

Workshop on High-Resolution Marine Meteorology - 2003

Status of SEAS 2000

Steven K. Cook – Manager

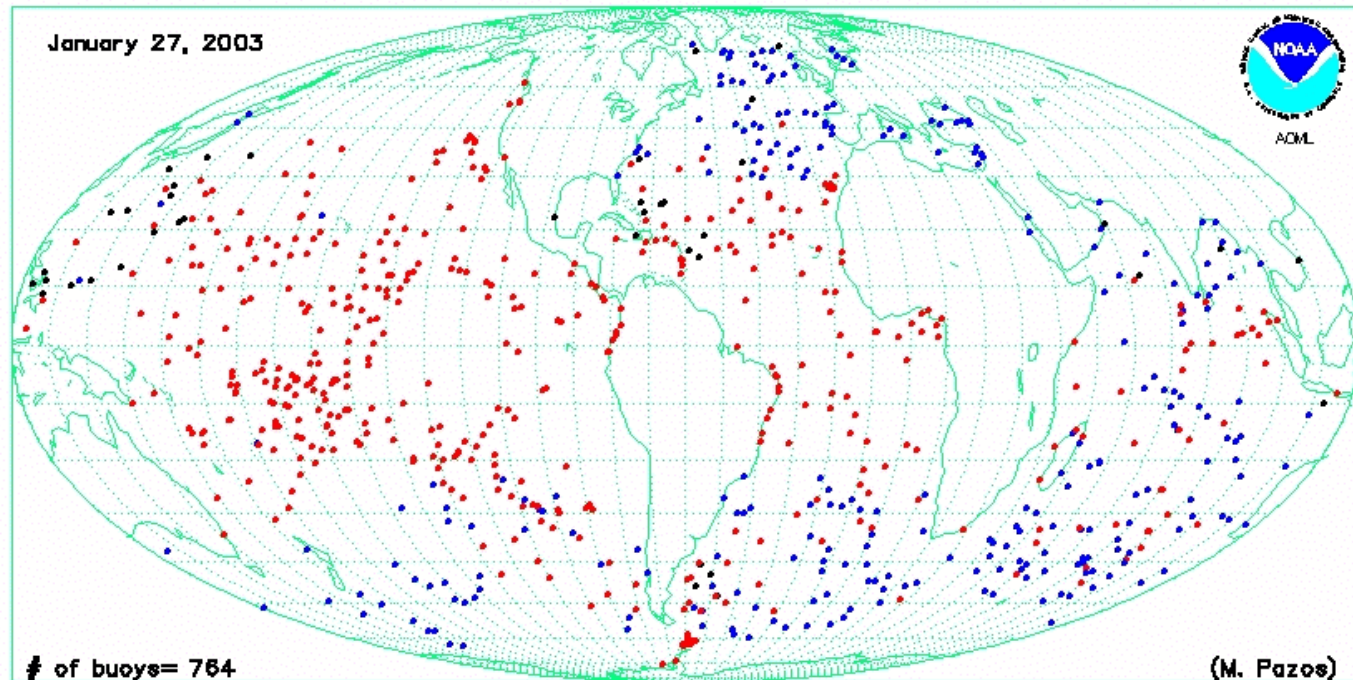
NOAA's Global Ocean Observing Systems Center

Global Ocean Observing Systems Center

- Operates global long-term data collection networks.
 - ◆ Global Drifter Program
 - ◆ Global XBT network
- Manages the data flow from those networks.
 - ◆ Real Time
 - ◆ Delayed mode
- Produces value added data products from those networks.
 - ◆ Web Page access for Plots and Tables

