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**Outline of Oceanographic Conditions  
in the Northwestern Pacific  
during the Summer of 1997**

by

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# **Outline of Oceanographic Conditions in the Northwestern Pacific during the Summer of 1997**

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## **Abstract**

Oceanographic conditions in the Northwestern Pacific during the summer of 1997 are described using data obtained by salmon research vessels. Extent of the dichothermal structure was even weaker than that of 1996. Temperature anomalies showed positive on the north of 45°N, negative on the south.

## **Introduction**

Oceanographic conditions in the Northwestern Pacific during the summer of 1997 are described using temperature and salinity data obtained by salmon vessels. Extent of the dichothermal structure and temperature anomalies are analyzed.

## **Materials**

Figure 1 shows the locations of CTD stations by salmon research vessels Wakatake-Maru and Hokko-Maru. Sections of temperature, salinity and temperature anomalies made using these CTD data are shown in figure 3. The temperature anomalies are defined as the difference that subtracted mean(1992-1996) from 1997. Maps of SST anomalies (Fig.2) are cited from "Monthly Ocean Report" issued by Japan Meteorological Agency.

## Results

### 1. Dichothermal structure

Low saline water was seen in the surface around  $51^{\circ}\text{N}$  of section 2 (Fig.3(b-2)), affected by the Alaska Current. The dichothermal structure, that has lower temperature than upper and lower depth and extend in depth 150-200m around  $48-50^{\circ}\text{N}$  in usual years, was not seen in this section. These dichothermal structures, shown with closed contour of  $3^{\circ}\text{C}$ , were seen in sections 3 and 4 around 100-150m depth, though these areas were smaller than last year.

### 2. Temperature anomalies

SST anomalies in the June and July of 1997, calculated using the monthly mean values from 1961 to 1990, showed negative on the south of  $45^{\circ}\text{N}$ , and positive on the north (Fig.2) as last year. Temperature anomalies of section 2 have same tendency as SST, however section 4 showed somewhat complicated structure.

## References

- Japan Meteorological Agency (1997): Monthly Ocean Report, No.54-55.  
Segawa, K. (1997): Outline of oceanographic conditions in the Northwestern Pacific during the summer of 1996. Salmon Report Series, 42, 24-29.

