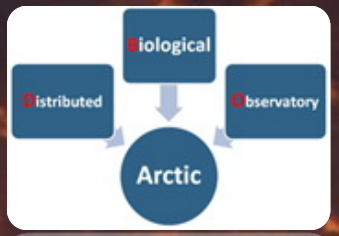


DBO Data Questionnaire Summary and Data Management Discussion

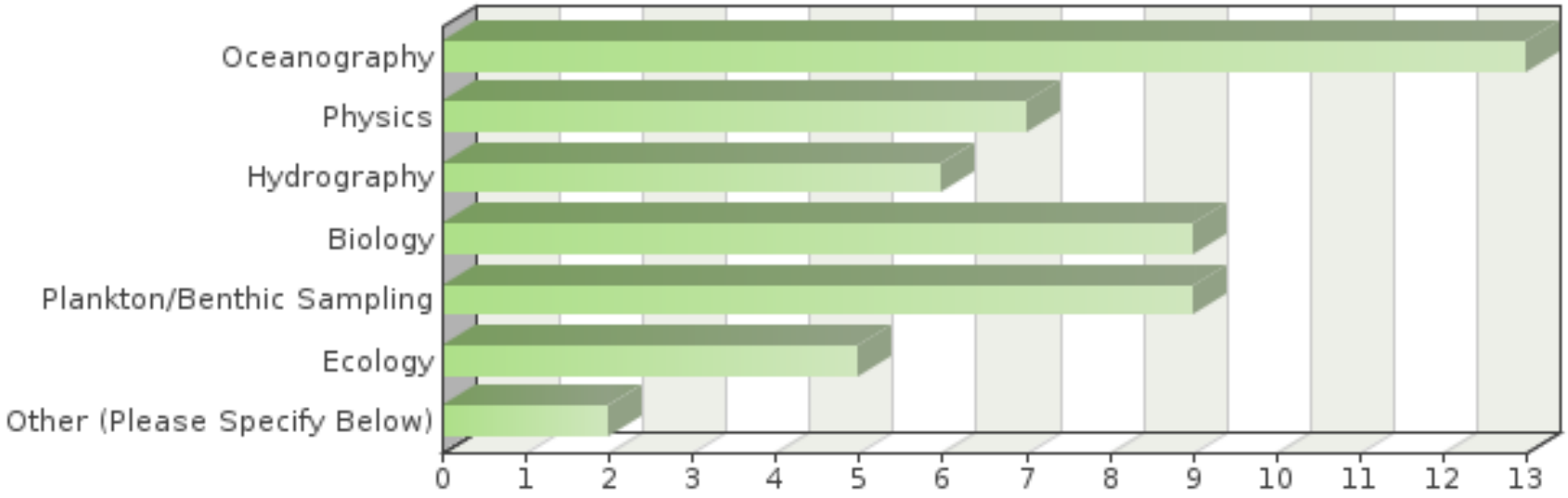
Steve Williams, Jim Moore, and Scot Loehrer

NCAR/EOL

DBO Data Meeting, Seattle, WA 27 Feb - 1 Mar 2013

General Information

- 15 responses
- Responses from US, Canada, South Korea and Japan.
- A range of research areas of interest represented:



Measurements Made

Physical Oceanography - Moorings, CTD, XCTD, shipboard ADCP, upward looking ADCP, ice profiling moorings, meteorological buoys, salinity, temperature, nutrients, chlorophyll a (and other pigments), primary production, PAR

Sediments - organic carbon, nitrogen, chlorophyll a, grain size, hydrocarbons, metals

Biology - Benthic infaunal abundance and biomass, phytoplankton taxonomy, bacterial abundance and production, microplankton, zooplankton, benthic epifauna abundance and biomass, pelagic and demersal fish abundance and biomass, seabird and marine mammal distribution and biomass, marine mammal vocalization recordings, microzooplankton, copepod and eupausiid genetics and CN content, ichthyoplankton, acoustic backscatter of zooplankton, passive acoustic recordings at fixed sites and along cruise tracks.

Biogeochemistry/Bio-optics– POC, PON, POP, NO3, NO2, NH4, PO4, Si)2, Si(OH)4, DOC, DON, DOP, DIC, alkalinity, pCO2, CDOM absorption, profiles of Ed, Lu, Es and Eu, FRRF, CHL fluorescence, CDOM fluorescence backscatter, beam transmission, PVE, Ap, Ad, As, 234^{Th}, particle size distribution and number concentration, underwater spectral radiation, light absorption and scattering, optical backscatter

Data Collection Techniques

CTD, XCTD, shipboard ADCP, moorings, radiometer, custom acoustic moorings, upward looking ADCP moorings, scattering meter, spectrophotometer
0.1 m2 van Veen grab, double van Veen grab
HAPS benthic corer
2m gravity corer
Fluormeter
Finnigan delta
Niskin bottle rosette (several)
150 and 505 um double bongo and vertical nets
Plumb-staff beam trawl
Otter trawl
Binoculars
HPLC
13C uptake
Acrobat towed vehicle
Ring net
Tucker trawl
1m2 Tucker Sled 333 micron mesh
ISUS nitrate sensor
AUTOSAL salinometer
Winkler titration using automatic photometric titrators
Continuous flow automated analytical systems using QuAAtro
Coulometer
Autonomous Underwater Recorder for Acoustic Listening
Sonobuoy

Sampling Interval

- 2-3 week cruises, 2-3 times per year. Typically 50-100 stations for process cruise and 30 stations on time series DBO cruise.
- Almost every year
- For moorings 15min-hourly; for CTD casts
- <10 km
- 2-3 times per summer
- Non-regular
- Km for CTD/nets/bottles, < km for acrobat profiles
- Stations ~10 nm apart and 1 cruise per year in August
- Water samples annually and mooring nutrient sensor hourly
- Once cruise per year
- Once a year
- 5-10km station spacing for CTD, 5 minute ensembles from continuous ADCP sampling
- Underway system samples every 10 seconds, underway CTD every ~6 hours in deep water, 30-40 CTD/Rosette casts per cruise.
- 1.5 hour recording every 5 hours at sampling rate of 16kHz mostly
- Visual observations 08-20 daily.

Processing and QC

- Freeze nutrients for post-cruise processing. Post-cruise sort, identify and weigh infaunal organisms.
- Sediments dried and analyzed for grain size. Subsamples acidified for carbon content and stable isotope determination. Use radioisotopes for dating.
- Comparing same data from publications
- In house processing
- Scripps protocols
- Annual recalibration of sensors, the usual QA/QC programs are run. Seabird and marine mammal data subjected to analyses of detectability to ensure standardized estimates of abundance. All components have their own QA/QC programs. Data Managers have data screening routines to flag out of range values.
- Intercomparison, algorithm round robin, NASA protocols
- Not sure what you are looking for.
- Calibration with primary standards
- CTD – Salinity and oxygen data calibrated comparing to bottled seawater data.
- Nutrients – calibrated against reference material for nutrients in seawater
- TA and DIC – calibrated against reference material provided by Scripps
- Standard, well known techniques. Inter-calibration sometimes done with other labs
- CTD – standard Sea-Bird processing and calibration of salinity using bottle data.
- ADCP – CODAS software protocol and de-tiding using Arctic tidal model.
- CTD calibrated by Seabird annually, data processed and QC'd after each cruise.
- Convert data into 10-min files with consistent nomenclature. Analyse for marine mammal species. QC checks made on the visual data.

Data Time Series

- 27 years for Bering and Chukchi Sea, some data in East Siberian Sea, Beaufort Sea, and Arctic Ocean. For DBO project have data back to 1985 for our own work at some sites. Prior to that have select data from US and Russian scientists in region.
- About 10 years
- Since 1990 for moorings and 2000 for CTD
- 2 years
- 2008-2012 (about half of stations), 2011-12 (1 station), 2012 (7 stations)
- Three years (2007, 2008 and 2013)
- Two for DBO line and 8 for neighboring lines
- 3 (2010-12) will continue through 2015
- 15 years
- Data in 2002, 2004, 2008-10, and 2012
- Four years (2006, 2008, 2011, and 2012)
- 2010 onwards
- Annual cruises since at least 1999, but stations and parameters vary from year to year.
- Three years (2010-12)

Other Data To Enhance Your Research

- temperature, salinity, nutrients, chlorophyll, phytoplankton/zooplankton composition, abundance and biomass. For benthos need data from other scientists working in region. Also need periodic epibenthic trawls and regular seabird and marine mammal surveys.
- Nothing special
- More CTD data and other mooring data in the Chukchi
- Satellite data
- Benthos, fish, particle flux
- Other estimates of euphausiid size distribution and abundance.
- Temperature, salinity and phytoplankton species
- Data from the Russian EEZ of Chukchi Sea (e.g. RUSALCA)
- CTD data, PAR, in vivo fluorescence, dissolved inorganic carbon
- Nutrient data
- To identify source of sounds it would be helpful to correlate sightings from other projects with our recordings. Also ship tracks to correlate these to our ambient noise measurements.

Future Data Collection and Pending Proposals

- Five years of NSF DBO support on CCGS Laurier 2013-17. BOEM support for select DBO lines in 2013.
- Keep collecting same data in same area for detecting change in western Arctic Ocean
- NSF – moorings and CTD to summer 2013, ONR moorings from 2013-4, NSF pending mooring and CTD summer 2014-18.
- No
- Continue monitoring for foreseeable future, SOW submitted annually
- July 2013 cruise
- Two more years of sampling funded
- Rusalca and NABOS funded proposals
- Hydrographic and biogeochemical survey cruises in 2013, 2015 and beyond.
- Canadian funding. No pending proposals.
- AON project proposed allow continuation of Barrow Canyon DBO line.
- Ongoing collaboration for next number of years.
- Long term moorings to all 5 DBO regions from 2012 to at least 2016. Sampled at 1.5 hours every 5 hours at 16kHz. For 2013-15 will have survey cruise with visual and sonobuoy monitoring.

