

# DESSC NEW USERS WORKSHOP



*December 13-14, 2014, San Francisco, CA*

# DESSC NEW USERS WORKSHOP

Saturday, December 13, 2014:

Golden Gate University, 536 Mission St., San Francisco, CA 94105  
Theatre, Room 3208 (3rd floor)

11:45-12:00 Check-In & Pizza buffet

12:00-12:15 Welcome & Agenda; Introductions

12:15-12:45 Plenary - Introduction to Deep Sea Research

12:45-1:15 Introduction of Participants & Breakout Sessions

1:20-4:00 BREAKOUT SESSIONS

4:00-4:10 Overview of DESSC Ocean Policy Interest Group

4:10-5:00 Open Discussion of Grant Ideas; General Q&A

5:00 *Adjourn Saturday workshop*

6:00 **Dinner at Serrano Hotel**, 405 Taylor St, San Francisco, CA  
-- Guest Speaker: Dr. Samantha B. (Mandy) Joye

# DESSC NEW USERS WORKSHOP

Sunday, December 14, 2014:

## UNOLS Deep Submergence Science Committee (DeSSC) Annual Community Meeting

San Francisco Marriott Marquis, Room: Nob Hill A-D

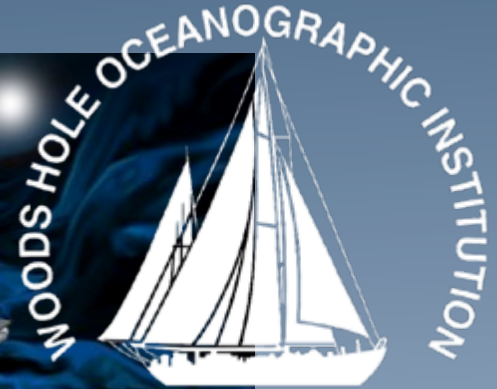
780 Mission Street, San Francisco, California 94103 USA

Agenda: <http://www.unols.org/sites/default/files/201412desag.pdf>

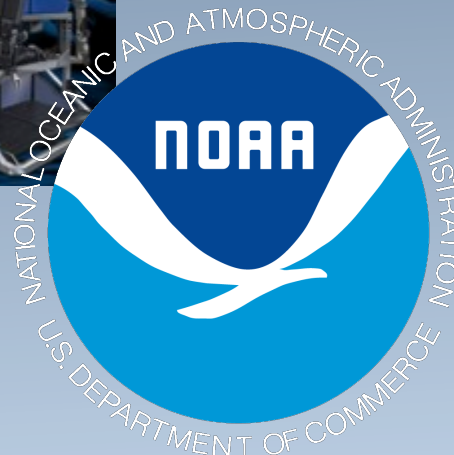
10:00am NUP Participant Presentations

2:20pm NUP Participant Presentations

# Who's Who in Deep Sea Research



1930

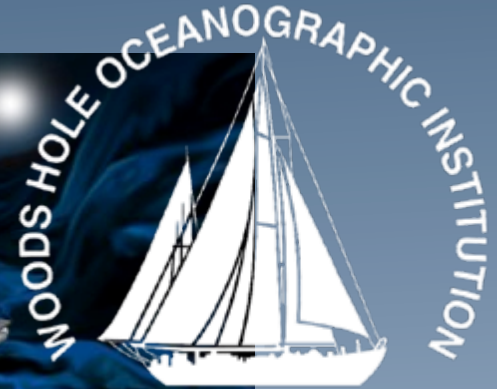




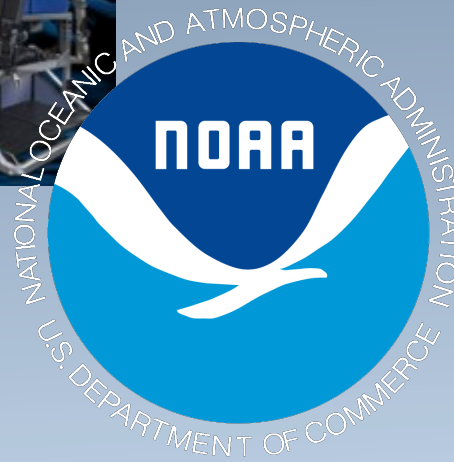
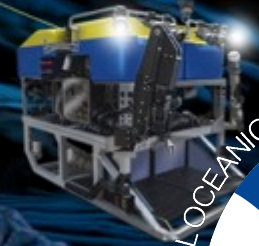
# WHO'S WHO IN DEEP SEA RESEARCH



