

Used sources of Data

- Ship observations:
 - Russian: <http://www.pacificinfo.ru/>, <http://gis.poi.dvo.ru/>
 - Korean: <http://www.nfrda.re.kr/kodc/data/sodata/index.html>
 - Japanese: <http://idoss1.iodc.go.jp/>, <http://near-goos1.iodc.go.jp/>
- ARGO observations:
 - GODAE centre: http://www.usgodae.org/cgi-bin/argo_select.pl
 - Satellite:
 - New Generation SST (NGSST): <http://www.ocean.caos.tohoku.ac.jp/>
 - AVISO altimetry: <http://www.aviso.oceanobs.com/duacs/>

Introduction

This work describes:

- Technology of merging datasets of GOOS(NEAR-GOOS) and ARGO using the Virtual Database (VDB-technology)
- Examination of mesoscale structures pattern observed during 1999-2004 within Japan Sea basin
- Technique of remote detection mesoscale eddy at the East/Japan Sea basin.
- Future applications for obtained dataset

Development software for combining data sample in a real time mode from different databases.

Technical features of VDB-implementation:

- OS: Windows XP
- Web-server: Apache
- User-interface language programming: PHP 4.3
- VDB-engine: IDL – virtual machine.
- The current VDB-implementation is portable for running under UNIX-like systems

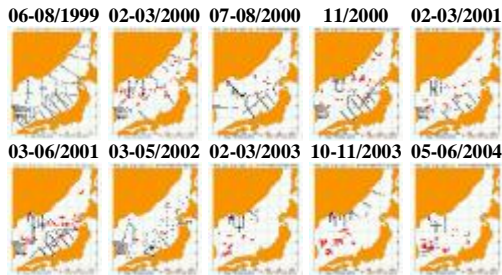
Development of oceanographic data assimilation technology for making comprehensive dataset of East Sea historical observations.

- Making quick selection of data sample from different databases/archives distributed worldwide have been a reason of using VDB-technology in the developing of comprehensive dataset.

Samples of web-interface

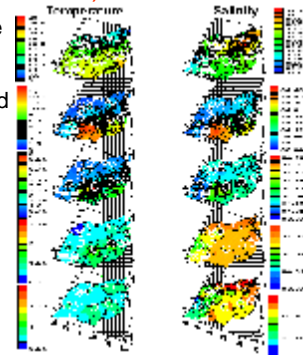
Main page
Parameters choice page
Result visualization page

Obtained data fields (static view)

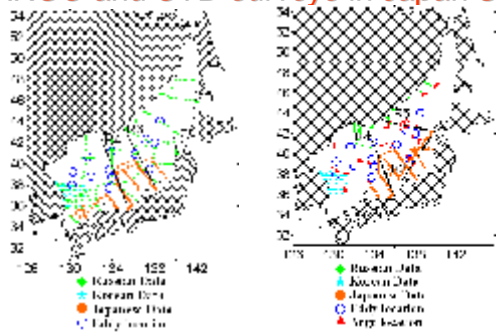


Mesoscale eddies location (October 2000)

- For October 2000 the similar result have been obtained - data anomalies correspond to observed from satellite eddies locations.
- Instead of sparse of ship survey using Argo data allows to reproduce general basin structure.



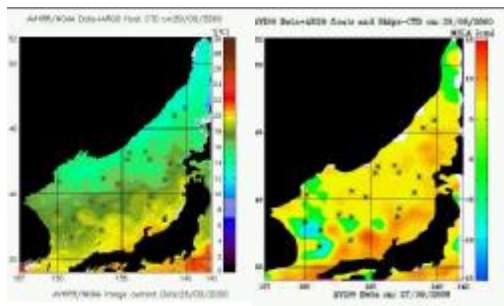
ARGO and CTD-surveys in Japan Sea



Eddies locations: Inter Institution Regional Satellite Monitoring Center
NOAA AVHRR satellite infrared images

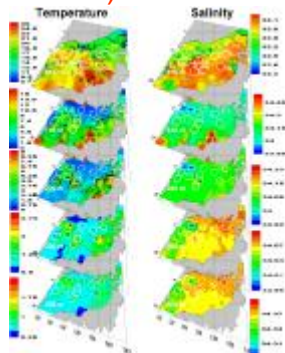
Merging with SST and Altimetry (continue)

SST on 10-11/2000 Altimetry on 10-11/2000

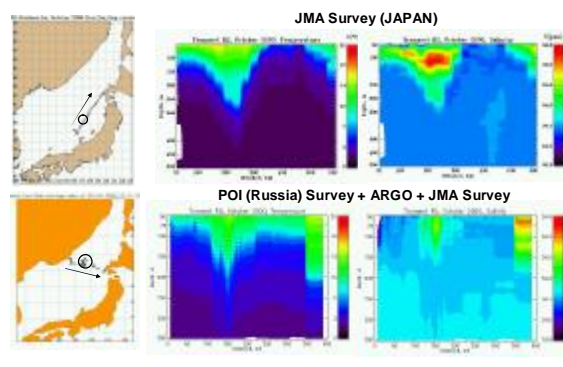


Mesoscale eddies location (Summer 1999)

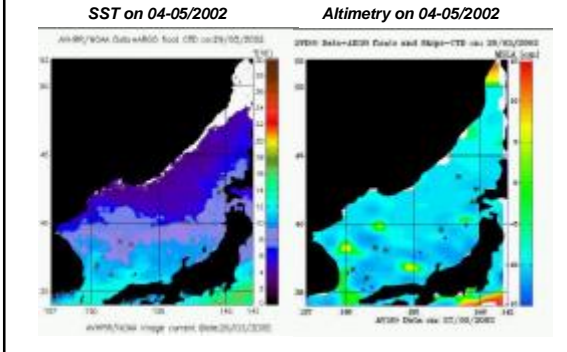
- Using NOAA satellite infrared images and merged TOPEX/POSEIDON-ERS satellite altimeter data mesoscale eddy structure have been analyzed at the intermediate layer (white circles show location of mesoscale eddies).
- This page presents intermediate water structure for Summer of 1999 (temperature and salinity)
- Generally the interpolated fields' data anomalies correspond to observed from satellite eddies locations.



Transects through Eddies (October 2000)



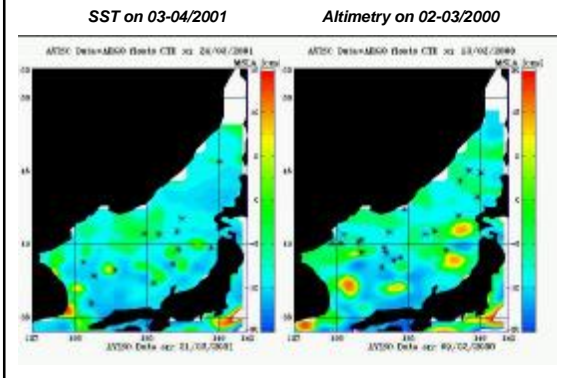
Examination dynamic properties of eddies



Results and Conclusions

- The tool for merging data from NEAR-GOOS and ARGO data archives have been created.
- Obtained fields provide information about mesoscale structure within basin scale for 1999-2004.
- Interpolated fields' data anomalies correspond to observed from satellite eddies locations. That confirm appropriateness of merging chosen datasets.

Eddy and ARGO-motion



Eddy and ARGO-motion (continue)