Current Data Archival

- DBO data will be archived at EOL ACADIS. Also past NSF DBO site data at EOL (SBI/BEST). RUSALCA data hosted by AXIOM. BOEM COMIDA data archive vi UT-Austin and transferred to NODC. DBO pertinent data will be cross-linked to EOL DBO archive site or added to DBO archive.
- On my computer.
- Data at NODC and our web site. Metadata also at ACADIS, AOOS, RUSALCA(?) and likely elsewhere.
- Stanford, NASA
- AOOS
- GRENE project database. Will be put on NIPR (Japan)
- EOL
- NOAA/AFSC
- NODC, NSIDC and personal files
- JAMSTEC DMG (Darwin)
- WHOI-based AON website.
- IOS
- NOAA/ASFC

Willing to Share via DBO Archive Site?

- Yes (5)
- Need to check KOPRI data policy.
- Metadata yes, prefer to keep data at our site and NODC to help with versioning.
- Publically available via AOOS.
- Yes for essential data (CTD, nutrients, etc)
- Yes, don't think need to arrange/unify data format for DBO. DBO archive site should only provide information of PI and link of the data.
- Most of it yes. Would like to keep productivity data for own use for now.
- Most probably. Need to discuss with rest of team first.

Password Protection?

- Yes (7)
- No (2)
- N/A - Data already public.
- N/A - Data are AON data
- Some of it perhaps, but much is part of AON and thus available at EOL.
- Yes for people outside DBO community, no for those within the group.

Time Frame for Full Community Access?

- Per NSF AON requirements, must post data within 6 months for public access.
- Need to check KOPRI data policy.
- Months of data collection
- Very soon
- Data made public every year once submitted for checking/proofing.
- Depends on the kind of data.
- AON data immediately, other data 1-2 years.
- Depends on how long it takes me to get it into a form we can use.
- 1 year after lab and mass spec analyses are complete
- Two years after the cruise.
- Not sure, 1 year?
- Immediately after processing (mandated by AON)
- Data normally available ~10 months after collection unless part of a student project
- Passive acoustic data very time consuming to process and would not want raw data to be made public for at least 5 more years.

Anything Else?

- Need to make sure have standard measurements and gear type (net size, benthic sieve size, equipment) or correction factor to cross-compare DBO data sets both nationally and internationally.

- We are establishing a PO DBO website.

- Not ANOTHER data site. Coordinate with others that already exist.

BEST

Project Description

The Bering Ecosystem Study (BEST) project is a multi-year, interdisciplinary program to develop an end-to-end mechanistic understanding of how climate change will affect the marine ecosystems of the eastern Bering Sea, the continued use of their resources, and the social, economic and cultural sustainability of the people who depend on them.

BEST is motivated by the realization that the Bering Sea is in the midst of significant, interrelated physical and biological change that may impact the region's carrying capacity and productivity, the sustainability of fish and shellfish stocks of great economic value for the nation, and the livelihoods of Native communities and fishers. These changes involve climate forcing, physical properties and processes in the ocean, and biological responses from the level of the physiology of individual organisms to the structure and function of entire ecosystems.

BEST is supported by the National Science Foundation (NSF) Office of Polar Programs (OPP).

Project Related Links

Bering Sea Project Data Archive at EOL
BEST EOL Homepage
BEST Homepage

Data Access
Archive Summary
Cruise Summary
Field Catalog
Mapservers

Search Results

Search Query: Barrow

Barrow Area Information Database (BAID) Geospatial Data Sets ... ARCSS
The **Barrow** Area Information Database (BAID) data collection is comprised of geospatial data for the research hubs of **Barrow**, Atqasuk and Ivotuk on Alaska's ...
data.eol.ucar.edu

Landsat Derived Historical Lake Extents for the Barrow Peninsula ... ARCSS
This data set consists of Lake extent maps for the **Barrow** peninsula from five historical Landsat satellite images classified by a hierarchical classification system.
data.eol.ucar.edu

Barrow Area Remote Sensing - BAID Power Poles: dataset description ARCSS
This data set contains power pole layer data from the **Barrow** Area Information Database (BAID) from the villages of **Barrow** and Atqasuk on Alaska's North Slope ...
data.eol.ucar.edu

Point Barrow, Alaska and Vicinity Bathymetry: dataset description ARCSS
This data set contains bathymetry data for Point **Barrow**, Alaska, and its vicinity. A bathymetry grid was interpolated from depth soundings measured in meters ...
data.eol.ucar.edu

Data Access

Bering Sea Project Data Archive

Search Bering Sea for Google™ Custom Search

Find Data:

Project:
- [ ] BEST
- [x] BSIERP

Cruise: Clear

HLY-06-01
HLY-07-01
HLY-07-02
HLY-08-01
HLY-08-02
HLY-08-03
HLY-09-01
HLY-09-02
KN195-10
PSEA-10-01

Subject: Clear

ADCP
Abundance
Bathymetry
Benthos
Biogeochemical
Biology
Biomass
Buoy
CTD
DMSP

Search Reset

Search Results:

View table in new window

The following list contains data sets from **BSIERP** that can be classified under **Biomass**.

Project Number	Dataset Title	Author/PI	Project	Documentation	Comments
B62	Depth-integrated euphausiid (Family Euphausiidae) backscatter in June, July, and August 2010 (B62)	Ressler, P.H.	BSIERP	Documentation	Created on 2012-02-08.
B62	Depth-integrated midwater pollock biomass in June, July, and August 2010 (B62)	Ressler, P.H.	BSIERP	Documentation	Created on 2012-02-15.
B55	Estimation of Micro-zooplankton (MZ) Abundance and Biomass, Summer 2010 (B55)	Stoecker, Diane	BSIERP	Documentation	Created on 2012-01-06.
B55	Summer Microzooplankton in the Bering Sea (B55)	Stoecker, Diane	BSIERP	Documentation	Created on 2009-04-23.
B75	Correlative Biomass Dynamics Model	Uchiyama, Tadayasu	BSIERP	Documentation	Expected on 9999-01-01.

Number of Datasets: 5

SBI Data Archive at NCAR EOL

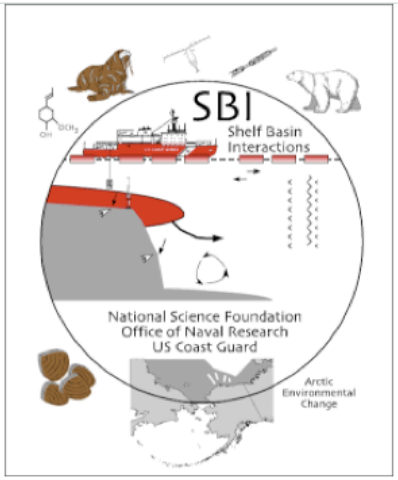
SBI Data Archive Home /

SBI Data Archive

- Home
- SBI Home Page (UMd)
- Meeting Presentations
- Cruise Summary Info
- Cruise Field Catalogs
- Participants
- Mapservers
- Archive Summary
- Links

Data Access

All Data
Underway
Satellite
Service-Bottle
Service-CTD
Mooring



Shelf Basin Interactions Project (SBI)

The Western Arctic Shelf-Basin Interactions (SBI) project is a contribution of the National Science Foundations (NSF) Arctic System Science (ARCSS) global cha SBI project is that global change will especially influence physical and biological basins. As such, SBI field efforts will converge on the zone comprised of the out water mass exchange and biogeochemical cycles, and where the greatest respo Western Arctic SBI study area covers the Chukchi and Beaufort seas. It is anticip to a Pan-Arctic perspective.

Project Objectives

The fundamental goal of the Shelf-Basin Interactions (SBI) program is to u link the arctic shelves, slopes, and deep basins within the context of globa chemistry, and physics of the Arctic Ocean and its associated ecosystems and atmosphere by both physical and biogeochemical mechanisms, such have on North Atlantic convection and thermohaline circulation of the wor biogeochemical processes occurring over the arctic shelves and a synoptic understanding of these processes is essen impacts of climate change. For example, carbon dioxide fluxes from sources or sinks on Arctic shelves may have direct negative ramifications for local marine resources and human populations that are dependent upon them for subsistenc processes that are sentinel indicators of global change, including alteration of current biogeochemical cycles. These in

Data by Cruise

HLY-04-04: Mooring
HX-290: Bering Strait
HLY-04-03: Process
HLY-04-02: Process
HLY-03-03: Mooring
NBP03-04a: Survey
HX-274: Bering Strait
2003-14: Helo Survey
HLY-02-03: Process
AWS02: Chk/Bft Mooring
HX-260: Bering Strait
HLY-02-01: Process

Data by Discipline

Benthic
Hydrography
Ice
Meteorology
Microbiology
Optics
Plankton
Primary Productivity
Water Chemistry