GOOS Global Drifter Program

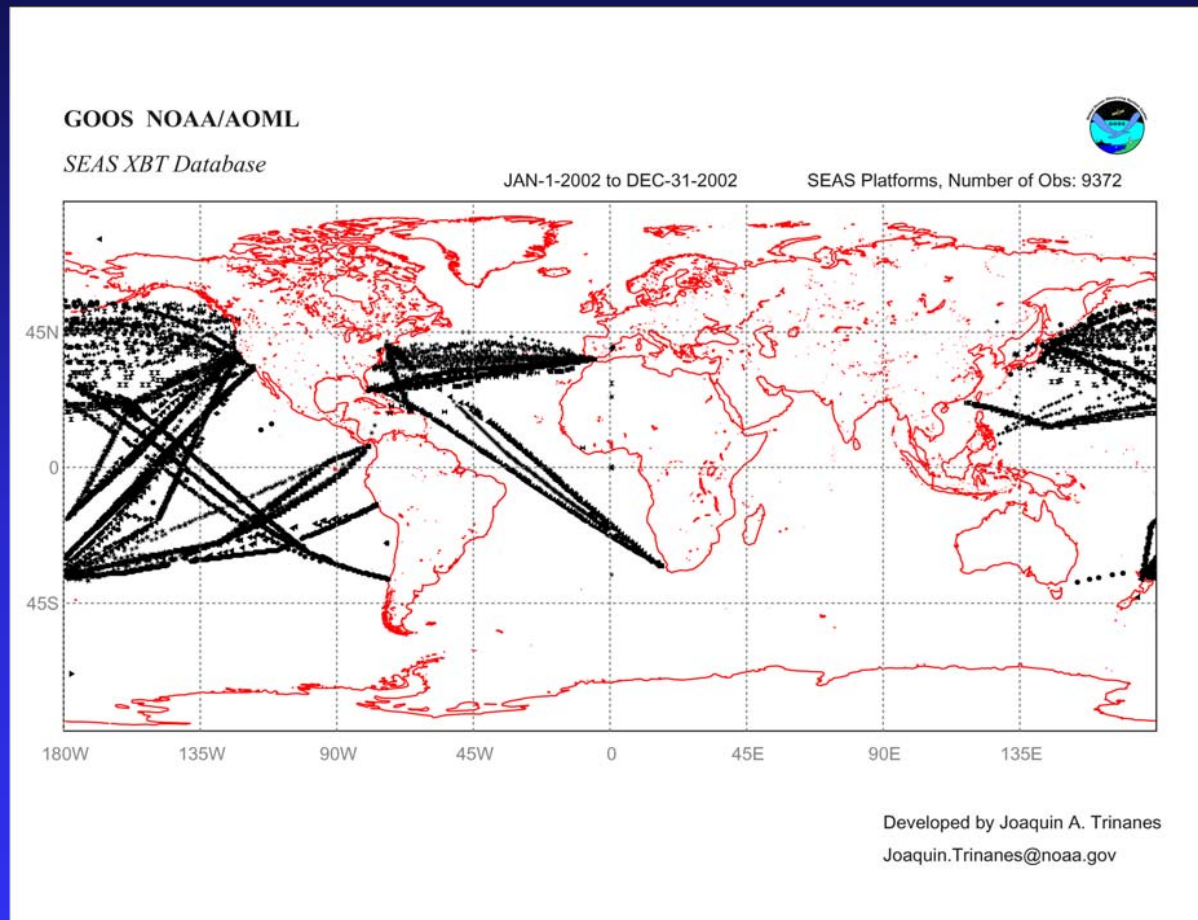
STATUS OF GLOBAL DRIFTER ARRAY



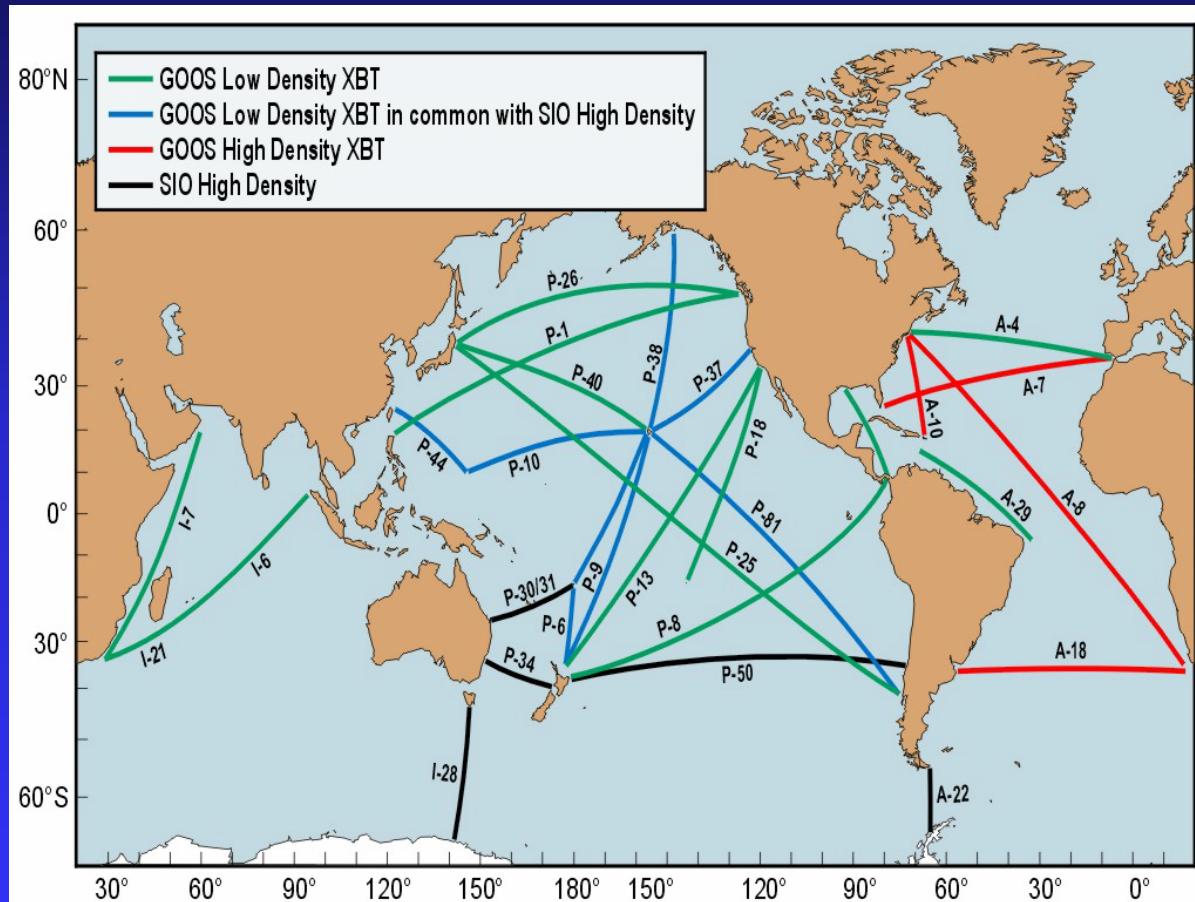
- SST ONLY
- SST/SLP
- SST/SLP/WIND

GLOBAL DRIFTER PROGRAM

GOOS XBT Observations - 2002



GOOS VOS Network



COAPS - March 2003

SEAS 2000

- Windows based software
 - ◆ Win 95, Win 98 & Win NT
- Communications
 - ◆ Inmarsat Standard C
- Transmission
 - ◆ Compressed Binary
- Capability to transmit
 - ◆ Other types of observations

SEAS 2000

- Windows based software
 - ◆ Object oriented programming
 - ◆ Provides for easy upgrades
 - ◆ Improved internal quality control checks
 - ◆ More user friendly

SEAS 2000

- Communications: Inmarsat Standard C
 - ◆ Provides for two way communications
 - ◆ Possible polling of individual or groups of ships
 - ◆ Built in GPS

SEAS 2000

- Transmission format: Compressed Binary
 - ◆ Reduces transmission costs
 - ◆ Allows for transmission of extensive meta-data fields
 - ◆ Allows for transmission of “full” resolution XBT data
 - ◆ Reduces potential loss of delayed mode data

SEAS 2000

- Capability to transmit:
 - ◆ VOSCLim reports
 - ◆ International Ice Patrol reports
 - ◆ Marine Mammal
 - ◆ Drifting Buoy and Float deployment reports
 - ◆ TSG and CTD reports
 - ◆ Balloon observation reports
 - ◆ Chemical parameters

SEAS 2000

- Implementation schedule
 - ◆ Phase I
 - ◆ AMVER Reports
 - ◆ Met Reports
 - ◆ Released March 2001
 - More than 350 vessels participating

SEAS 2000

- ◆ Phase II
 - ◆ Implement XBT
 - ◆ Decoder re-write
 - ◆ Beta test October 2002
 - ◆ Expected release March 2003
 - Expect 50 vessels participating