# Who's Who in Deep Sea Research

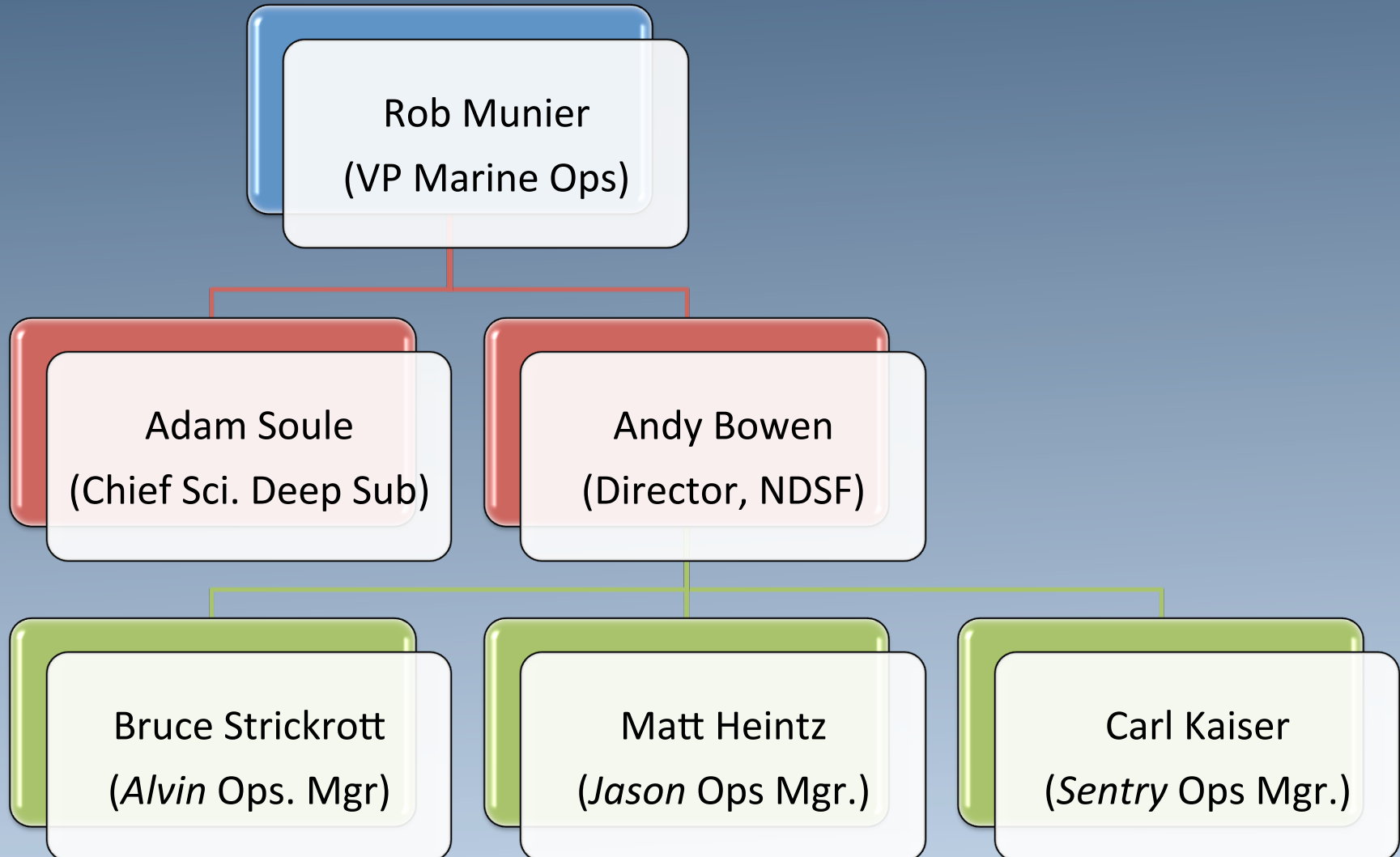


1930



# *NATIONAL DEEP SUBMERGENCE FACILITY*

## *ORGANIZATION STRUCTURE*



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# INTRODUCTION TO DEEP SEA RESEARCH



*DeSSC New Users Workshop*

*December 13-14, 2014, San Francisco, CA*

# Who's Who in Deep Sea Research

WHO'S WHO IN DEEP SEA RESEARCH



# UNOLS

- *A consortium of 62 academic institutions*
- *Coordinates access to oceanographic research facilities*
- *Supports existing facilities and future development*
- *19 Research vessels*
- *National Deep Submergence Facility*
- *National Oceanographic Aircraft Facility*
- *National Oceanographic Seismic Facility*
- *Facilities are either owned by NSF, Navy or by individual institutions*
- *Runs Ship Time Request System!!!*
- *Information resource for cruise/ship schedules, etc.*
- *Outreach!*





# GLOBAL CLASS VESSELS

*Sikuliaq*



*Marcus G. Langseth*



