CLIVAR Core Ocean Velocity

Shipboard and Lowered Acoustic Doppler Current Profiler

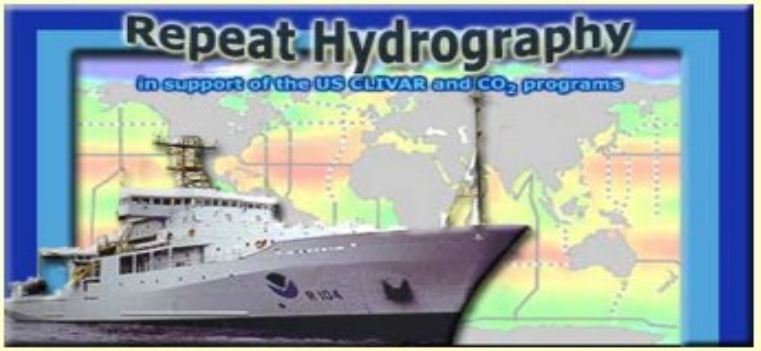
Data Assembly Center Status

CLIVAR Ocean Velocity DAC (summary)

- There is no formal LADCP DAC
  - LADCP PI's (LDEO, then UH) host processed data
  - No archive for raw data
- Shipboard ADCP DAC
  - JASADCP : processed shipboard ADCP data
  - No provision for raw data
  - Needs support to improve activities/scope

Lowered ADCP

http://currents.soest.hawaii.edu/clivar/ladcp/index.html



Processed Data

- LADCP - Live Access from IRI/LDEO Data Server
- CLIVAR SADCP data

Individual Sections

A16N 2003	LADCP	CCHDO
A20 2003	LADCP	CCHDO
A22 2003	LADCP	CCHDO
P02W 2004	LADCP	CCHDO
P02E 2004	LADCP	CCHDO
P16S 2005	LADCP	CCHDO
A16S 2005	LADCP	CCHDO
P16C 2006 (aka P16N leg 1)	LADCP	CCHDO
P16N 2006 (aka P16N leg 2)	LADCP	CCHDO
I08S 2007	LADCP	CCHDO
I09N 2007	LADCP	CCHDO
P18_1 2008	LADCP	CCHDO
P18_2 2008	LADCP	CCHDO
I06S 2008	LADCP	CCHDO
I05S 2009	LADCP	CCHDO

