

In-Situ Data Selection/Subsetting Tool for Argo CD-ROM

FY 2004 Proposal to the NOAA HPCC Program

August 11, 2003

| [Title Page](#) | [Proposed Project](#) | [Budget Page](#) |

Principal Investigator: **L. Charles Sun**

Line Organization: NESDIS

Routing Code: E/OC1

Address:

NODC

Bldg: SSMC3 Rm: 4635

1315 East West Hwy

Silver Spring, MD 20910-33282

Phone: (301) 713-3272 x111

Fax: (301) 713-3302

E-mail Address: Charles.Sun@noaa.gov

Donald Denbo

NOAA/PMEL-JISAO

Donald.W.Denbo@noaa.gov

John Osborne

Java OceanAtlas

John.Osborne@noaa.gov

Proposal Theme: **Technology Transfer**

L. Charles Sun
Oceanographer
NOAA/NESDIS/NODC

H. Lee Dantzler
Director
NOAA/NESDIS/NODC

In-Situ Data Selection/Subsetting Tool for Argo CD-ROM

Proposal for FY 2004 HPCC Funding

Prepared by: L. Charles Sun and Donald W. Denbo

Executive Summary:

The goal of this proposal is to package and make minor changes to ndEdit, the data selection and subsetting component of two successful HPCC projects, so that it can be used as the data selection /subsetting tool on the Argo data distribution CD-ROM that can be used by scientists, ocean applications and operational programs by the end of FY2004.

Problem Statement:

The selection of individual or selected groups of in-situ observations from an extremely large collection is often cumbersome and time consuming. Additional constraints on how to best perform the selection function is complicated when the data is distributed on CD-ROM and the application must be useable in a cross-platform environment.

This proposal supports the HPCC objective “to improve technology for access to critical data, information and unique resources”, and the HPCC technology transfer objective “to extend the utilization of previously funded and successful HPCC projects” by helping “others utilize and enhance existing prototypes”.

Proposed Solution:

We propose that ndEdit, a module designed to enable users to easily sort through large collections of station data efficiently, be repackaged and included with the NODC Argo CD-ROM. NdEdit was developed as part of the Climate Data Portal client application (“A Climate Data Portal”, HPCC funding in FY2001), the Fisheries Oceanography Collaboration Software (“Fisheries Oceanography Collaboration Software”, HPCC funding in FY2001), and has been used with the EPIC data management system and Java OceanAtlas, a CTD and bottle analysis tool. NdEdit is written in Java and with minor changes can be used as a standalone application.

The Argo CD-ROM will be updated on a regular schedule as more Argo profile data continually becomes available. It is therefore very important that the ndEdit support files are generated automatically and the ndEdit installation package be customized in an automated manner for each distribution package. These processes will be controlled by a script or program that can be run regularly.

The transfer of ndEdit to this new application will require:

- ❖ Modification of ndEdit to run as a standalone application
- ❖ Automated creation of a spatial-temporal location file containing the location of each Argo profile.
- ❖ Packaging ndEdit with support files for easy installation on all major platforms using InstallAnywhere Standard Edition, a commercial package.
- ❖ Development of a script to control the generation of the spatial-temporal location file, ndEdit packaging, and reliability testing.

Analysis:

Using ndEdit to enable a user to subset the Argo dataset was chosen for several reasons. 1) ndEdit is designed to easily subset data using a graphical user interface and will require only minor modifications to work in this new context and 2) ndEdit is written in Java, a portable development environment, and therefore little if any effort is required to get ndEdit to work on all major computer platforms.

We are unaware of any other application that is capable of providing a graphical interface to the sub setting of large in-situ collections, developed either commercially or available through open source. InstallAnywhere Standard Edition was chosen to package ndEdit because it provides easy cross-platform installation and to develop such capabilities would far exceed the cost of the software.

Using ndEdit and InstallAnywhere provides:

- ❖ Sub setting large collections using a graphical user interface
- ❖ Cross platform support
- ❖ Easy creation of installation packages for multiple platforms

Performance Measures:

Milestones

- Month 01- Collect requirements
- Month 02 – Develop and test Argo in-situ selection tool
- Month 03 – Deploy Argo in-situ selection tool

Deliverables

- Argo CD-ROM with ndEdit data selection