SBI Data Categories, Authors and Cruise information

SBI Archive Summary

Total Number of Datasets: 360

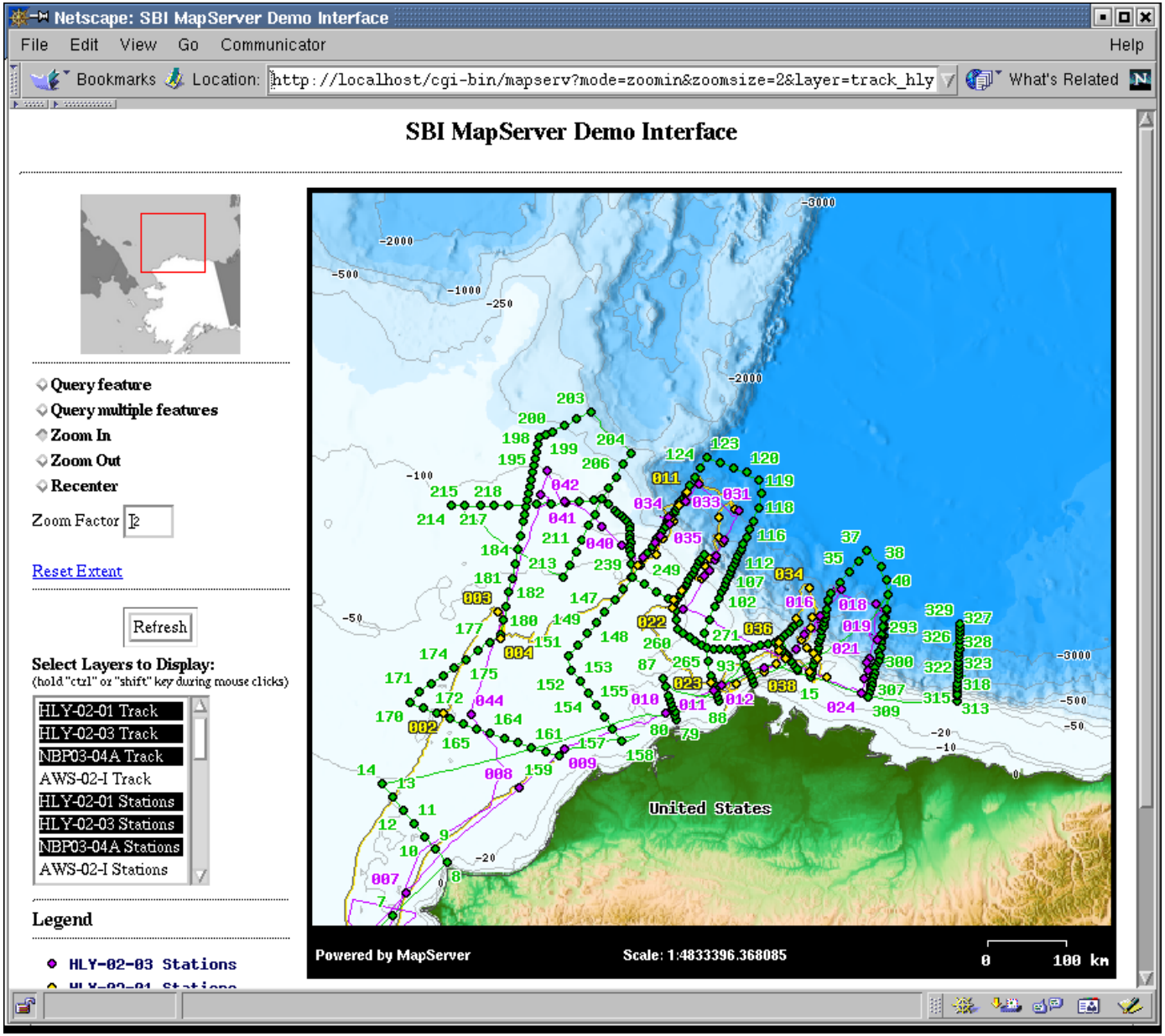
Author/PI: Total defined: 360	
Aagaard, K., R. Woodgate, and T. Wein ...	5
Aagaard, K., and R. Woodgate	1
Ashjian, C.	4
Ashjian, C., and R. Campbell	4
Ashjian, Carin, Cabell Davis, Robert ...	1
Bates, N. R.	8
Bates, N., D. Hansell	4
Benner, R.	6
Campbell, R. and C. Ashjian	8
Christensen, J.	1
Christensen, J. P.	1
Christensen, J. and H. Melling	3
Cooper, L., and J. Grebmeier	4
Cota G., L. Pomeroy	1
Cutter, G.	8
Darby, D.	10
Devol, A. H. and J. P. Christensen	2
Dunton K., J. Grebmeier, D. Maidment	2
Dunton, K.	8
Eicken, H.	3
Eicken, H., K. Tateyama	1
Eicken, H., R. Gradinger	1
Flagg, C.	14
Gradinger, R.	5
Gradinger, R. and H. Eicken	1
Grebmeier, J.	4
Grebmeier, J. and L. Cooper	16
Hansell, D. and N. Bates	2
Hansell, D. and N.R. Bates	6

Category: Total defined: 1098	
Abundance	6
Bathymetry	1
Benthos	79
Biogeochemical	38
Biology	2
Biomass	50
Buoy	3
CTD	30
Hydrography	124
Meteorology	55
Microbiology	11
Model	3
Mooring	10
Navigation	22
Nutrient	22
Oceanography	58
Optics	15
Paleoceanography	8
Plankton	43
Production	10
R/V Alpha Helix	14
R/V Nathaniel B. Palmer	12
Radioisotope	16
Satellite	23
Sea Ice	18
Sediment	15
Ship Based	1
Stable Isotope	11
USCGC Healy	238

Event: Total defined: 333	
2003-14	3
AOS-94	4
AWS-02	7
HLY-02-01	83
HLY-02-03	92
HLY-03-01	4
HLY-03-03	8
HLY-04-02	52
HLY-04-03	46
HLY-04-04	8
HX-235	3
HX-250	3
HX-260	3
HX-274	3
HX-290	2
NBP03-04a	12

