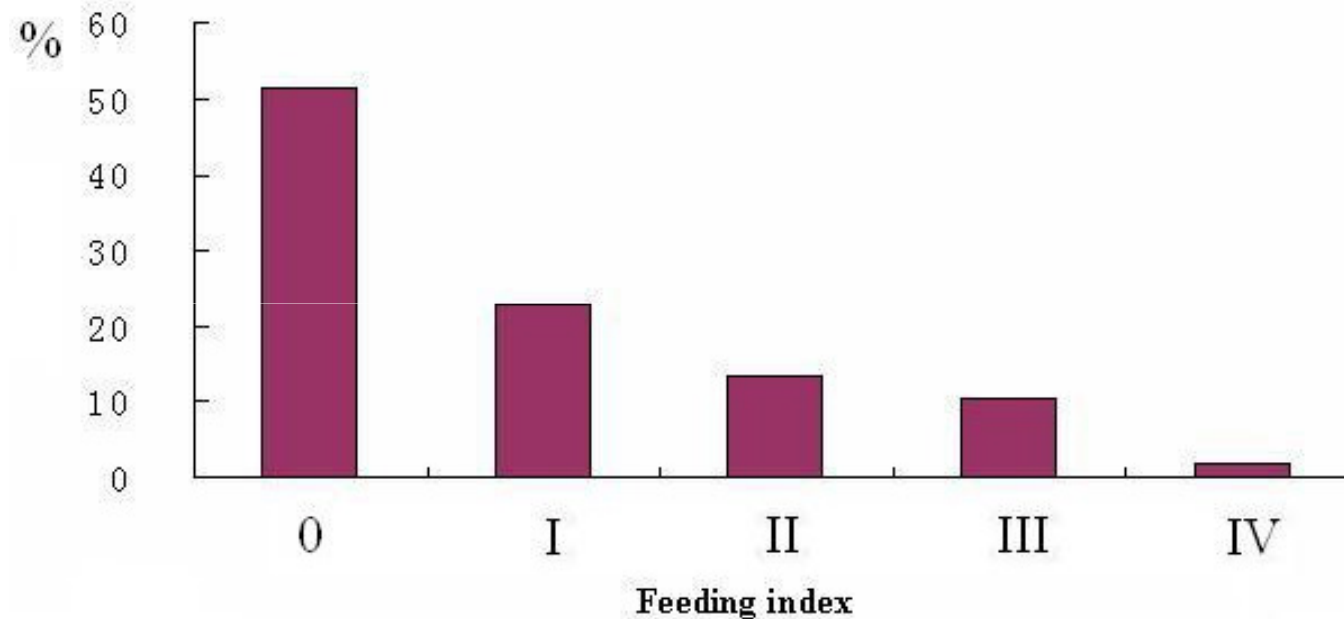


Fig. 36 Feeding situation of Chile jack mackerel in the west part of fishing ground

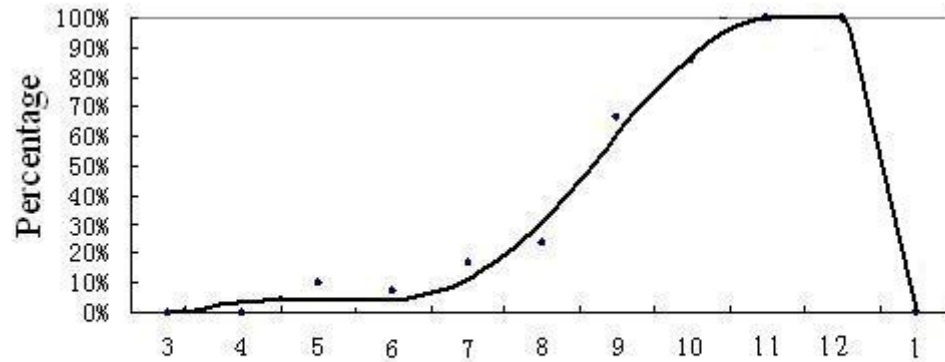


Fig.37 Percentage of sexual gland index 3 and greater of Chile jack mackerel at months