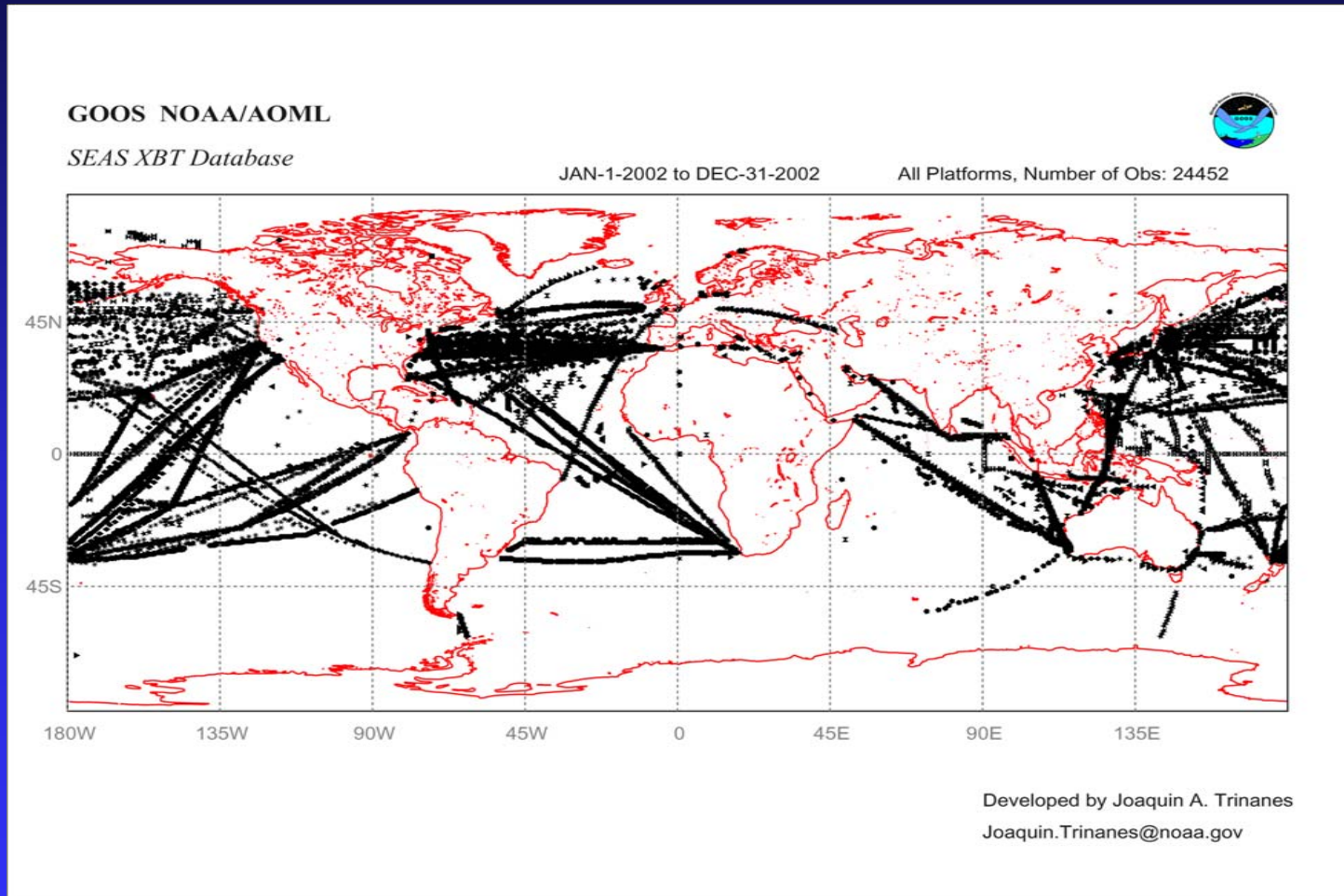
SEAS 2000

- ◆ Phase III
 - ◆ AWS
 - ◆ XBT Autolauncher
 - ◆ TSG
 - Expected release by May 2003
- ◆ Other observations
 - ◆ International Ice Patrol
 - ◆ Marine Mammals
 - ◆ Drifter and Float deployments
 - ◆ Chemical parameters

VOS Sampling Concerns

- Quality of ships observations
 - ◆ SST: 1 Drifter or XBT = 6 ship observations
- Quantity of ships observations
 - ◆ Fewer bridge officers
 - ◆ < 700 ship reports daily
- Distribution of ships observations
 - ◆ Spatial and Temporal distribution
 - ◆ Southern Hemisphere void
- Very dynamic maritime industry

Global XBT Observations - 2002



Looking Forward

- High Resolution VOS System
 - ◆ Automated Weather Systems
 - ◆ Climate quality (hourly ?)
 - ◆ VOSClim
 - ◆ Thermosalinograph (hourly ?)
 - ◆ pCO₂
 - ◆ Full Resolution Expendables
 - ◆ ADCP