Site: Total defined: 358	
Arctic Ocean	34
Barrow	1
Bering Strait	11

Special Products such as EOL GIS Mapserver



PacMARS

Pacific Marine Arctic Regional Synthesis Data Archive

SHOW LEGEND

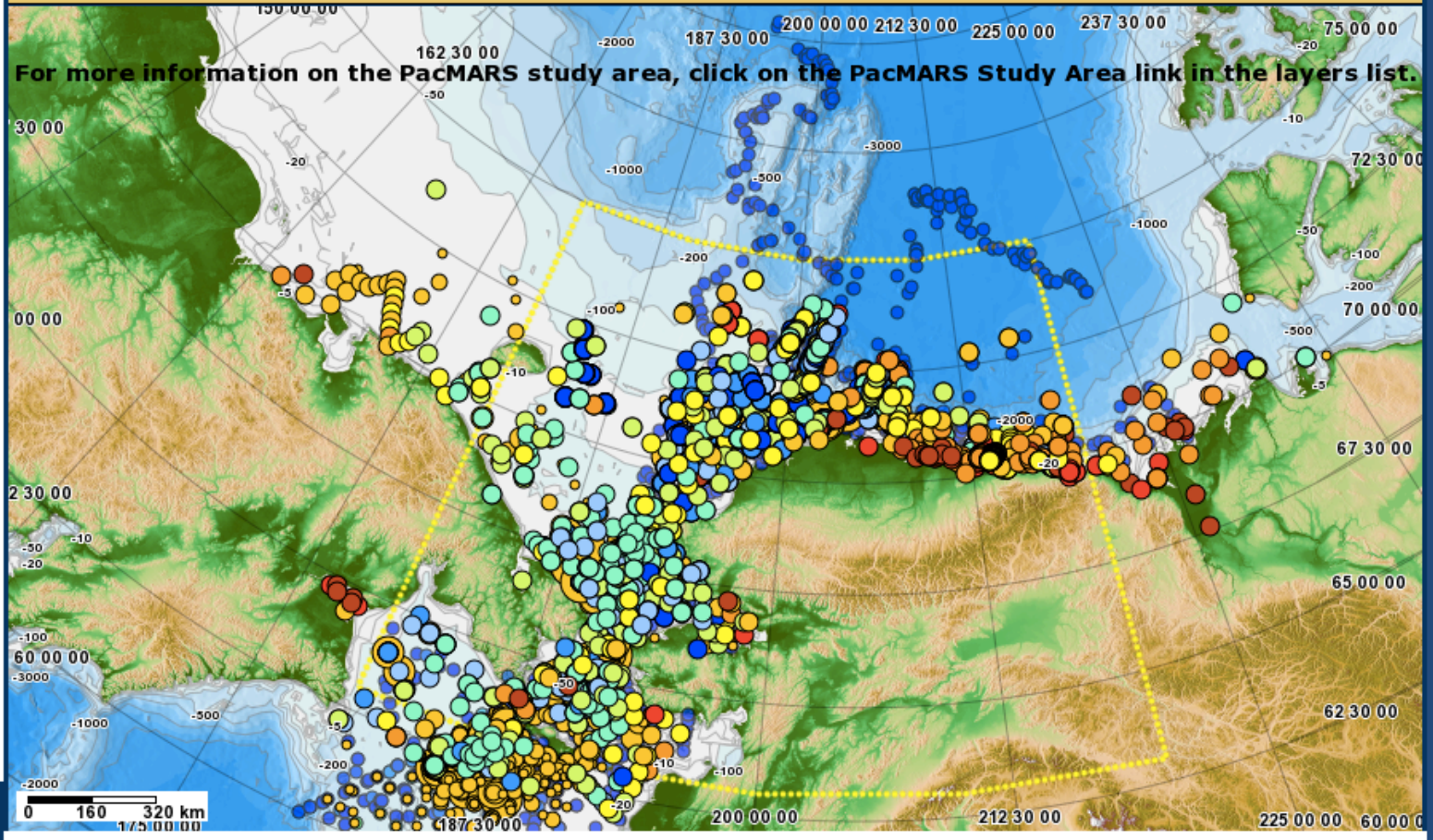
Refresh Map

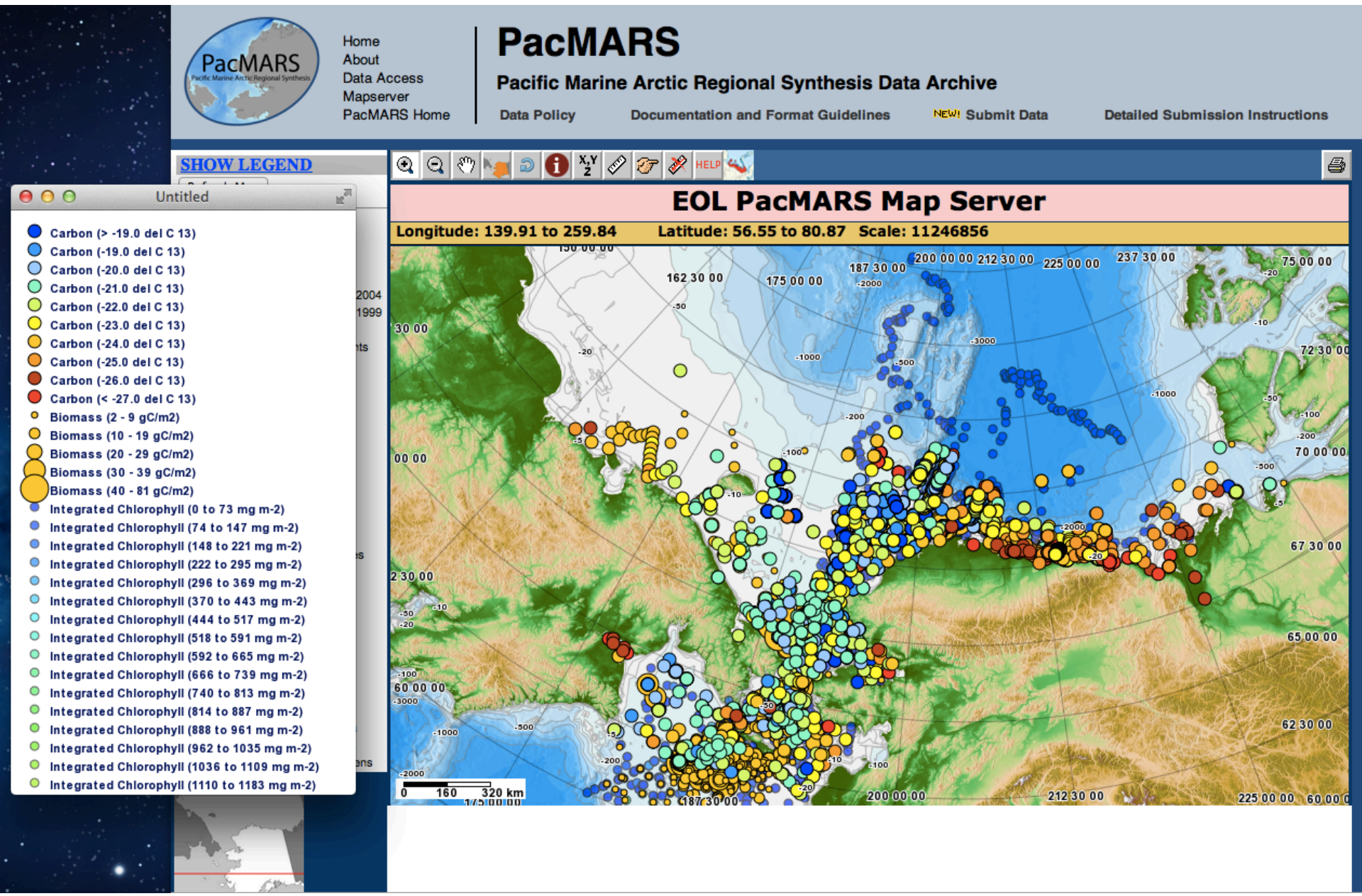
- PacMARS Layers
  - PacMARS villages
  - Ashjian data
    - Matrai data
    - July/Aug - 2000 thru 2004
    - July/Aug - 1980 thru 1999
  - Dunton data
    - Sediment control points
    - Stable Isotope data
    - Isotope delC13 data
    - Asian Rivers
    - NA Rivers
  - Grebmeier/Cooper data
    - Biomass data
  - S. Moore data
    - NMML Data
  - Okkonen data
    - CTD data
  - Yamin-Pasternak data
    - NAO Reindeer Routes
    - Subsistence Uses
    - Hydrology 2004 data
    - Hydrology 2005 data
    - Hydrology 2006 data
    - Hydrology 2007 data
    - Hydrology 2008 data
    - Hydrology 2009 data
    - NAO Study Area
  - Oil Industry data
    - Benthic Ecology data
      - Epifaunal Species
      - Epifaunal Specimens

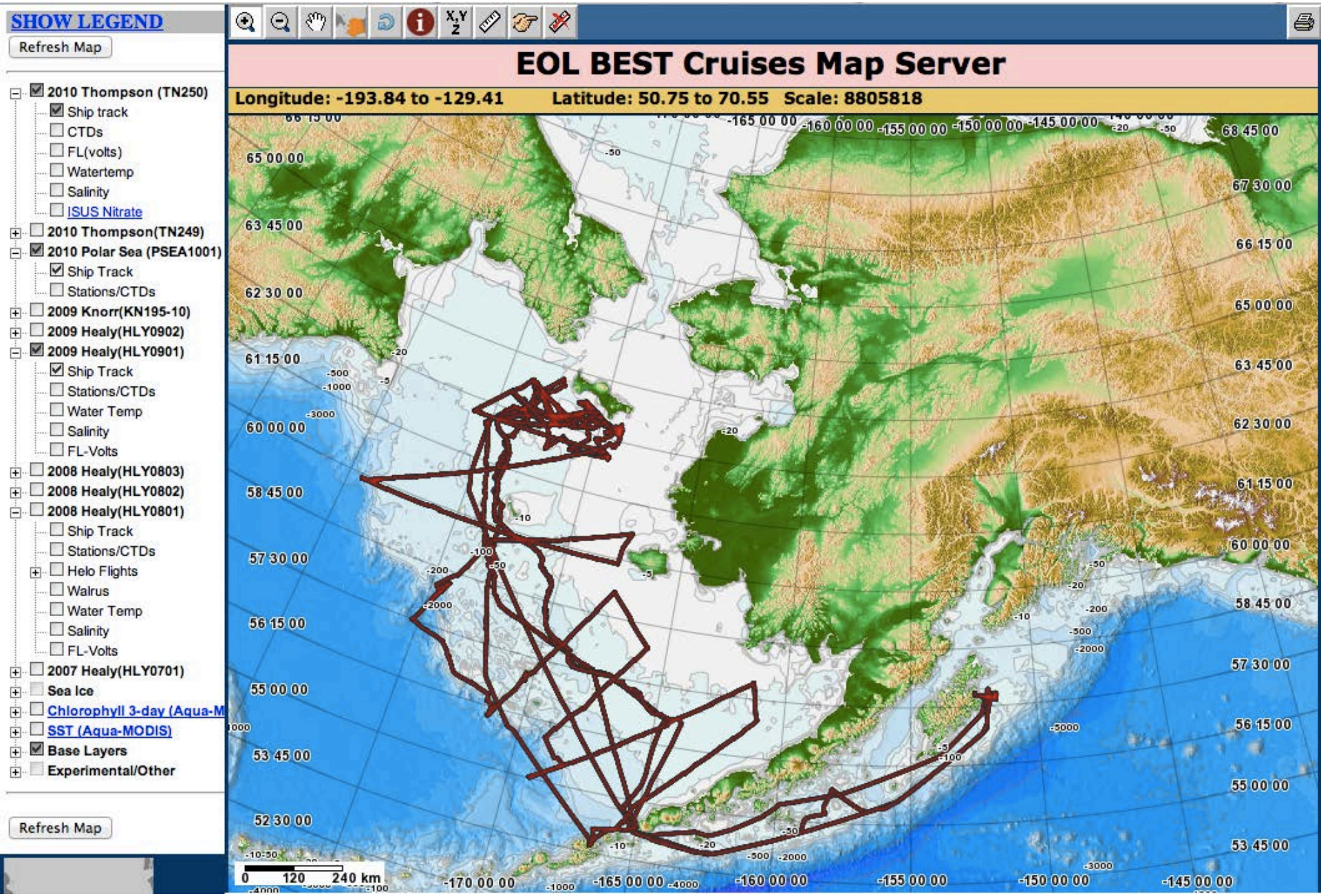
HELP

EOL PacMARS Map Server

Longitude: 139.91 to 259.84 Latitude: 56.55 to 80.87 Scale: 11246856




PacMARS
Pacific Marine Arctic Regional Synthesis
Home
About
Data Access
Mapserver
PacMARS Home
PacMARS
Pacific Marine Arctic Regional Synthesis Data Archive
Data Policy
Documentation and Format Guidelines
NEW! Submit Data
Detailed Submission Instructions
SHOW LEGEND
Untitled
Carbon (> -19.0 del C 13)
Carbon (-19.0 del C 13)
Carbon (-20.0 del C 13)
Carbon (-21.0 del C 13)
Carbon (-22.0 del C 13)
Carbon (-23.0 del C 13)
Carbon (-24.0 del C 13)
Carbon (-25.0 del C 13)
Carbon (-26.0 del C 13)
Carbon (< -27.0 del C 13)
Biomass (2 - 9 gC/m2)
Biomass (10 - 19 gC/m2)
Biomass (20 - 29 gC/m2)
Biomass (30 - 39 gC/m2)
Biomass (40 - 81 gC/m2)
Integrated Chlorophyll (0 to 73 mg m-2)
Integrated Chlorophyll (74 to 147 mg m-2)
Integrated Chlorophyll (148 to 221 mg m-2)
Integrated Chlorophyll (222 to 295 mg m-2)
Integrated Chlorophyll (296 to 369 mg m-2)
Integrated Chlorophyll (370 to 443 mg m-2)
Integrated Chlorophyll (444 to 517 mg m-2)
Integrated Chlorophyll (518 to 591 mg m-2)
Integrated Chlorophyll (592 to 665 mg m-2)
Integrated Chlorophyll (666 to 739 mg m-2)
Integrated Chlorophyll (740 to 813 mg m-2)
Integrated Chlorophyll (814 to 887 mg m-2)
Integrated Chlorophyll (888 to 961 mg m-2)
Integrated Chlorophyll (962 to 1035 mg m-2)
Integrated Chlorophyll (1036 to 1109 mg m-2)
Integrated Chlorophyll (1110 to 1183 mg m-2)
HELP
EOL PacMARS Map Server
Longitude: 139.91 to 259.84
Latitude: 56.55 to 80.87
Scale: 11246856
0
160
320 km