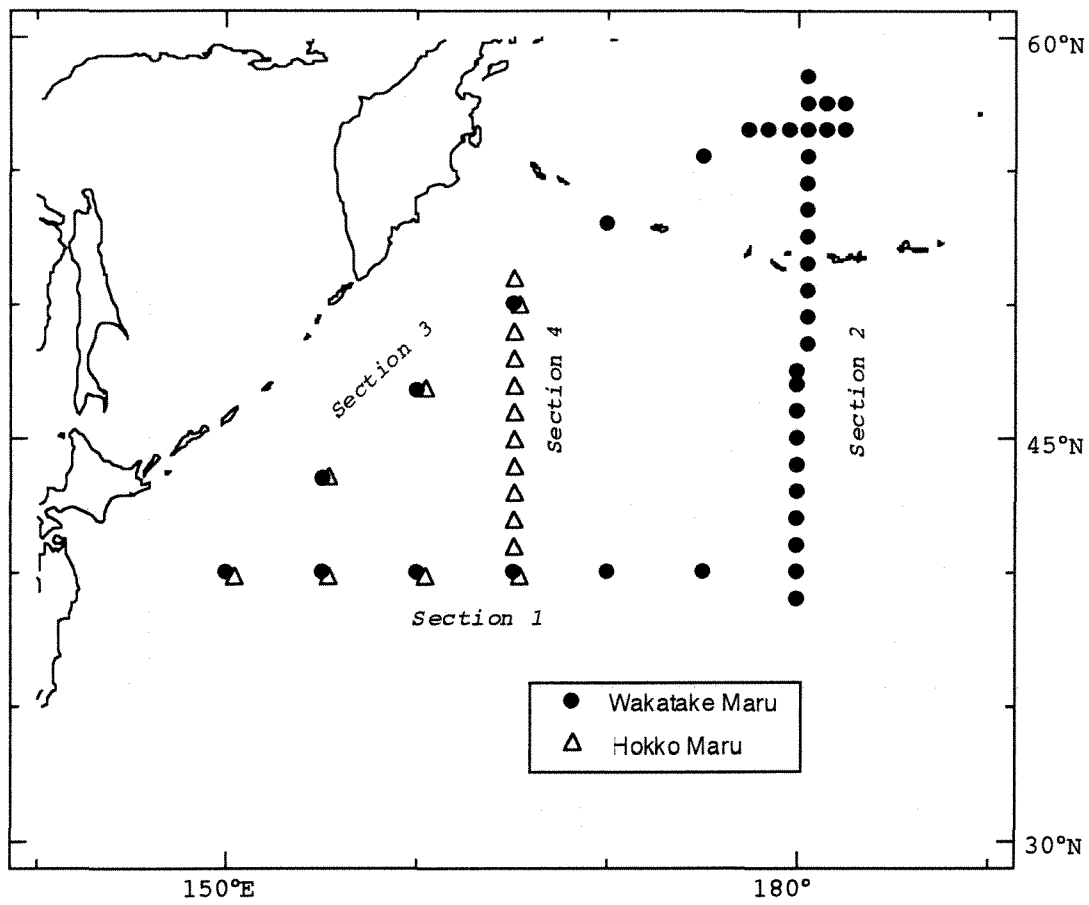


Fig.1 CTD Stations.

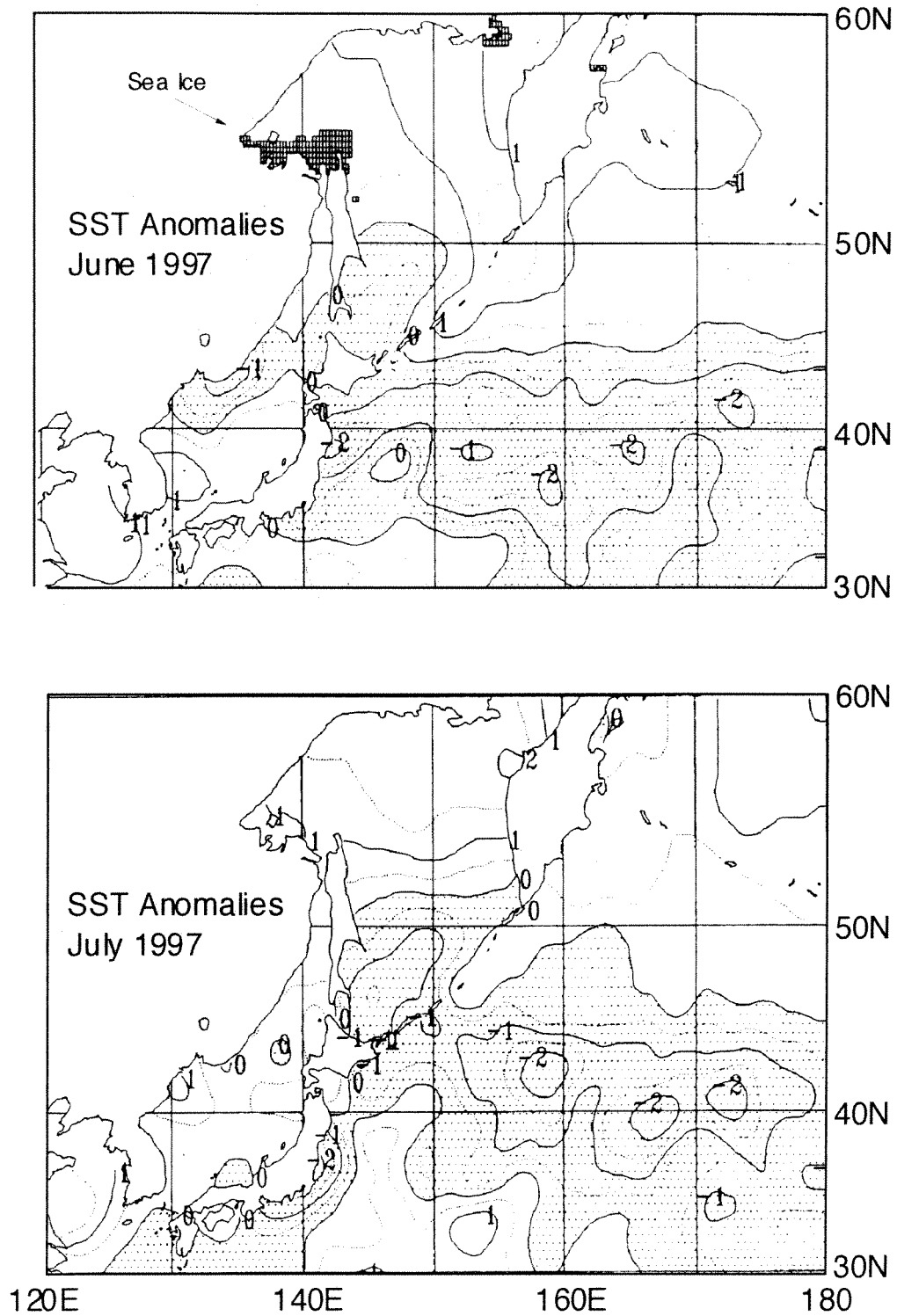