Points to consider

- Leaner and meaner VOS
- Integrated systems (Operational & Data Man.)
- More automation
- Corporate approach with the maritime industry
- Integrated NOAA across LO's
 - ◆ Eliminate or at least shorten the “stovepipes”
- Increase cooperative work with Universities
- Migrate proven technology into operations

Plans being implemented

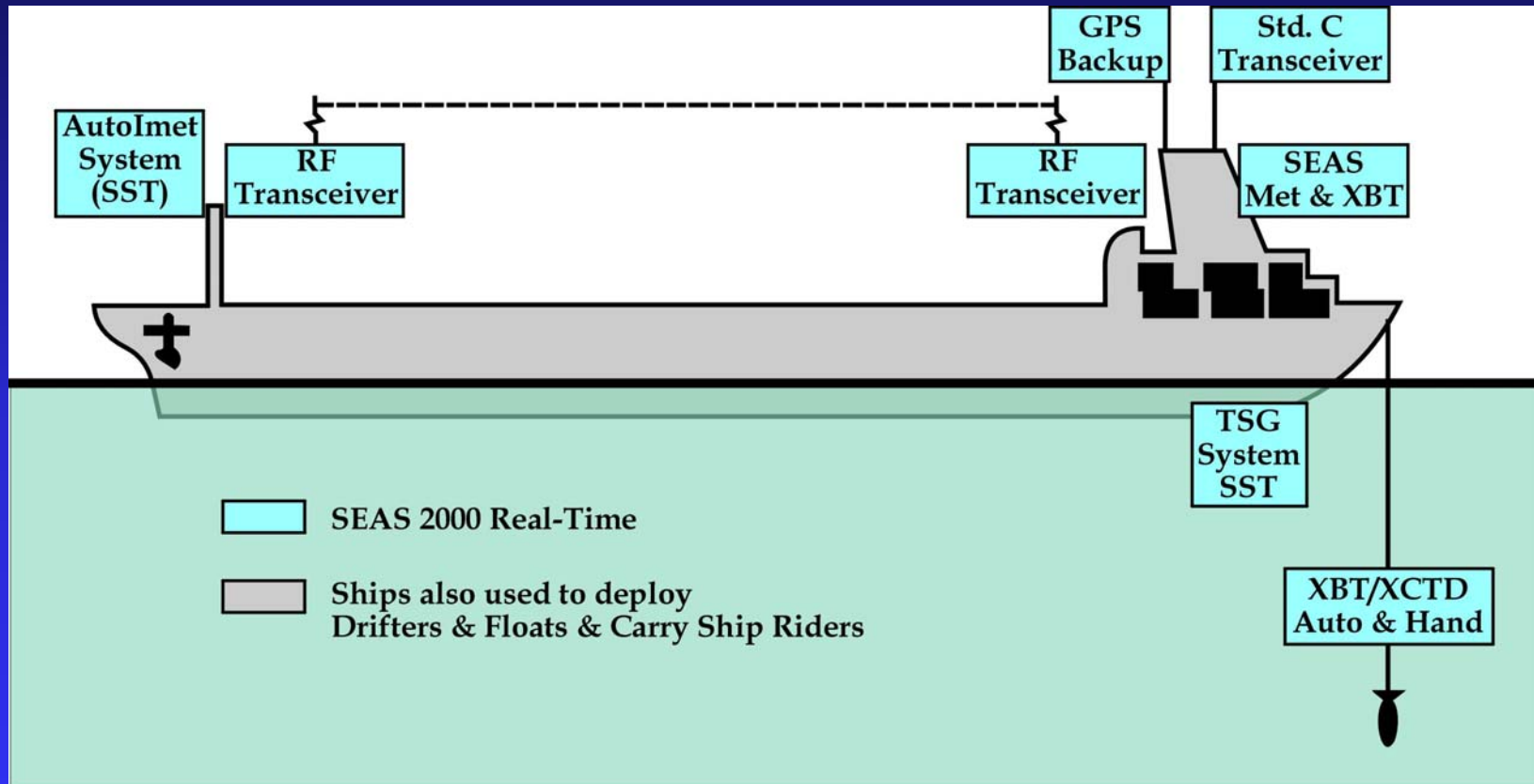
■ Pacific

- ◆ S/L Enterprise
 - ◆ PX-37,10,44 & 26
- ◆ Columbus Florida
 - ◆ PX-13 & 9
- ◆ Other Candidates
 - ◆ PX-18 or 8