SHOW LEGEND
Refresh Map
2010 Thompson (TN250)
Ship track
CTDs
FL(volts)
Watertemp
Salinity
ISUS Nitrate
2010 Thompson(TN249)
2010 Polar Sea (PSEA1001)
Ship Track
Stations/CTDs
2009 Knorr(KN195-10)
2009 Healy(HLY0902)
2009 Healy(HLY0901)
Ship Track
Stations/CTDs
Water Temp
Salinity
FL-Volts
2008 Healy(HLY0803)
2008 Healy(HLY0802)
2008 Healy(HLY0801)
Ship Track
Stations/CTDs
Helo Flights
Walrus
Water Temp
Salinity
FL-Volts
2007 Healy(HLY0701)
Sea Ice
Chlorophyll 3-day (Aqua-M
SST (Aqua-MODIS)
Base Layers
Experimental/Other
Refresh Map
EOL BEST Cruises Map Server
Longitude: -193.84 to -129.41
Latitude: 50.75 to 70.55
Scale: 8805818
0 120 240 km

BEST Field Catalog

Bering Sea Ecosystem Study

HLY0803

- Mapserver

Catalog archives

BEST

- BEST TN250
- BEST TN249
- SEA1001
- KN195-10
- HLY0902
- HLY0802
- HLY0701

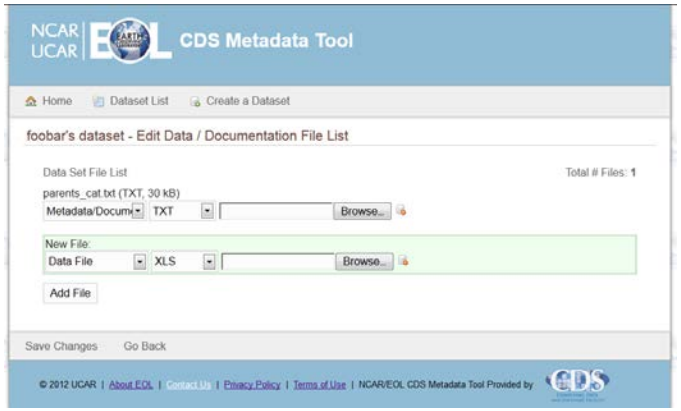
HLY0803 Underway Temperature

HLY0803 Underway Salinity

HLY0803 Underway Fluorescence

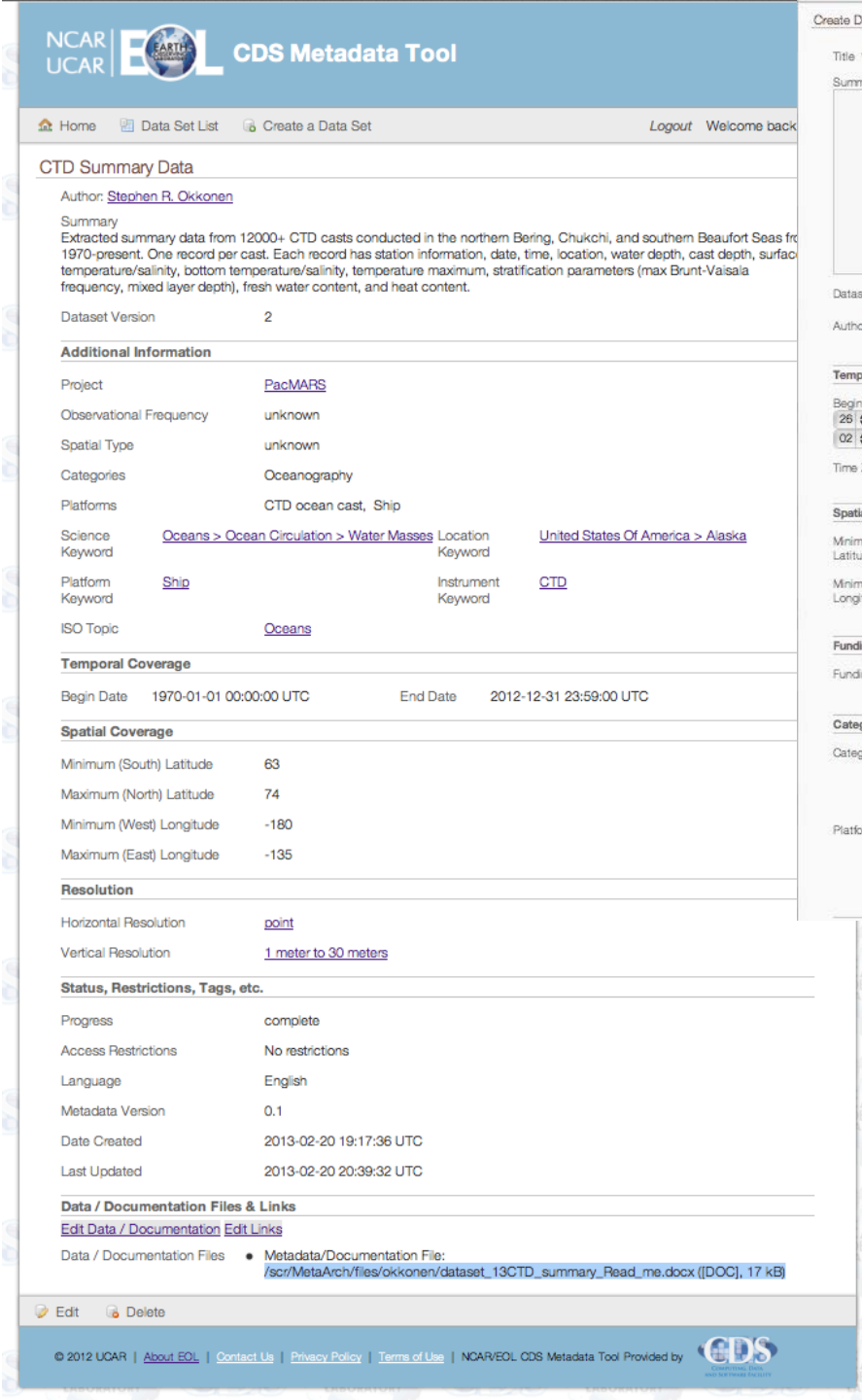
Capabilities of the EOL online metadata input tool

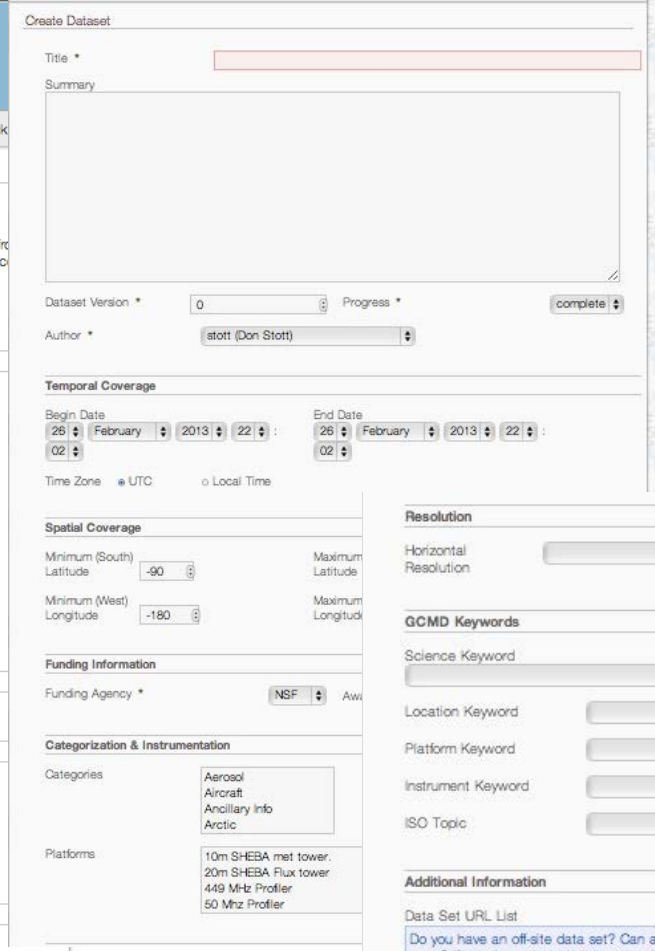
- PI or designated data provider fills out 1 –page online form to provide metadata
  - Metadata goes directly into database
  - A data set is created
- Automatic email notification when a data set is created or updated to data management team and data provider
- Files are uploaded from the online tool and go directly to a secure location on an EOL server for this data set

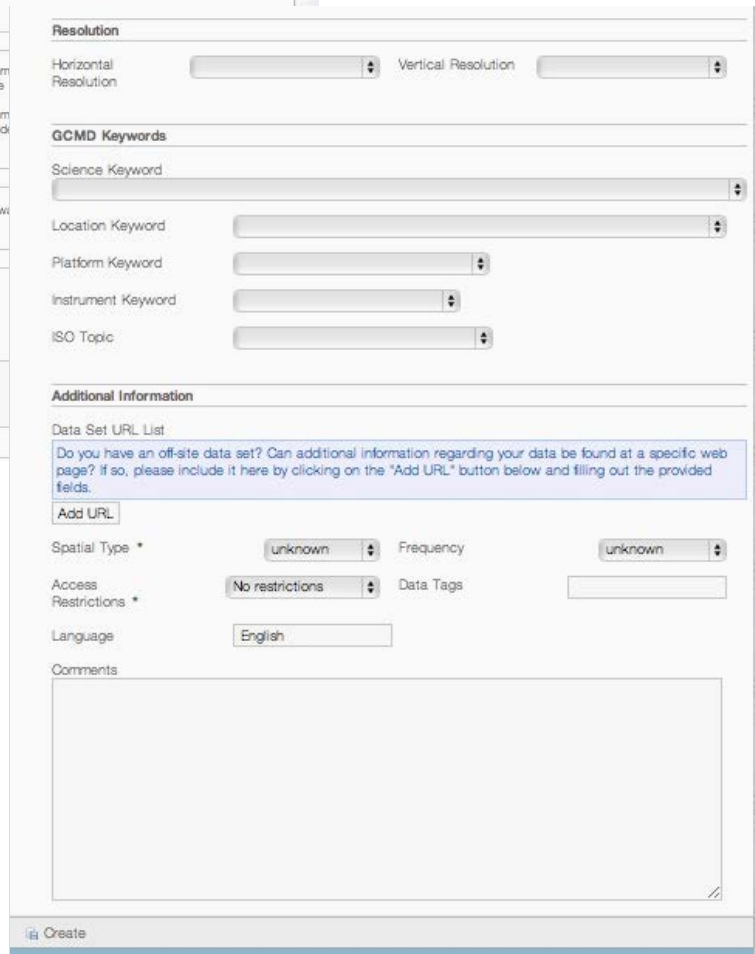


- The EOL online metadata input tool is easily customized for a project's metadata needs
- Choice and placement of fields are configurable through use of an XML file
  - The online metadata tool reads XML configuration files to enable project customization flexibility
  - The XML configuration file may be written out and saved to recreate the metadata form at any time, or share the configuration information

