

PICES-POMA Award for 2011

Goes to

.....

**NFRDI Serial Oceanographic
Observation in Korean Waters (NSO)**

NFRDI Serial Oceanographic Observation (NSO)

has been carried out for the purposes of:

- **Understanding the climatic variability and oceanographic condition**
- **Appreciating the fishing ground Environment and anthropogenic effects around Korea**

Predecessor of NFRDI in 1963



1963 국립수산진흥원

Present NFRDI



NSO has been a Key monitoring system in the marginal seas of the Northwest Pacific



Bukhansan (1960's)



Tamgu-3 (1990's)



Tamgu-20 (2010's)

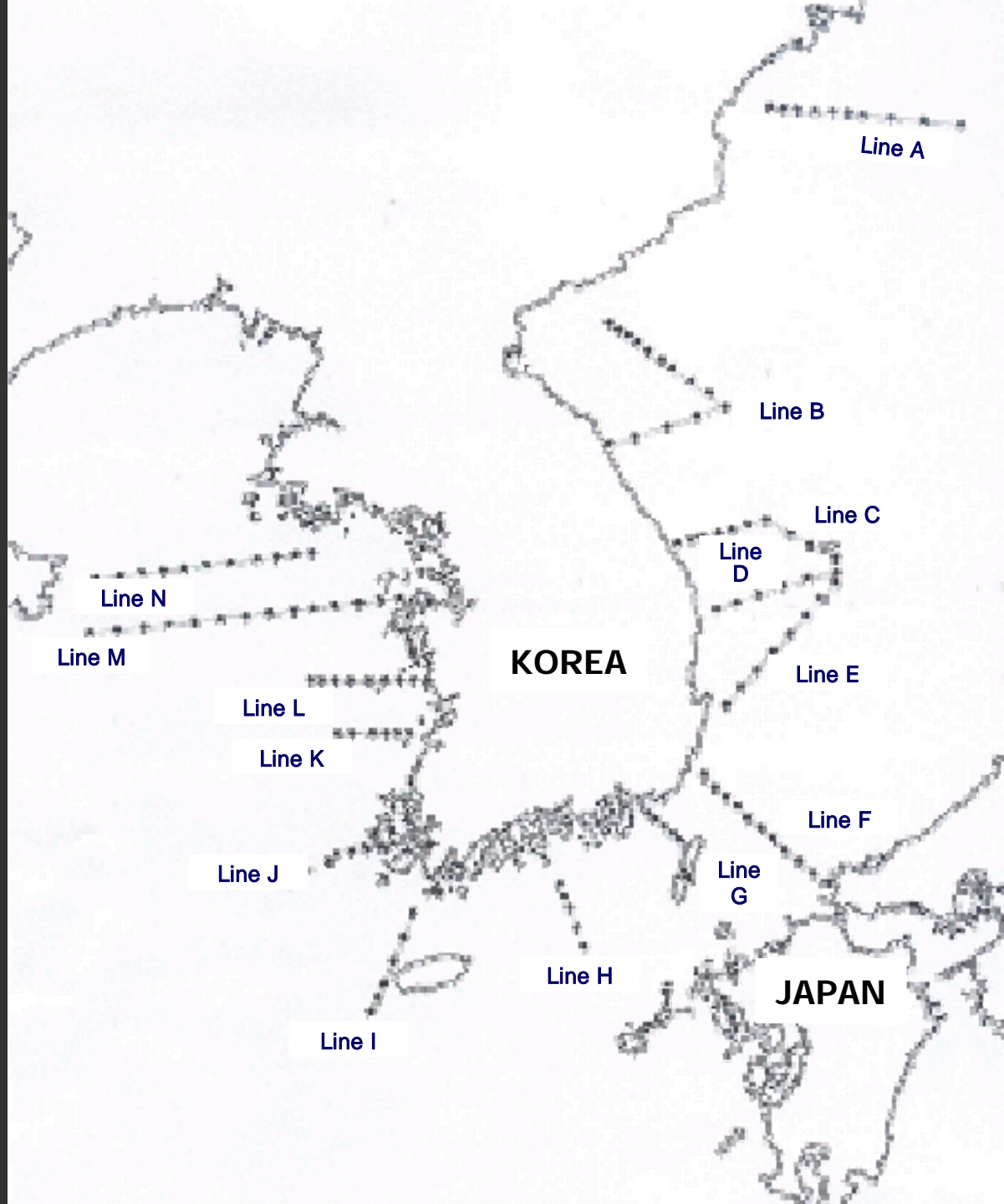


Tamgu-1 (2000's)