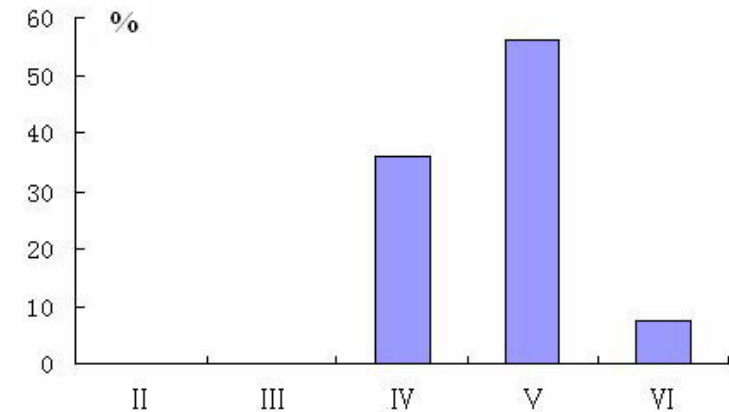


Fig.39 Degree of nomality sexual gulan

Sexual gland

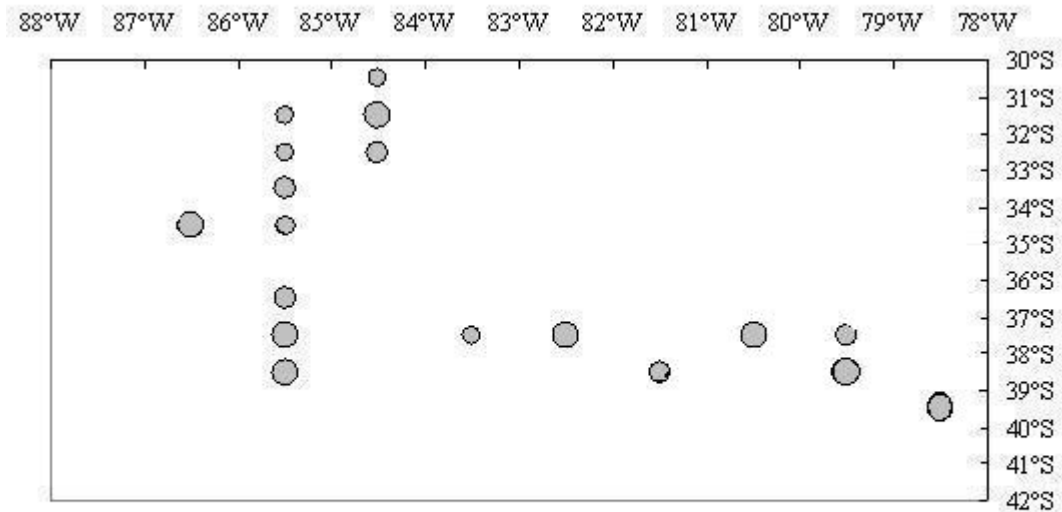


Fig.38 Distribution of sexual gland degree, the circle is 50% more individual is at index 3 or higher