- EOL is utilizing ArcGIS software to create shapefiles for the MapServer to geo-locate data
  - ArcGIS outputs FGDC-compliant XML metadata files along with the shapefiles
  - Metavist, developed by David Rugg of the USDA Forest Service, is a metadata writing tool for creating metadata compliant with the FGDC 1998 metadata standard that has been used in projects with mixed success


NCAR UCAR EOL
CDS Metadata Tool
Home
Data Set List
Create a Data Set
Logout
Welcome back
CTD Summary Data
Author: Stephen R. Okkonen
Summary
Extracted summary data from 12000+ CTD casts conducted in the northern Bering, Chukchi, and southern Beaufort Seas fr
1970-present. One record per cast. Each record has station information, date, time, location, water depth, cast depth, surfac
temperature/salinity, bottom temperature/salinity, temperature maximum, stratification parameters (max Brunt-Vaisala
frequency, mixed layer depth), fresh water content, and heat content.
Dataset Version 2
Additional Information
Project PacMARS
Observational Frequency unknown
Spatial Type unknown
Categories Oceanography
Platforms CTD ocean cast, Ship
Science Keyword Oceans > Ocean Circulation > Water Masses
Location Keyword United States Of America > Alaska
Platform Keyword Ship
Instrument Keyword CTD
ISO Topic Oceans
Temporal Coverage
Begin Date 1970-01-01 00:00:00 UTC
End Date 2012-12-31 23:59:00 UTC
Spatial Coverage
Minimum (South) Latitude 63
Maximum (North) Latitude 74
Minimum (West) Longitude -180
Maximum (East) Longitude -135
Resolution
Horizontal Resolution point
Vertical Resolution 1 meter to 30 meters
Status, Restrictions, Tags, etc.
Progress complete
Access Restrictions No restrictions
Language English
Metadata Version 0.1
Date Created 2013-02-20 19:17:36 UTC
Last Updated 2013-02-20 20:39:32 UTC
Data / Documentation Files & Links
Edit Data / Documentation
Edit Links
Data / Documentation Files
Metadata/Documentation File:
/scr/MetaArch/files/okkonen/dataset_13CTD_summary_Read_me.docx ([DOC], 17 kB)
Edit
Delete
© 2012 UCAR | About EOL | Contact Us | Privacy Policy | Terms of Use | NCAR/EOL CDS Metadata Tool Provided by
CDS


Create Dataset
Title *
Summary
Dataset Version * 0
Progress * complete
Author * stott (Don Stott)
Temporal Coverage
Begin Date 26 February 2013 22 : 02
End Date 26 February 2013 22 : 02
Time Zone UTC Local Time
Spatial Coverage
Minimum (South) Latitude -90
Minimum (West) Longitude -180
Funding Information
Funding Agency * NSF
Categorization & Instrumentation
Categories
Aerosol
Aircraft
Ancillary Info
Arctic
Platforms
10m SHEBA met tower.
20m SHEBA Flux tower
449 MHz Profiler
50 Mhz Profiler


Resolution
Horizontal Resolution
Vertical Resolution
GCMD Keywords
Science Keyword
Location Keyword
Platform Keyword
Instrument Keyword
ISO Topic
Additional Information
Data Set URL List
Do you have an off-site data set? Can additional information regarding your data be found at a specific web page? If so, please include it here by clicking on the "Add URL" button below and filling out the provided fields.
Add URL
Spatial Type * unknown
Frequency unknown
Access Restrictions * No restrictions
Data Tags
Language English
Comments
Create

Metadata form and filled out page

NCAR UCAR EOL **CDS Metadata Tool**

Home | Data Set List | Create a Data Set | *Logout* Welcome back, **stott**!

CTD Summary Data

Author: Stephen R. Okkonen

Summary
Extracted summary data from 12000+ CTD casts conducted in the northern Bering, Chukchi, and southern Beaufort Seas from 1970-present. One record per cast. Each record has station information, date, time, location, water depth, cast depth, surface temperature/salinity, bottom temperature/salinity, temperature maximum, stratification parameters (max Brunt-Vaisala frequency, mixed layer depth), fresh water content, and heat content.

Dataset Version 2

Additional Information

Project	PacMARS		
Observational Frequency	unknown		
Spatial Type	unknown		
Categories	Oceanography		
Platforms	CTD ocean cast, Ship		
Science Keyword	Oceans > Ocean Circulation > Water Masses	Location Keyword	United States Of America > Alaska
Platform Keyword	Ship	Instrument Keyword	CTD
ISO Topic	Oceans		

Temporal Coverage

Begin Date 1970-01-01 00:00:00 UTC End Date 2012-12-31 23:59:00 UTC

Spatial Coverage

Minimum (South) Latitude	63
Maximum (North) Latitude	74
Minimum (West) Longitude	-180
Maximum (East) Longitude	-135

Resolution

Horizontal Resolution	point
Vertical Resolution	1 meter to 30 meters

Status, Restrictions, Tags, etc.

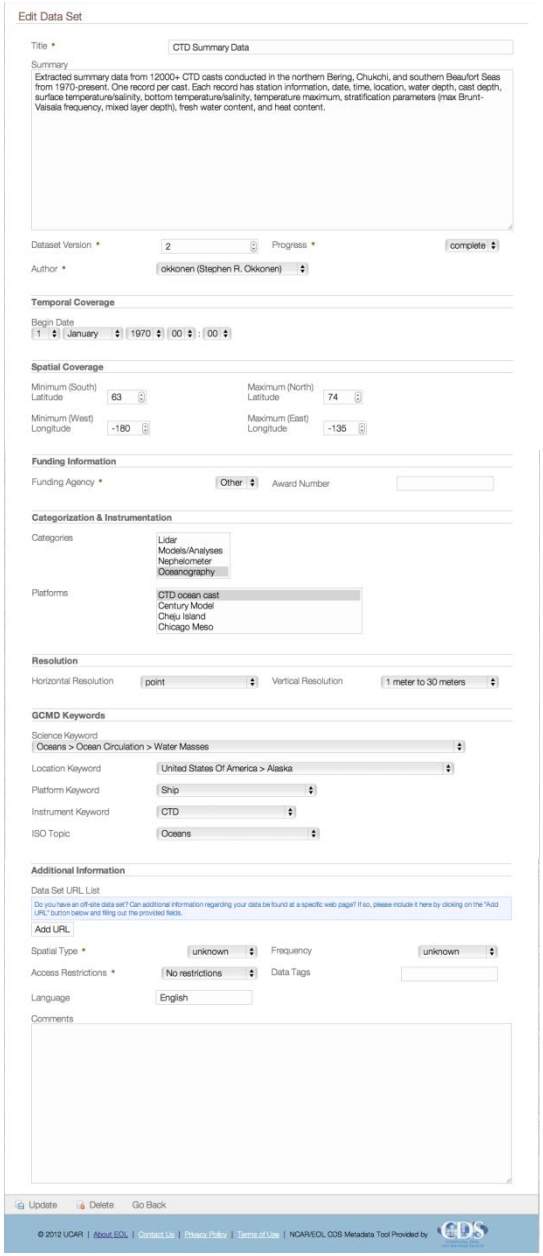
Progress	complete
Access Restrictions	No restrictions
Language	English
Metadata Version	0.1
Date Created	2013-02-20 19:17:36 UTC
Last Updated	2013-02-20 20:39:32 UTC

Data / Documentation Files & Links

Edit Data / Documentation Edit Links

Data / Documentation Files
- Metadata/Documentation File: /scr/MetaArch/files/okkonen/dataset_13CTD_summary_Read_me.docx ([DOC], 17 kB)

Edit Delete



XML template for metadata configuration, and displayed fields

Show Project XML Template

Filename: pacmars.xml

Body:

```
<project name="PacMARS">

        <cruiseInfo display="Cruise Information">
                <cruise type="String" display="Cruise"></cruise>
        </cruiseInfo>

        <mapserverOptions display="Mapserver Options">
                <displayPreference type="String" textArea="true"
display="What is the best way to display this data and how should the data be
visualized? (i.e. plot chlorophyll on a color scale from blues to greens to
yellows to reds or plot biomass with graduated circles in one color)" />
                <dataRangePreference type="String" textArea="true"
display="What are the ranges for the data to be plotted? (i.e. biomass 10-19,
20-29, 30-39 with larger circles for larger numbers or evenly spread
chlorophyll values across color scale with 25 different colors on a
blue-green-yellow-orange-red color scale)" />
                <additionalVisualPreference type="String" textArea="true"
display="Are there additional ways the data can be visualized? Please list
them in order of preference." />
        </mapserverOptions>
</project>
```

Edit | Delete | Download XML

Additional Metadata for PacMARS

Edit Additional Metadata

Cruise Information

Cruise
Testing Cruise

Mapserver Options

What is the best way to display this data and how should the data be visualized? (i.e. plot chlorophyll on a color scale from blues to greens to yellows to reds or plot biomass with graduated circles in one color)
Testing q1

What are the ranges for the data to be plotted? (i.e. biomass 10-19, 20-29, 30-39 with larger circles for larger numbers or evenly spread chlorophyll values across color scale with 25 different colors on a blue-green-yellow-orange-red color scale)
Testing q2

Are there additional ways the data can be visualized? Please list them in order of preference.
Testing q3