Research Vessels for NSO

NSO before 1960 (Period-)

- 1917: six observation lines were started to be surveyed (A, B, C, D, E, F)
- 1935: added 8 lines (expanded to North Pacific and East China Sea)



Field Note and Cruise Report (Period-)

Screening Table of Salinity, Oxygen and Phosphoric acid during 1931-1934

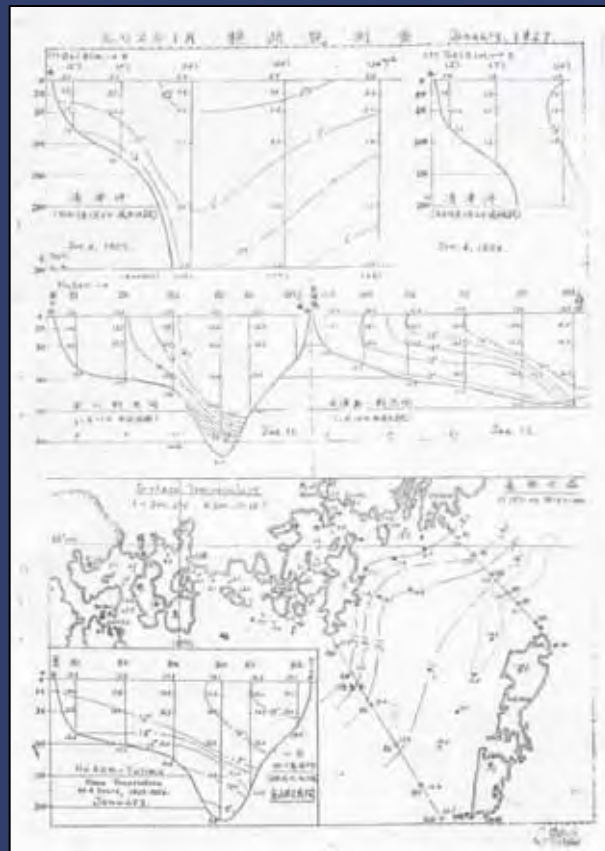


產南水試 5 試次

試次	1	2	3	4	5
1	35.0	35.0	35.0	35.0	35.0
2	35.0	35.0	35.0	35.0	35.0
3	35.0	35.0	35.0	35.0	35.0
4	35.0	35.0	35.0	35.0	35.0
5	35.0	35.0	35.0	35.0	35.0
6	35.0	35.0	35.0	35.0	35.0
7	35.0	35.0	35.0	35.0	35.0
8	35.0	35.0	35.0	35.0	35.0
9	35.0	35.0	35.0	35.0	35.0
10	35.0	35.0	35.0	35.0	35.0
11	35.0	35.0	35.0	35.0	35.0
12	35.0	35.0	35.0	35.0	35.0
13	35.0	35.0	35.0	35.0	35.0
14	35.0	35.0	35.0	35.0	35.0
15	35.0	35.0	35.0	35.0	35.0
16	35.0	35.0	35.0	35.0	35.0
17	35.0	35.0	35.0	35.0	35.0
18	35.0	35.0	35.0	35.0	35.0
19	35.0	35.0	35.0	35.0	35.0
20	35.0	35.0	35.0	35.0	35.0
21	35.0	35.0	35.0	35.0	35.0
22	35.0	35.0	35.0	35.0	35.0
23	35.0	35.0	35.0	35.0	35.0
24	35.0	35.0	35.0	35.0	35.0
25	35.0	35.0	35.0	35.0	35.0
26	35.0	35.0	35.0	35.0	35.0
27	35.0	35.0	35.0	35.0	35.0
28	35.0	35.0	35.0	35.0	35.0
29	35.0	35.0	35.0	35.0	35.0
30	35.0	35.0	35.0	35.0	35.0
31	35.0	35.0	35.0	35.0	35.0
32	35.0	35.0	35.0	35.0	35.0
33	35.0	35.0	35.0	35.0	35.0
34	35.0	35.0	35.0	35.0	35.0
35	35.0	35.0	35.0	35.0	35.0
36	35.0	35.0	35.0	35.0	35.0
37	35.0	35.0	35.0	35.0	35.0
38	35.0	35.0	35.0	35.0	35.0
39	35.0	35.0	35.0	35.0	35.0
40	35.0	35.0	35.0	35.0	35.0
41	35.0	35.0	35.0	35.0	35.0
42	35.0	35.0	35.0	35.0	35.0
43	35.0	35.0	35.0	35.0	35.0
44	35.0	35.0	35.0	35.0	35.0
45	35.0	35.0	35.0	35.0	35.0
46	35.0	35.0	35.0	35.0	35.0
47	35.0	35.0	35.0	35.0	35.0
48	35.0	35.0	35.0	35.0	35.0
49	35.0	35.0	35.0	35.0	35.0
50	35.0	35.0	35.0	35.0	35.0