*Thomas G. Thompson*



*Atlantis*



*Melville*



*Knorr*



*Roger Revelle*





# UNOLS NATIONAL FACILITIES

## NATIONAL DEEP SUBMERGENCE FACILITY



### Exploring the Deep Ocean

NATIONAL DEEP SUBMERGENCE FACILITY VEHICLES

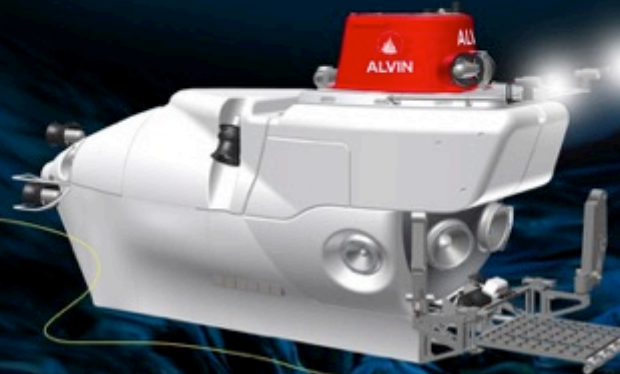


#### Alvin

Human Occupied Vehicle

Accommodates:  
1 Pilot and 2 Scientists

Depth Capability:  
Phase 1: 4500m  
Phase 2: 6500m



Medea

#### Sentry

Autonomous Underwater Vehicle

Depth Capability:  
6000m (20,000 feet)



#### Jason

Remotely Operated Vehicle

Depth Capability:  
6500m (21,450 feet)



*So, you've got an  
idea and you want to  
go to sea?*



# *So, you've got an idea and you want to go to sea?*

## **1. Pre-submission discussions (NDSF)**

(choice of vehicle; technical feasibility; cruise duration)

## **2. Grant submission (UNOLS)**

(UNOLS Ship Time Request)

## **3. Once you are funded (NDSF)**

(Pre-cruise planning; ~6 months lead; Expedition Leader)