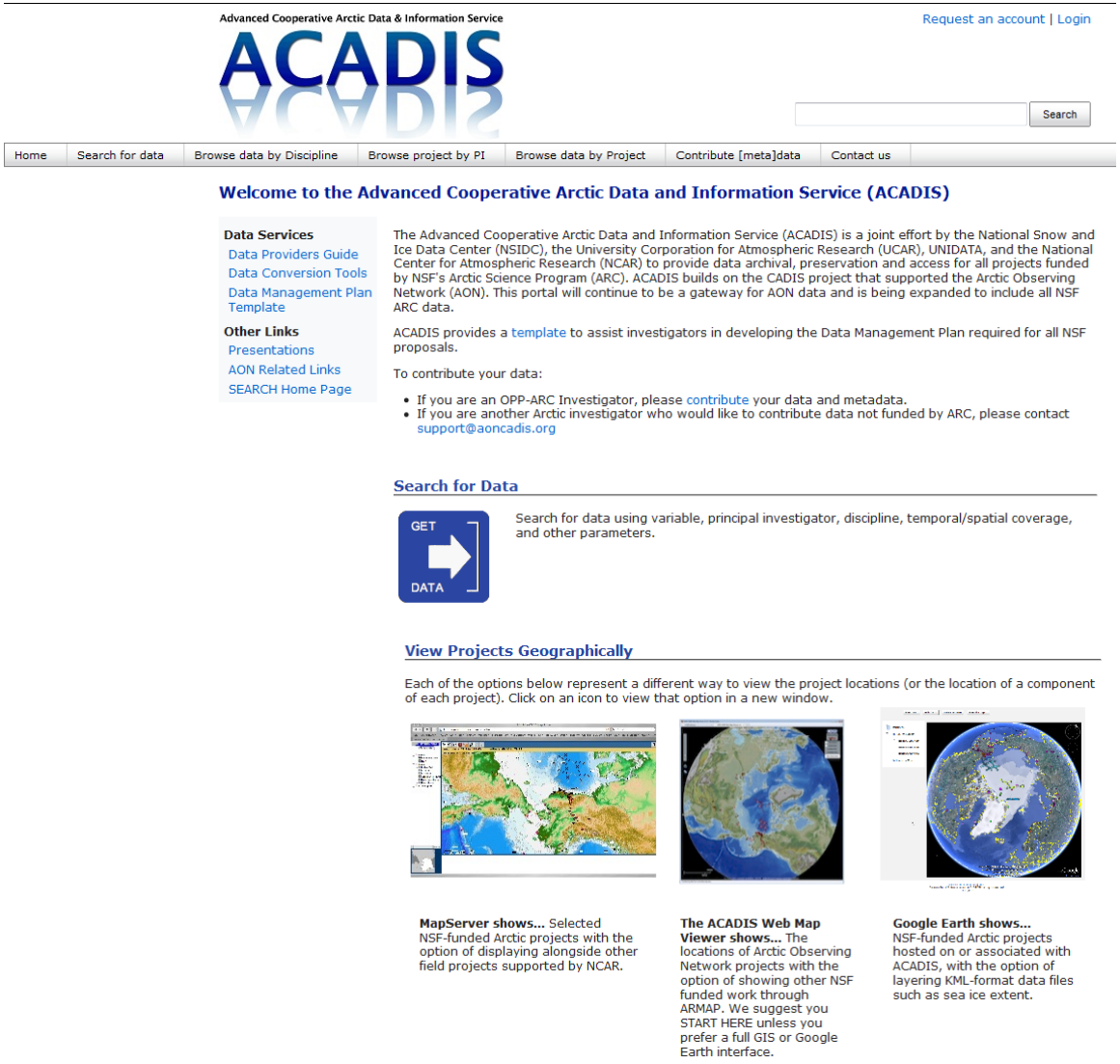
ACADIS Goals

- To build from CADIS a service for *all* NSF Arctic data that:
  - easily accepts *complete* data submissions (ingest),
  - makes the data available to NSF investigators *and many more* (access),
  - *preserves* the data (preservation),
  - makes the data *more useful* to more people (value-added products, integration).

Advanced Cooperative Arctic Data and Information Service
of the ARCTIC OBSERVING NETWORK
ACADIS