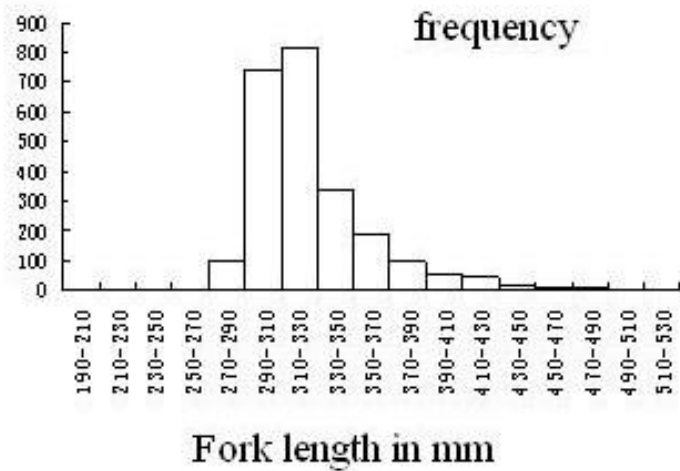


Fig.40 Frequency of fork length distribution in May to August of 2006

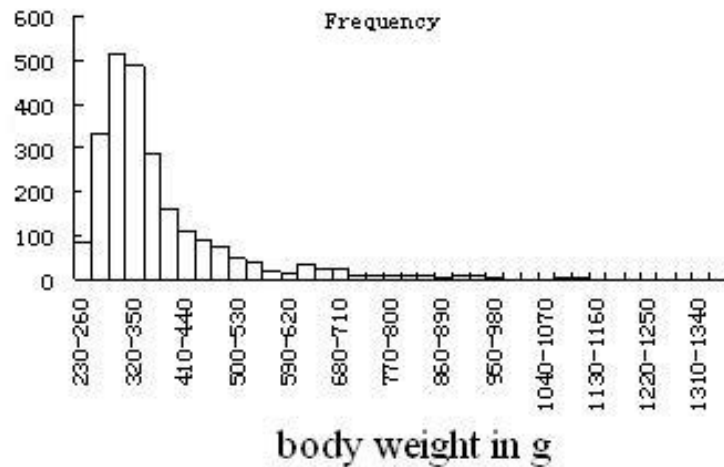


Fig. 41 Frequency of body weight of Chile jack mackerel during May and August of 2006

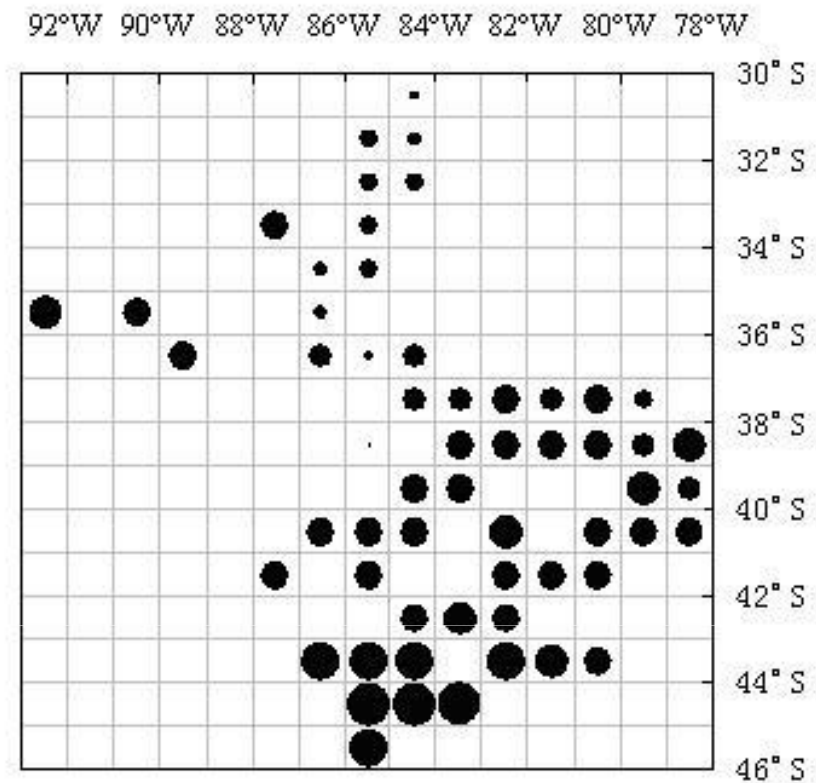


Fig. 45 distribution of FL of Chile jack mackerel

Thank you for attention