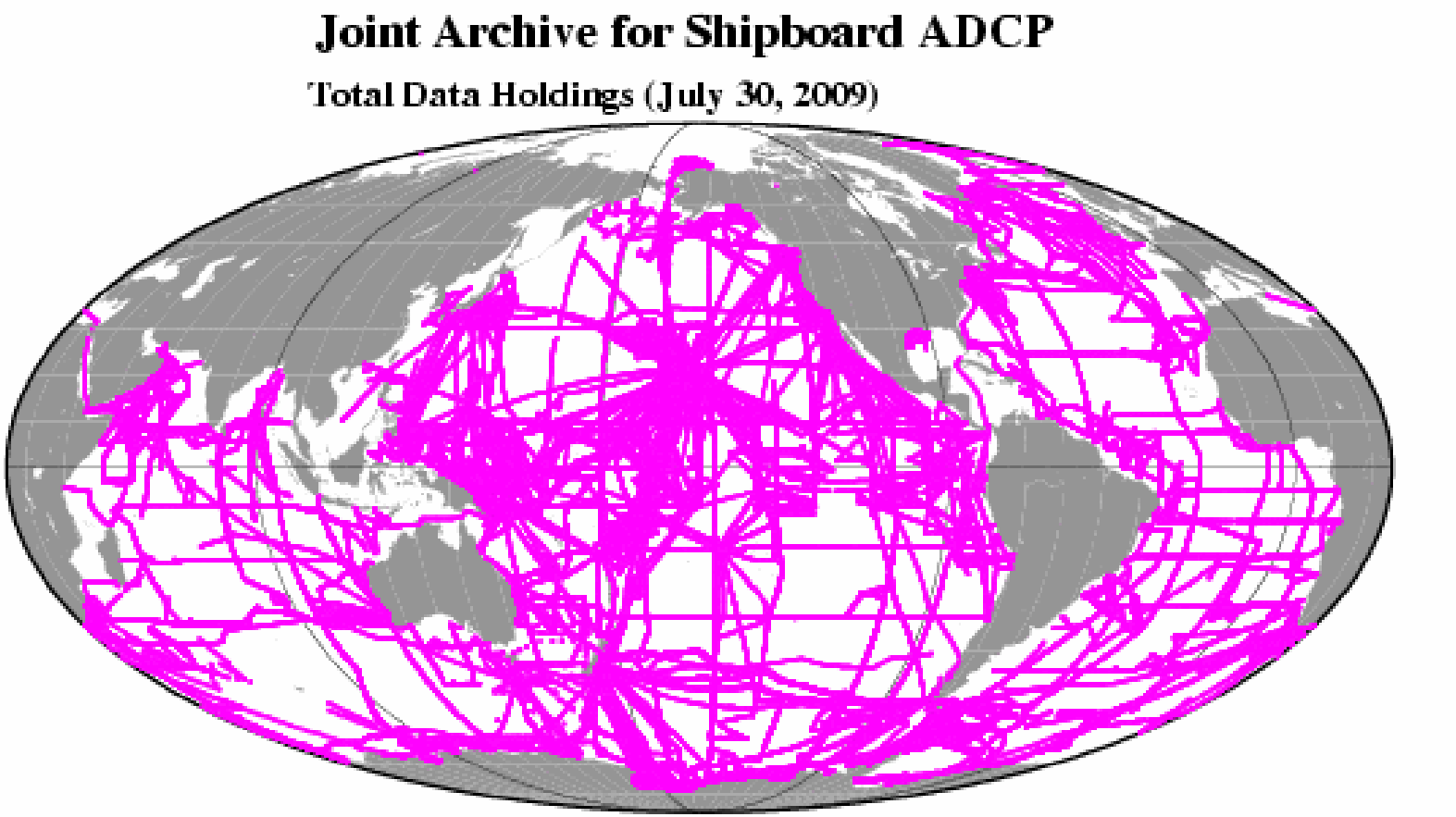
CLIVAR LADCP PI's provide

- Processing software (LDEO)
- Documentation (acquisition, processing)
- Access
  - www
- Data
  - Cruise track, metadata
  - Processed (txt, netcdf, matlab)

Shipboard ADCP DAC

Joint Archive for Shipboard ADCP

NODC/NCDDC (National Coastal Data Development Center)
http://ilikai.soest.hawaii.edu/sadcp/



- ~1,300 cruises total, primarily focused on US vessels
- International sources mostly from WOCE (served as Data Assembly Center)
- Presently a CLIVAR Data Assembly Center (with Japan Ocean. Data Center)
- 08/08-08/09: served by FTP 625 requests for 8,814 cruises (excluding DODs server)

JASADCP provides ...

- Access:
  - ftp, www, DODS (openDAP)
- Proccessed Data:
  - Cruise track, vector plot, metadata
  - “standard subset” is 10 meters vertical, 1 hour
    - Ascii, netCDF
  - Highest processed resolution
    - Stored in CODAS database
    - Extract from CODAS: matlab, compiled, python

JASADCP accepts...

- Time, lon, lat, ocean u,v (measured u,v; ship u,v)
- Processed ADCP data:
  - Averaged
  - Edited
  - Calibrated
    - Accurate heading
    - Transducer angle
    - Scale factor; soundspeed correction (if relevant)

JASADCP does not ...

- … process shipboard ADCP data
- … accept
  - Single-ping ADCP or accompanying NMEA
  - Untouched averaged data (eg. VmDAS LTA)
- … have interrogative or plotting tools

U.S.CLIVAR shipboard ADCP data

- Univ. Hawaii is funded through CLIVAR to
  - Process and submit shipboard ADCP data
  - Make shipboard ADCP data to Lowered ADCP operator in a timely manner

Present ADCP DAC roles

- Prompt PI's to submit data
- Help in obtaining metadata
- Direct users to processing tools
- Store and distribute processed shipboard ADCP data

Expanded ADCP DAC roles

- Store untouched averaged data (for evaluation)?
- Evaluation of unprocessed data sets ?
  - There is no substitute for high-quality raw data...
  - How hard will it be to process?
  - How compromised are the data?
  - What can be salvaged?
- Process data ?
- Provide interactive facilities for
  - Exploration
  - Visualization

CODAS ADCP processing

- http://currents.soest.hawaii.edu/docs/adcp_doc/
- Portable (Linux, Mac, Windows, Solaris)
- Open Source (C, Python, Matlab)
- Designed for (TRDI) ADCP processing
  - Editing of single-ping and averaged data
  - Supports VmDAS and UHDAS data acquisition
  - Time-dependent heading correction
  - Sound speed correction, scale factor