Field note of hydrographical observations in 1933

Sample of spatial and vertical temperature distribution in 1927



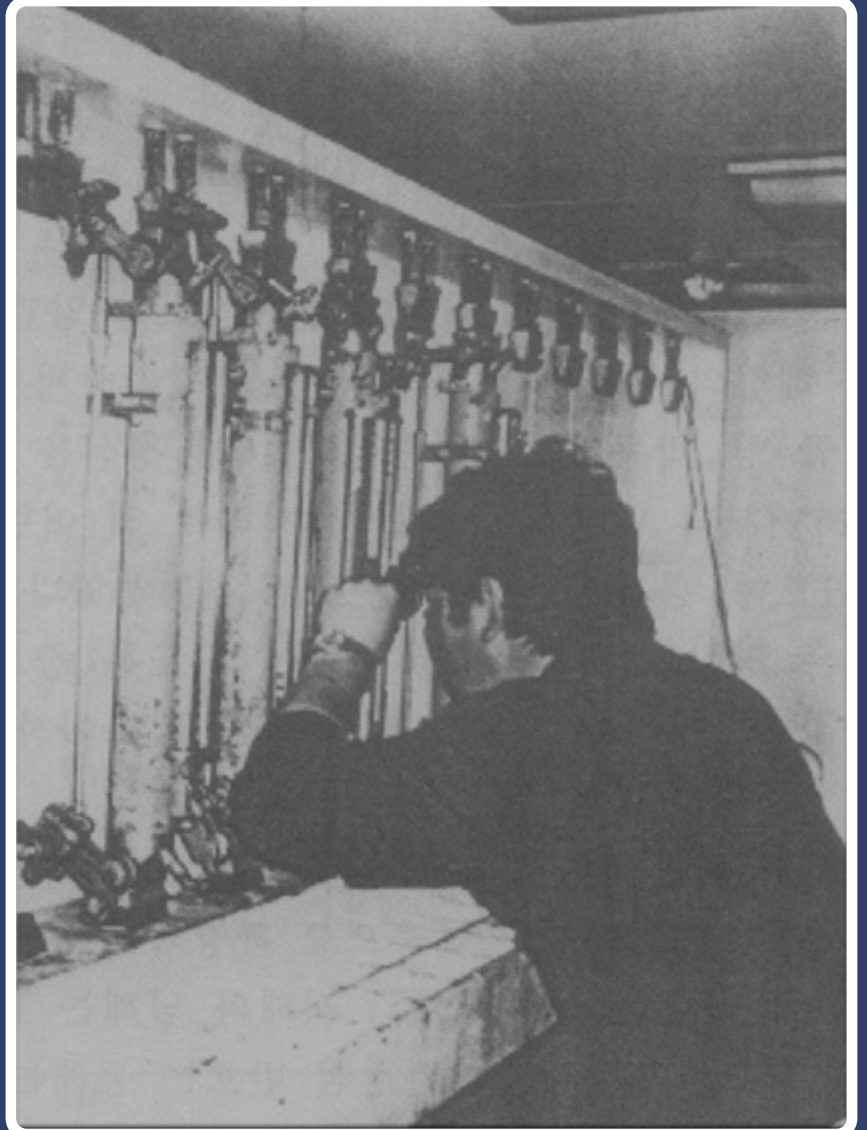
Field Note and Cruise Report (Period-)