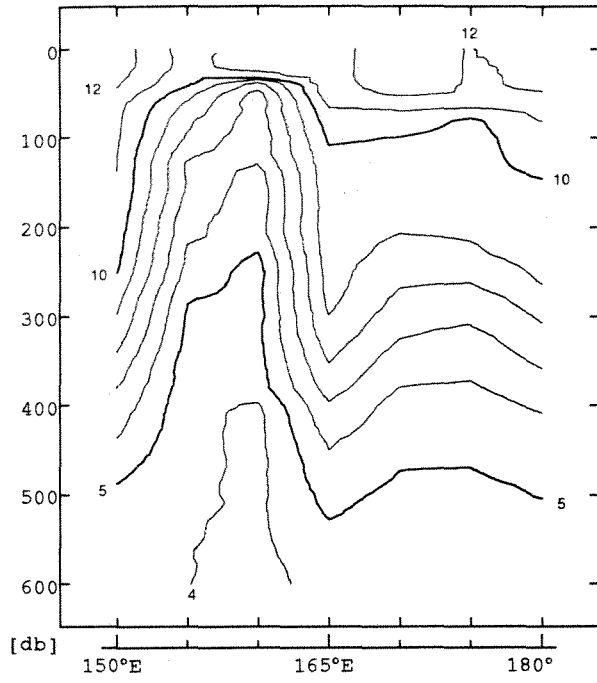
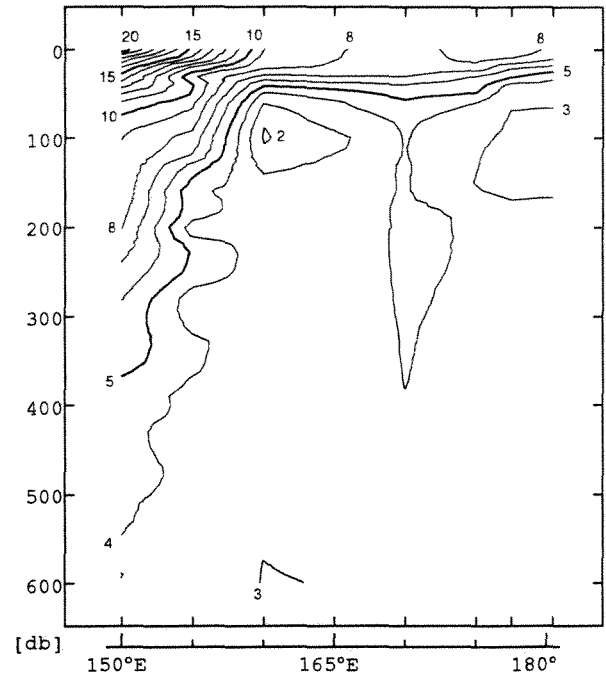