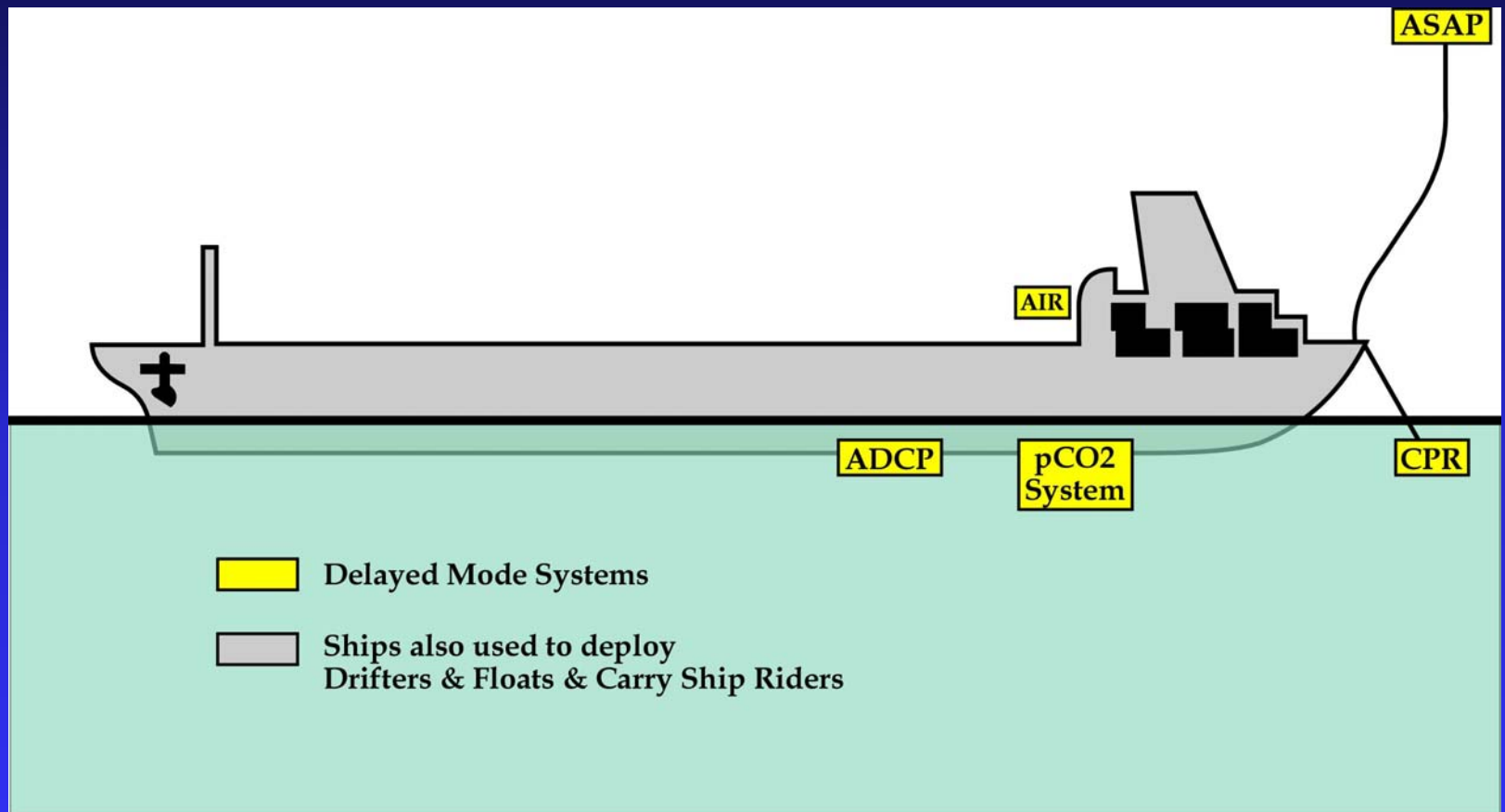
■ Atlantic

- ◆ Lykes Winner
 - ◆ AX-8
- ◆ TBD
 - ◆ AX-7
- ◆ Other Candidates
 - ◆ AX-32 & 4

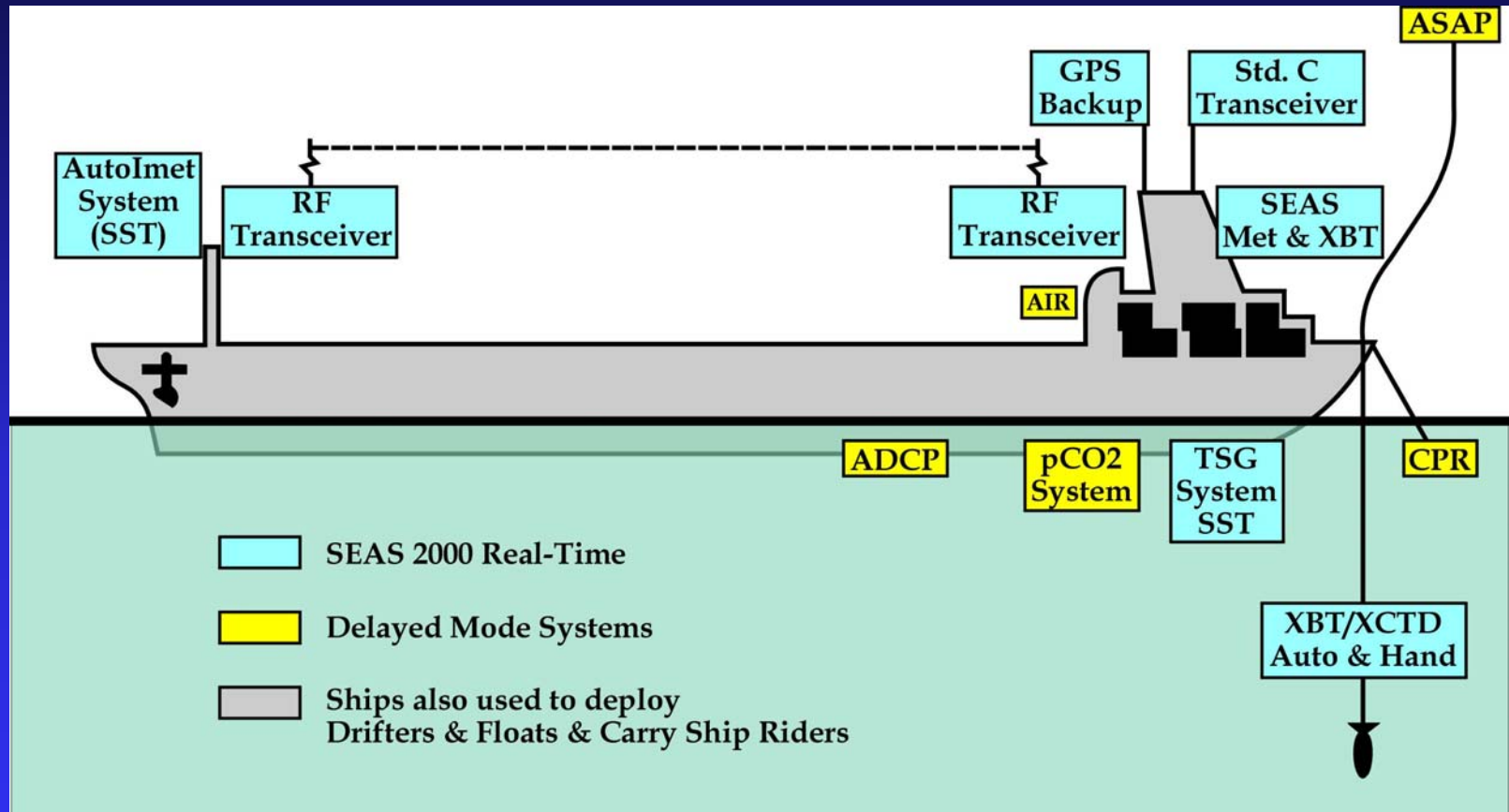
VOS – SEAS Real-Time Systems



VOS – Delayed Mode Systems



The Ideal VOS Platform?



Conclusions

- GOOS Center will continue to integrate sampling systems using SEAS as the real-time transmission tool.
- GOOS Center will continue to assist in the data QC, management and coordination of these sampling systems.
- GOOS Center will continue to act as the primary focal point to the VOS and carry this message to the corporate level of the maritime industry.

Treasures of Zen Wisdom

Money can't buy happiness, but it sure makes misery easier to live with.