23	25.6	23.8	23.20	25.29	✓				
23	25.0	24.1	23.40	25.52	✓				
24		(缺測)							
25	23.2	24.2	23.20	25.35	✓				
26	23.2	25.5	22.10	22.54	✓				
27	21.7	24.2	20.28	22.37	✓				
28	23.2	24.2	17.60	21.67	✓				
29	23.7	24.2	20.38	22.47	✓				
30	23.2	23.2	12.70	21.54	✓				
31	23.5	23.2	22.00	22.64	✓				
	水 温		△ 水 比 重		海 洋	氣 温		觀 測 日 數	天 氣
	合 計 (m. 時)	平 均 (m. 時)	合 計	平 均	觀 測 日 數	合 計	平 均	觀 測 日 數	天 氣
23	✓ 25.6	✓ 24.29	✓ 98.96	✓ 24.69	水 温 10 23.2	✓ 25.4	✓ 22.6	10	
24	✓ 25.0	✓ 24.09	✓ 298.50	✓ 24.85	10	✓ 279.0	✓ 22.7	10	風 雲
25	✓ 23.2	✓ 23.8	✓ 234.88	✓ 23.49	10	✓ 296.4	✓ 29.6	10	天 氣
計		✓ 66.46		✓ 73.03		✓ 746.8	75.14		記 事
		✓ 22.05		✓ 24.35			12.7		比 較

觀 測 日 數 8 月 / 日 8 時 0 分

Sample of Field Note in 1953 (During the Korean War)

Field Note and Cruise Report (Period-)



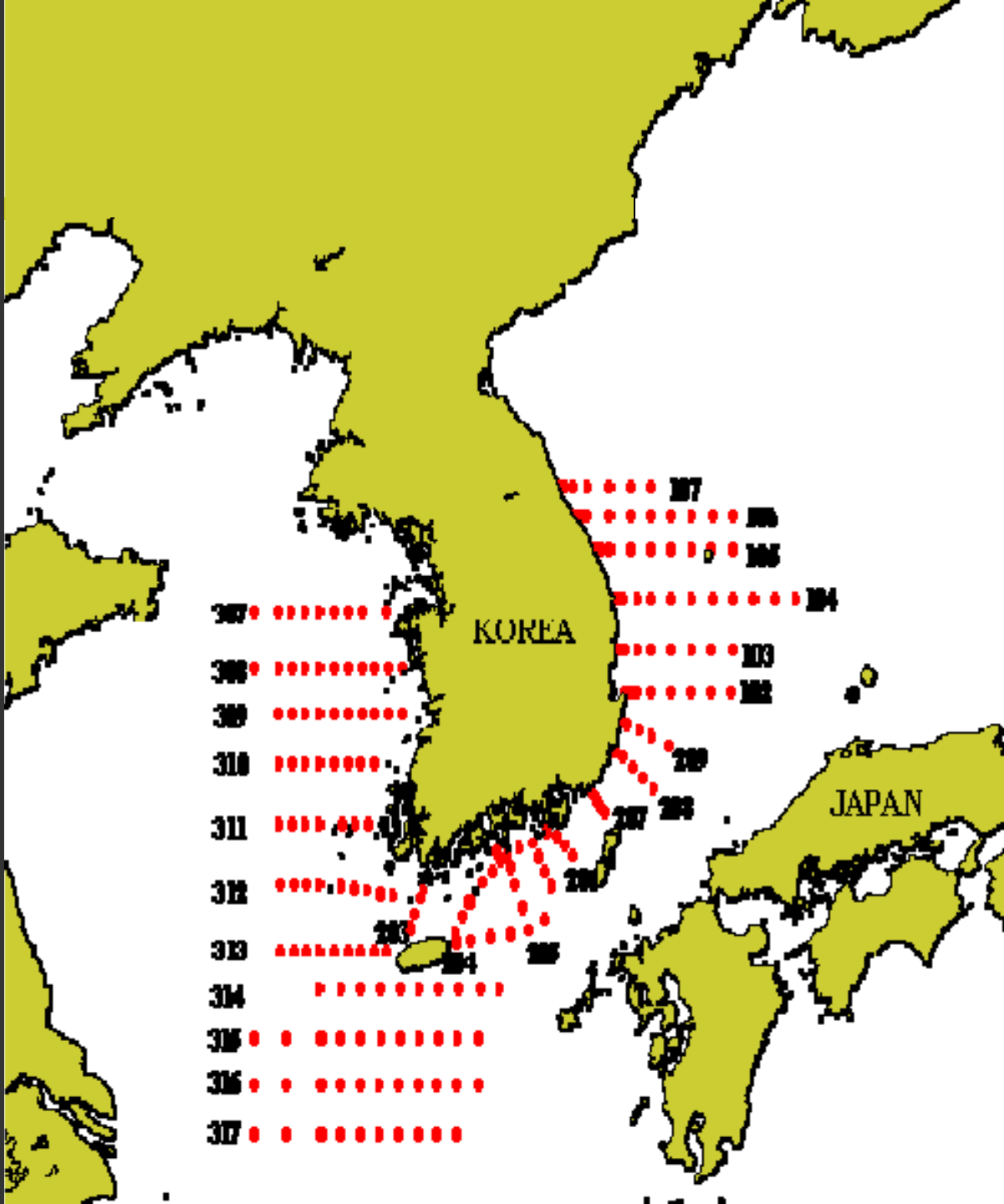
Field Note and Cruise Report (Period-)