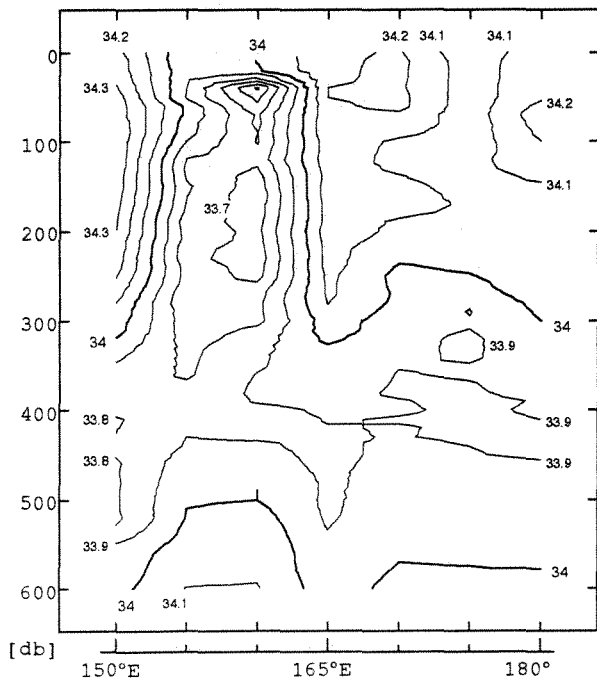
Fig. 2 SST anomalies from monthly mean ( 1961-1990 ).  
 Shaded shows negative.  
 Quoted from the Monthly Ocean Report.