http://www.aoncadis.org/

The ACADIS Gateway
http://www.aoncadis.org/



Metadata and Data Publishing

Data Discovery

Data Search

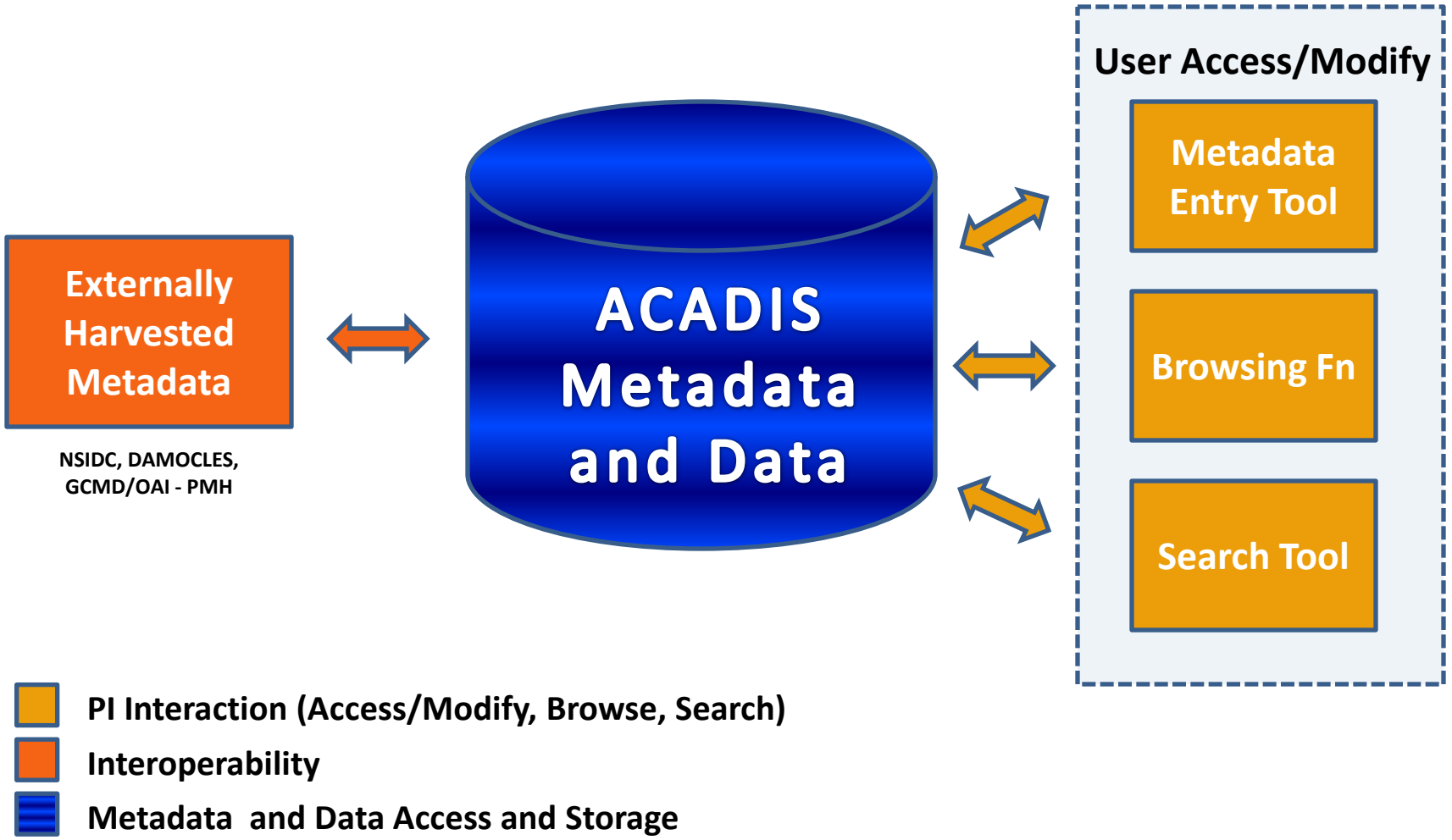
Data Download

Visualization

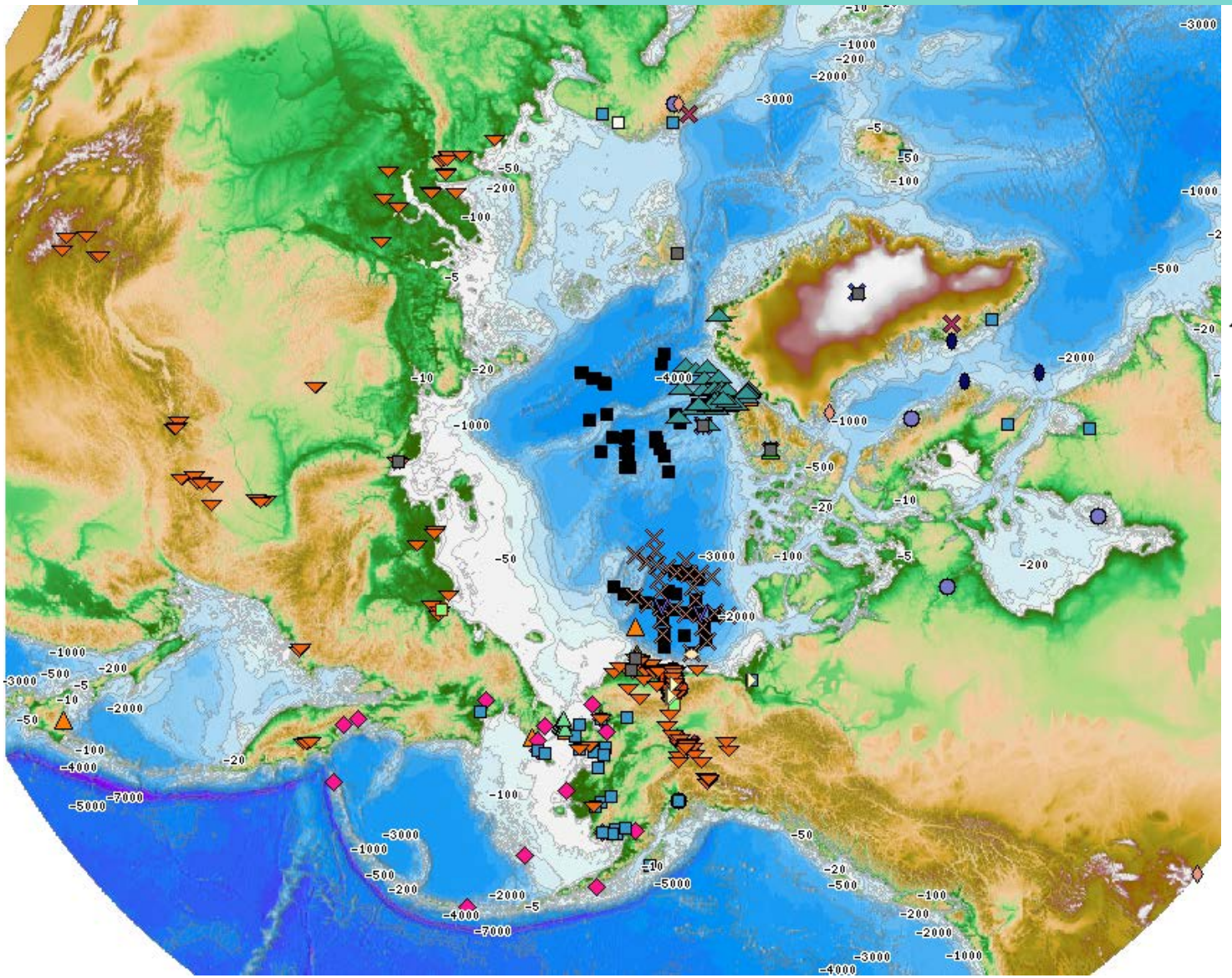
Interoperability with other archives

ACADIS Gateway Access and Flow

http://aoncadis.ucar.edu



AON Network Distribution across the pan-Arctic



Cooperative Arctic Data and Information Service of the ARCTIC OBSERVING NETWORK
CADIS

Schematic of AON site distributions across 12 nations in the pan-Arctic. NSF funded AON Investigators are listed with unique icons identifying measurement site(s). Drifting buoys are not accurately represented.

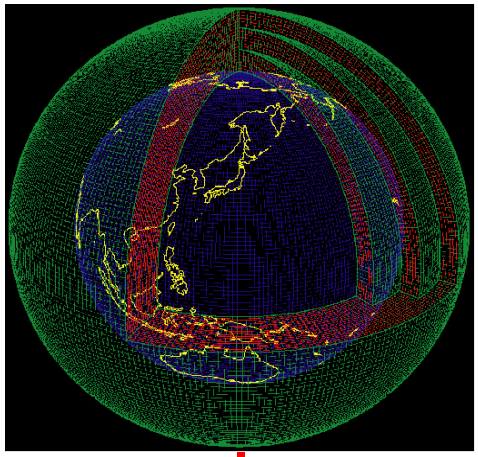
ACADIS Lessons Learned and Possible Next Steps for DBO Data Management

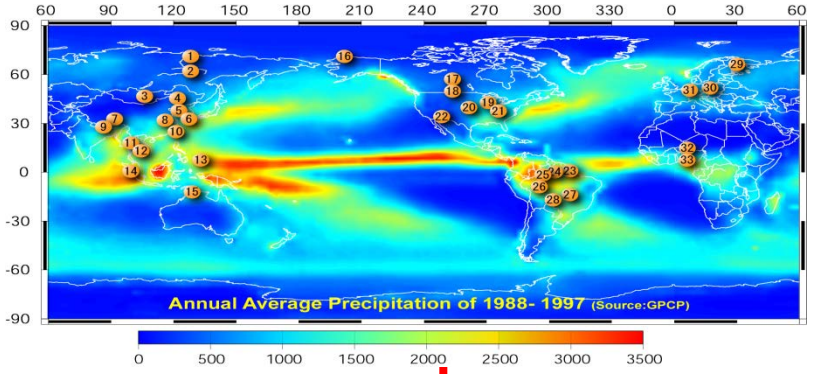
Effective project data management support includes:

* A systematic approach to meet project needs
* Support to the data providers – be responsive
* Effective and easy to use tools for data and metadata upload to the archive
* A uniform metadata standard to enhance international data exchange
* Single access point to search/download data
* Improve data search capabilities
* Remain flexible regarding data formats
* Consider uniform time and units
* Develop a comprehensive data policy

Coordinated Energy and water-cycle Observations Peroject

To understand and model the influence of continental hydroclimate processes on the predictability of global atmospheric circulation and changes in water resources, with a particular focus on the heat source and sink regions that drive and modify the climate system and anomalies





In-Situ Data Archiving Center at NCAR (National Center for Atmospheric Research) of USA

Model Output Data Archiving Center at the World Data Center for Climate, Max-Planck Institute for Meteorology of Germany

Data Integrating/Archiving Center at University of Tokyo and JAXA of Japan

Data Policy and exchange guidelines:

(1) To comply with WMO Resolutions 40 (CG-XII) and 25 (CG-XIII) in particular: <u>No financial implications.</u>

(2) CDA and *data users*: Commercial exploitation of CEOP data is prohibited

(3) *Data users*: No transfer to third parties.

(4) Data release to *data users*: Turn-around period.
Category 1 data: 6 months *Category 2* data: 15 months

(5) Acknowledgement and citation

(6) Co-Authorship for Reference Sites' PIs recommended,
collaboration base required if PI requests co-authorship
(in particular for *category 2* data)

(7) CEOP Publication Library at CDA

DBO Diversity of Data Sources and Disciplines

- Satellite data from multiple sources
- International ship participation (~14 vessels)
- Ship based data (e.g. CTDs, ADCPS, bio sampling, animal surveys, backscatter etc.
- Moored arrays (e.g. ADCP, temp, salinity, whale recorders, pH, etc.)
- Modeling efforts
- Multiple archive sites

DBO Data Management Considerations

> Develop an International DBO data policy and exchange protocol (including priority measurements) to facilitate:

- Dataset exchange and access
- Preparation of datasets for data integration, intercomparison and modeling studies

> Encourage broad access to data and metadata beyond national restrictions through scientific collaboration/cooperation

> Coordinate with other National and International Projects

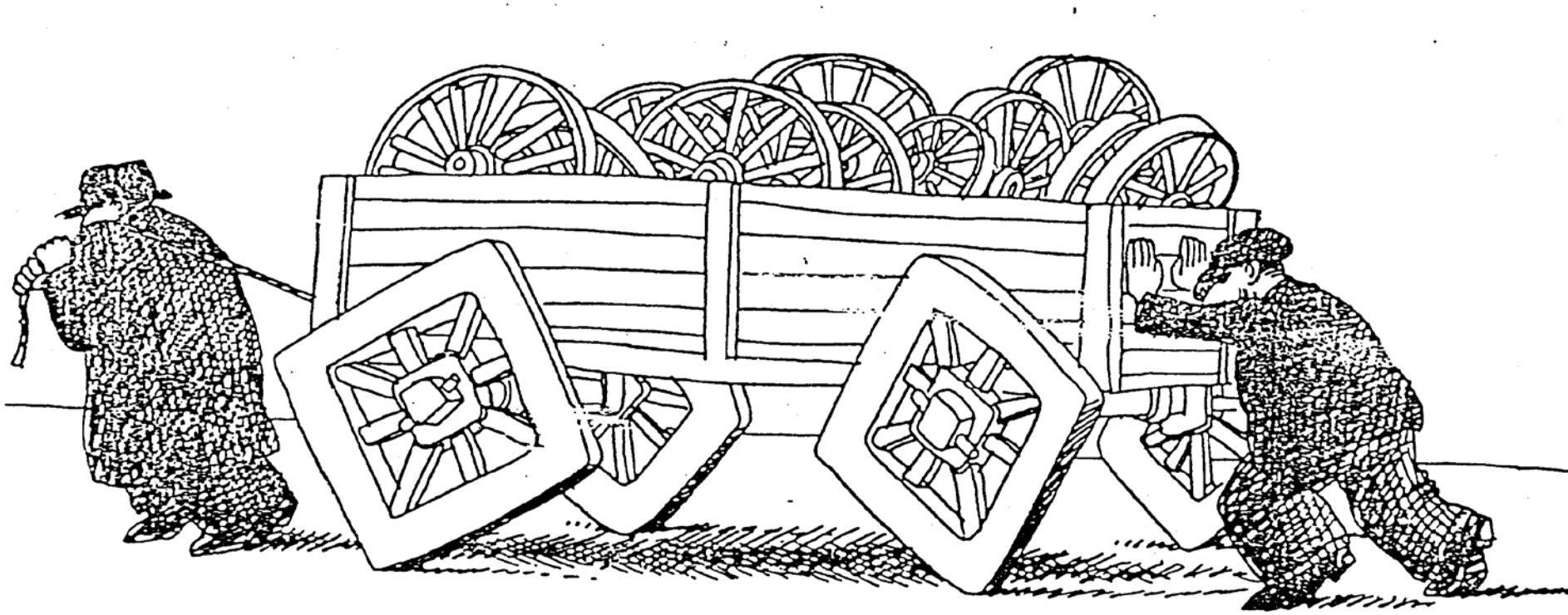
> Consider data format and documentation guidelines to enhance international data exchange and analysis

> Document and standardize (if possible) data collection protocols (time, sensors, processing, parameters, units)

Follow the process used for successful support to other Arctic Projects

- A DBO Project web site
- Upload of DBO datasets using ACADIS
- A focused DBO Data management web site within ACADIS
- Information includes metadata, documentation and the data itself
- Data can be secured as providers and project require (password protection)
- Eventually it would be open to broad community access
- Focus on long term preservation/access

RESULTS OF BAD OR NO DATA MANAGEMENT AND INTEGRATION PLANNING



THANK YOU!

QUESTIONS AND DISCUSSION?