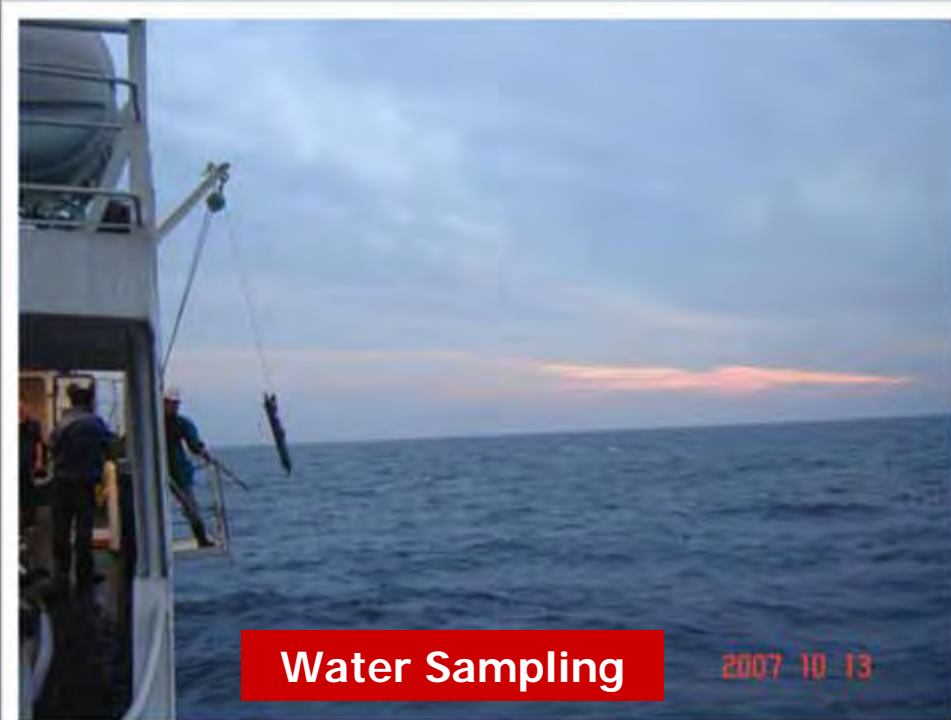


NSO after 1961 (Period-)

- 1961: reorganized the observation lines (22 lines, 6 times/year)
- 1995: 2 lines were added (315, 316)
- 2000: 1 line was added (317)

NSO carry out the serial oceanographic investigation on 196 stations at 6 or 4 times/year