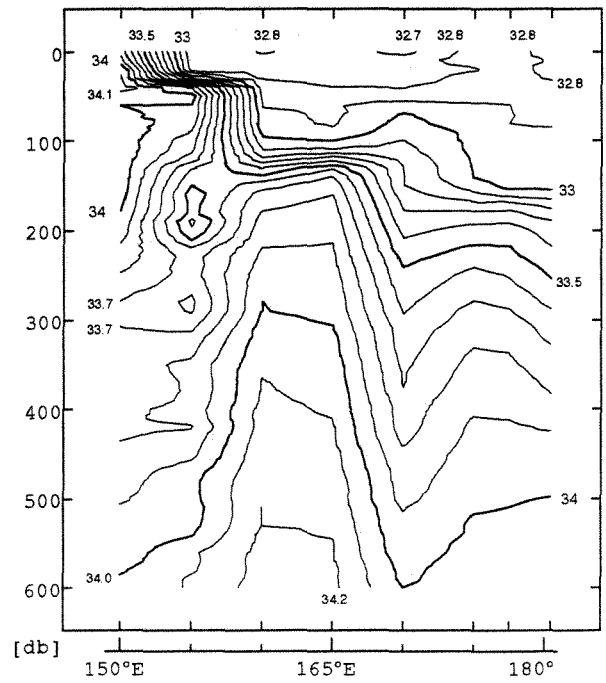
(a-1) Temperature Section 1



(a-3) Temperature Section 3

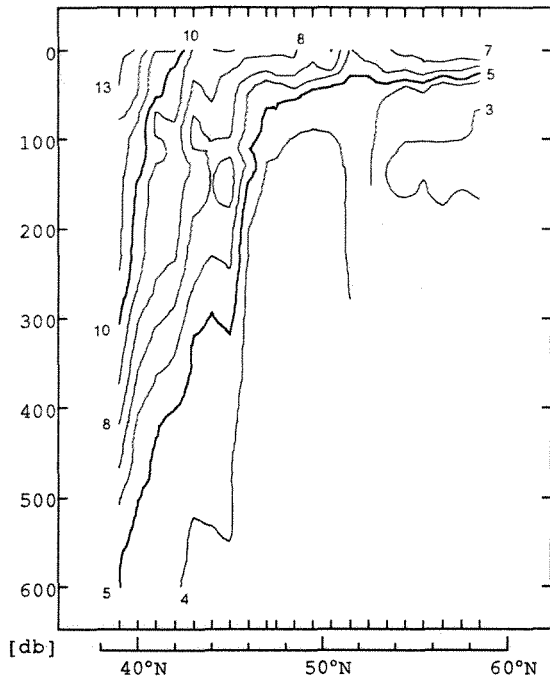


(b-1) Salinity Section 1

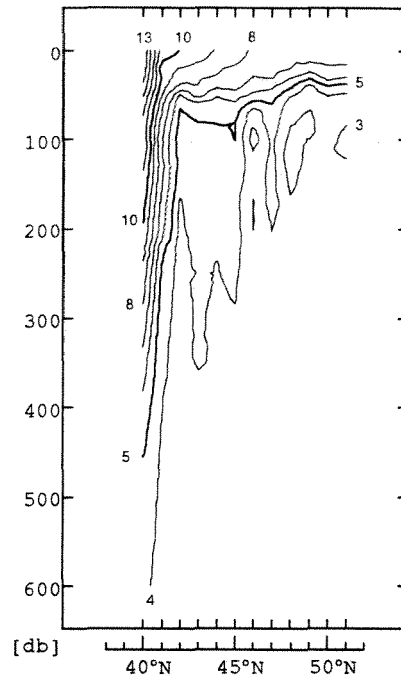


(b-3) Salinity Section 3

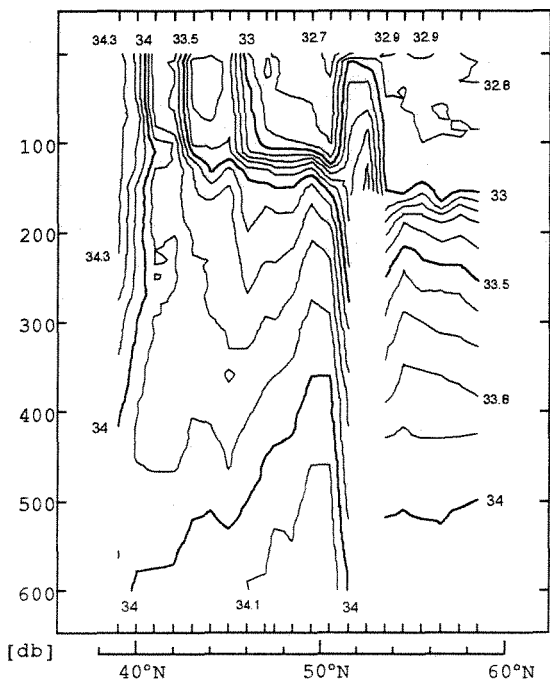
Fig. 3 Sections of (a)Temperature, (b)Salinity and (c)Temperature anomalies.  
 (a)Contour interval is 1°C.  
 (b)Contour interval is 0.1psu.  
 (c)Anomalies of 1997 from mean(1992- 1996).  
 Contour interval is 1°C. Minus areas are shaded.



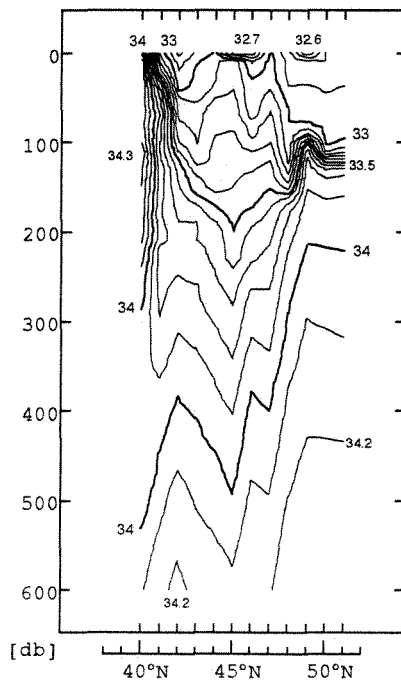
(a-2) Section 2 Temperature



(a-4) Section 4 Temperature

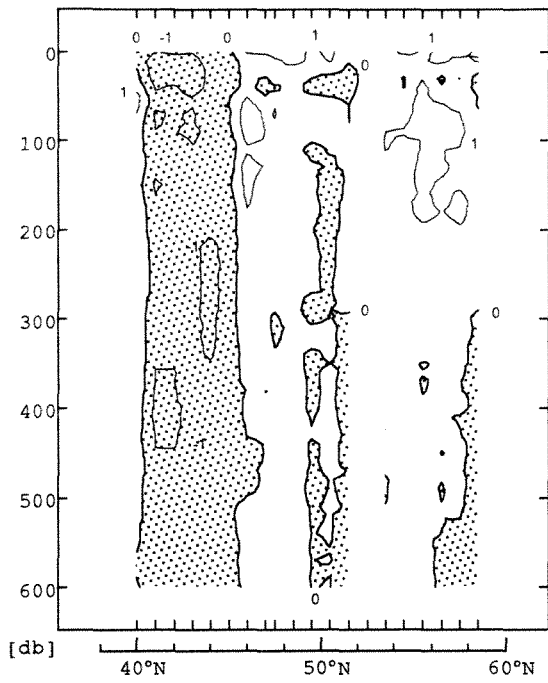


(b-2) Section 2 Salinity

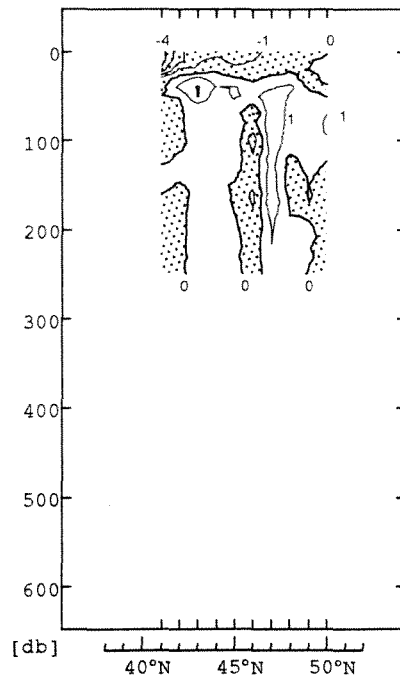


(b-4) Section 4 Salinity

Fig. 3 Continued.



(c-2) Temperature anomalies Section 2



(c-4) Temperature anomalies Section 4

Fig. 3 Continued.