

DE IODE 50th Anniversary International Conference

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IODE, Providing ocean data and information to the world for 50 years...

Global Temperature and Salinity Profile Programme

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1. Objectives

- Provide a timely and complete data and information base of ocean temperature and salinity profile data.
- Implement data flow monitoring system for improving the capture and timeliness of real-time and delayed-mode data.

5. Data Volume Evolution: 1990 – 2010





- Improve and implement agreed and uniform quality control and duplicates management systems.
- Facilitate the development and provision of a wide variety of useful data analyses, data and information products, and data sets.



Figure 1. A schematic diagram shows the infrastructure of the GTSPP data flow and data management.

2. Infrastructure

- Global Telecommunication System (GTS): The GTSPP uses the GTS to acquire near real-time data, handled by the Integrated Scientific Data Management (ISDM) of Canada.
- IODE Data Centres: Historical data are acquired either from other national oceanographic data centres (NODCs) or from cooperation with projects such as Climate Variability and Predictability (CLIVAR) & World Ocean Database (WOD).

Figure 4. Evolution of GTSPP data volume from 1990 to 2010. The legends are: 1.) BT = Bathythermograph; 2.) CTD = Conductivity, Temperature and Depth; 3.) DB = Drifting Buoy; 4.) FB = Fixed Buoy; 5.) PF = Profiling Float; and 6.) XB = Expendable Bathythermograph;

On-line Data Search Tool: GTSPP Web Interface 6.

Ability to search by:

- **Spatial Range**
- Date Range (1990 Present)
- Season Filter
- Data Mode:



Continuously Managed Database (CMD): The US NODC provides data processing services for historical data and maintenance of the CMD. GTSPP clients receive data from both ISDM and NODC anytime between three times per week, monthly or on request.

3. Assessing Data Quality

GTSPP utilizes the existing IODE data network and processing system to acquire and process real-time and delayed mode data and coordinates the scientific quality control (QC) activities. The QC procedures are:

- Duplicate Elimination Check
- Platform Identification
- Location and Date Tests
- **Profile Tests**
- Climatology Tests
- Profile Consistency Tests
- Visual Inspection
- Cyclic Redundancy Check

MEDS ASCII FILE: D:\GTSPP\QCED\Data\BOAB_199703.meds	
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	3 19970303 0237 9999999999 38.7167 N 151.3300 W 76T
	4 19970303 1729 9999999999 38.6783 N 156.5300 W 76T
	5 19970304 0242 9999999999 38.5500 N 159.6433 W 76T
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	11 19970307 0524 9999999999 37 3600 N 174 7700 E 76T
	12 19970307 1916 999999999 37.1650 N 170.1067 F 76T
	13 19970308 0519 9999999999 37.1617 N 166.3550 E 76T
	14 19970308 1934 9999999999 37.1667 N 161.1583 E 76T
140 160 180 -160 -140	15 19970309 0516 9999999999 37.1633 N 157.0733 E 76T

Figure 2. Main window of a data quality control editor develped by the US NODC.

4. Feature Data Type: Marine Mammals-derived CTD

- Real Time,
- Delayed-Mode, or
- Best Copy
- Data Type:
 - Profiling Floats,
 - TAO/TRITON/PIRATA
 - Fixed Buoys, CTD, MBT, XBT

Products:

- List of station numbers
- Retrieve data and/or
- Display in HTML

Offline Data Delivery: DVDs 7.

DVDs Features:

- Written to the ISO9660 format with the RockRidge extension.
- Data stored in the netCDF format, sorted by years and months, then compressed.
- All documents including meeting reports.
- Tools for exploring the data stored on DVDs:



Vhat's New Step 1. Specify the Spatial Range: Vhat's New To select the region of interest, do one of three things: Skep 1. Specify the Spatial Range: - Enter values in the text fields below; or What's GTSPP - Enter values in the text fields below; or What's GTSPP - Select an ocean basin using the radio buttons Activities Northernmost Latitude Infrastructure 90.0 Contributors Westernmost Longitude -180.0 Related Links -90.0 Coress GTSPP Data Southernmost Latitude User-Defined Data ets -90.0 Rest Copy Data OK Map 1.1 OK	Profile Program	If the criteria specified would retrieve more, only the station count will be returned. You retrieve larger numbers of stations by making several smaller selections.	nay	
ccess GTSPP Data Southernmost Latitude User-Defined Data ets details at right> Real-Time Data Sets Best Copy Data Image: Common Com	Vhat's New cknowledgments <u>overview</u> What's GTSPP Activities Infrastructure Contributors Related Links	Step 1. Specify the Spatial Range: To select the region of interest, do one of three things: - Enter values in the text fields below; or - Mouse-drag on the map and click "OK" to place values in the text boxes; or - Select an ocean basin using the radio buttons Northernmost Latitude 90.0 Westernmost Longitude -180.0 180.0 Easternmost		
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Figure 5. Screen shot of the GTSPP Web Interface. (http://www.nodc.noaa.gov/cgi-bin/gtspp/gtsppform01.cgi)

In July 2008, GTSPP started to manage the data set of CTD (Conductivity, Temperature and Depth) profiles derived from marine mammals. The animalborne CTD data are strategically important because they get high data return from logistically difficult areas of oceans.



Figure 3. Station locations plots of the animal-borne CTD data for 2009 (Fig. 3a) and 2010 (Fig. 3b)...

Ocean Data Explorer (ODE):

- "SQForm": Station Query Form
- "ncConverter": Convert NetCDF files Ο



Figure 6. Composite screen shots of the ODE modules.

8. Current Status: Operational

- Publish near real-time data sets three times a week.
- Update the best copy data sets once a month.
- Distribute data in response to emergencies, if needed.

Contact GTSPP: E-Mail: nodc.gtspp@noaa.gov 9.



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