Water Sampling

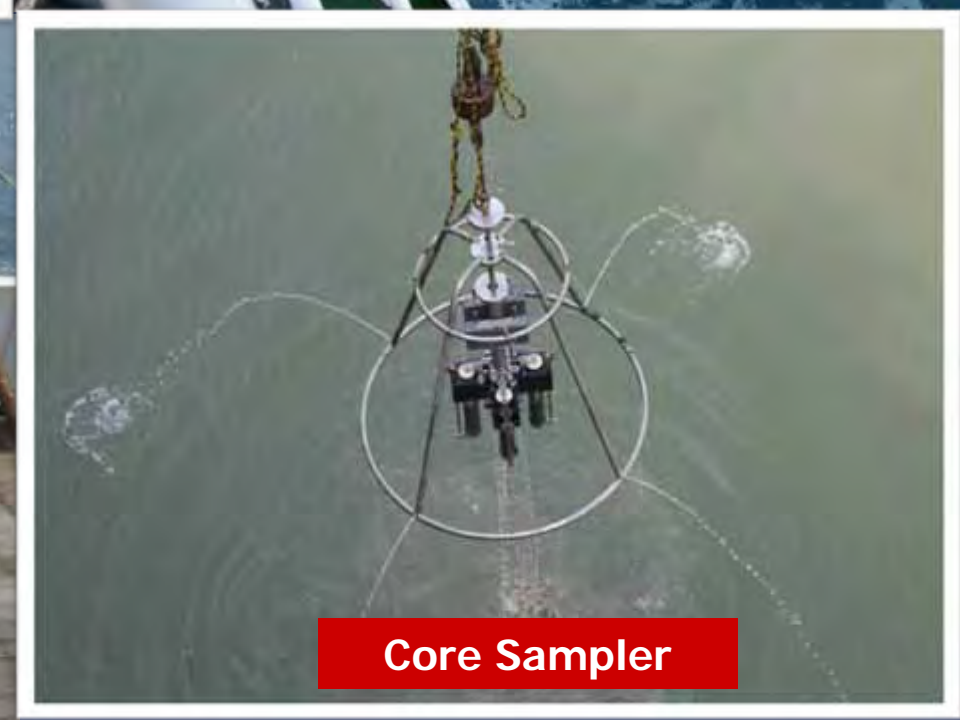
2007 10 13



Netting



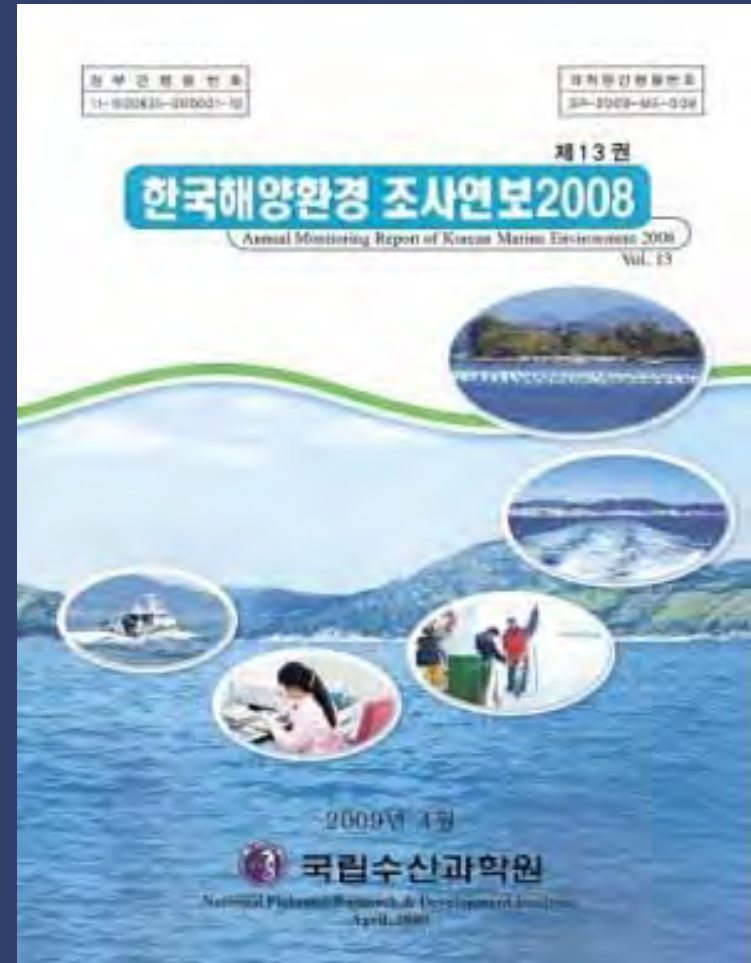
Rosette Sampler



Core Sampler

Offline Data Service by KODC (Period-)

- Annual reports of NSO have been published every year since 1952
- including reference level data for the SST, salinity, dissolved oxygen, the nutrients, zooplankton and meteorological factors



Annual reports of NSO

Online Data Service by KODC (Period-)

한국해양자료센터
Korea Hydrographic Data Center

소개 KODC 해양관측자료 해양과학데이터정보 ARGO 자전모드

해양관측자료

정선해양관측자료 개요

정선해양관측 · 해양관측

정선관측지점 위치도

정선해양관측지점 위치도

- 101
- 102
- 103
- 104
- 105
- 106
- 107
- 108
- 109
- 110
- 111
- 112
- 113
- 114
- 115
- 116
- 117

한국해양자료센터
Korea Hydrographic Data Center

소개 KODC 해양관측자료 해양과학데이터정보 ARGO 자전모드

KODC 21세기 해양계 움직이는 신 해양사회의 국내외 해양정보 국감수신과확장 한국해양자료센터에서 제공해 드립니다.

해양관측자료 정선해양관측자료 관측소검색

정선해양관측자료

관측소검색

지역: 동해 남해 서해 동중국해

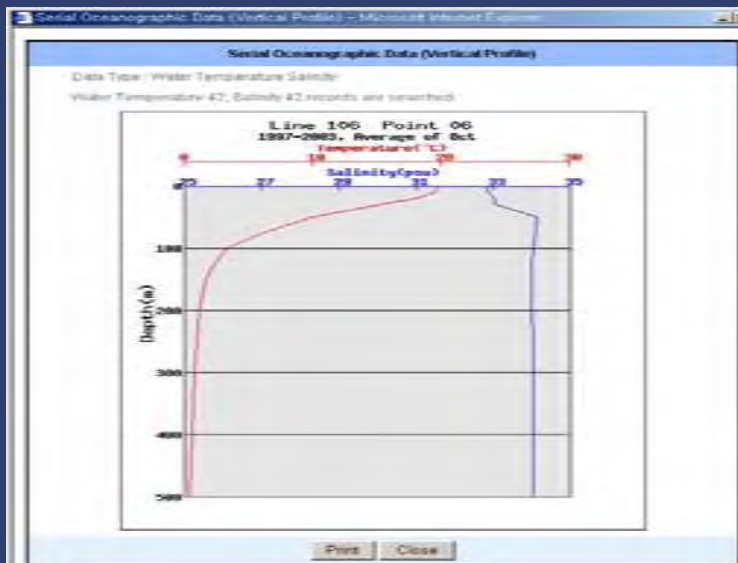
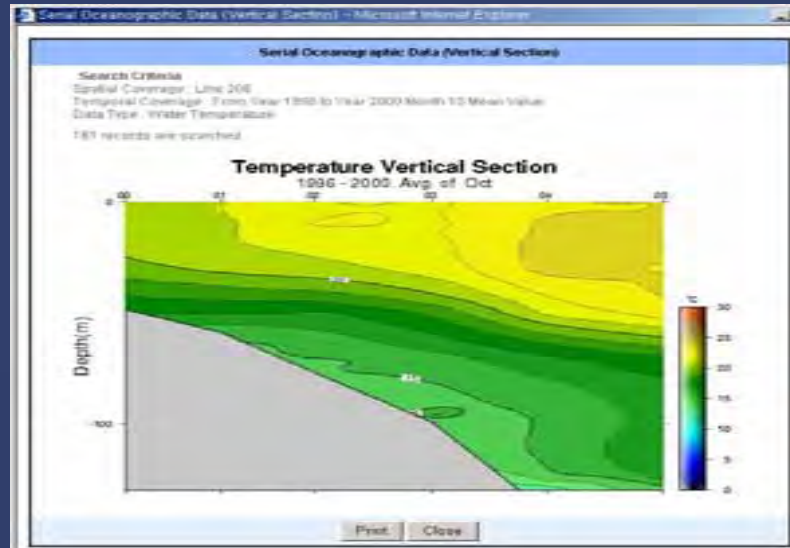
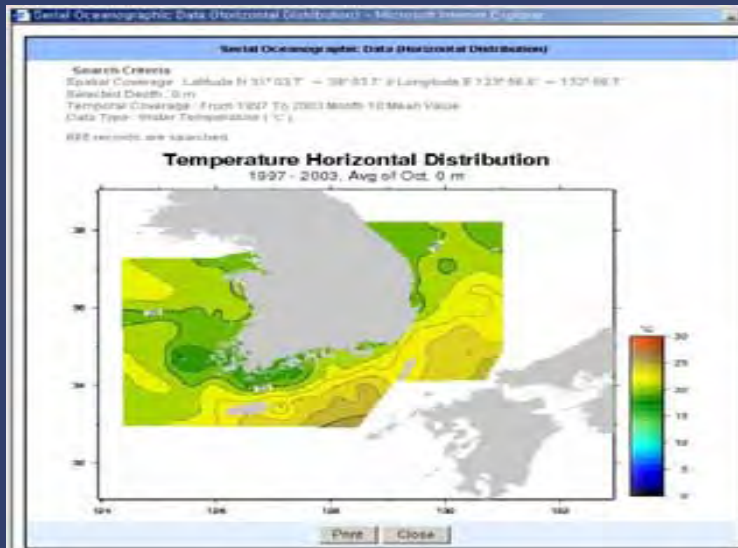
정선-정점

검색

관측소 목록

번호	지역	정선-정점	관측시작일	관측종료일	위도	경도	출발크린	태풍수준
1	동해	102-00	1997-02-05		36.077	129.5803		
2	동해	102-04	1962-06-23		36.077	129.615		
3	동해	102-05	1961-06-19		36.077	129.6883	100	
4	동해	102-06	1961-06-19		36.077	129.797		
5	동해	102-07	1961-06-19		36.077	130	100	
6	동해	102-08	1961-06-19		36.077	130.307		
7	동해	102-09	1961-06-19		36.077	130.615	100	
8	동해	102-10	1961-07-28		36.077	130.9183		
9	동해	102-11	1965-08-18	1999-02-22	36.046	131.136		
10	동해	102-12	1965-08-18	1978-05-14	36.046	131.324		
11	동해	102-13	1965-08-18	1978-05-14	36.046	131.506		
12	동해	102-14	1978-03-26	1978-05-14	36.046	132.09		
13	동해	102-15	1967-08-16	1978-05-14	36.046	132.273		
14	동해	103-00	1997-02-14		36.505	129.483		

Online Data Service by KODC (Period-)



Serial Oceanographic Data (Table) - Microsoft Internet Explorer

Serial Oceanographic Data (Table)

Search Criteria
 Data Type: Wind Force / Wind Direction / Wave Direction / Cloud Type / Cloud Amount
 Spatial Coverage: Latitude N 30° 23.0' - 34° 33.0' & Longitude E 129° 03.2' - 131° 11.0'
 Temporal Coverage: Data of year 1997 month 10
 72 records are searched

No.	Line	Point	Latitude	Longitude	Observed Date	Wind Force	Wind Direction	Wave Direction	Cloud Type	Cloud Amount	Metadata
1	102	04	38° 04.6'	129° 36.9'	1997-10-11	3	WSW	WSW	-	00	ink
2	102	05	38° 04.6'	129° 41.2'	1997-10-12	3	WSW	WSW	-	00	ink
3	102	06	38° 04.6'	129° 47.6'	1997-10-13	2	SW	SW	-	00	ink
4	102	07	38° 04.6'	130° 00.0'	1997-10-13	2	SSW	SSW	-	00	ink
5	102	08	38° 04.6'	130° 10.4'	1997-10-12	3	SSW	SSW	-	00	ink
6	102	09	38° 04.6'	130° 36.9'	1997-10-12	4	SSW	SSW	-	01	ink
7	102	10	38° 04.6'	130° 55.0'	1997-10-13	4	SSW	SSW	-	00	ink
8	103	02	38° 30.3'	129° 20.0'	1997-10-14	4	N	N	NS	05	ink
9	103	04	38° 30.3'	129° 30.1'	1997-10-14	4	NW	NW	NS	04	ink
10	103	05	38° 30.3'	129° 35.4'	1997-10-14	4	WNW	WNW	NS	02	ink

1 page Go

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Accomplishment of NSO

- NSO has supported domestic and international researchers to share NSO data
- Fishing conditions in Korea waters have been forecasted based on NSO data



Accomplishment of NSO



- NSO data are used for academic purpose
- Research results are utilized for marine and fisheries policy issues by policy makers
- Long-term NSO has derived valuable result for climate research in Korea



Over 90 years, many organizations have helped to maintain NSO...