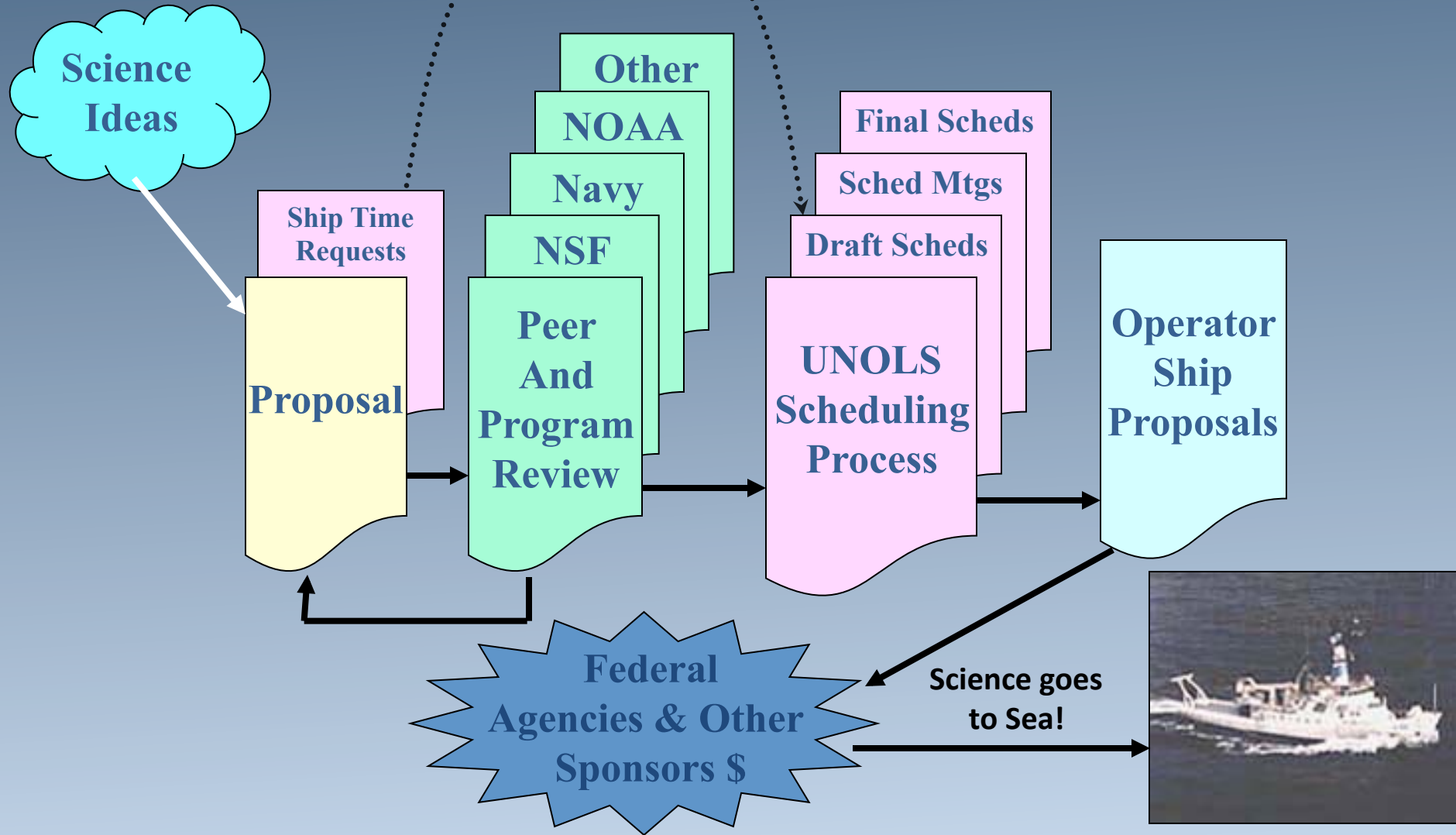
## **4. Once you are at sea**

(Dive planning; responding to “events”)

## **5. Post cruise**

(NDSF debrief, cruise report, data management)

*want to go to sea?*







# ACCESS THE UNOLS STRS PORTAL:

[https://strs.unols.org/Public/diu\\_login.aspx](https://strs.unols.org/Public/diu_login.aspx)



## University-National Oceanographic Laboratory System

SEARCH PUBLIC RECORDS

LOG IN

[Suggestions/Request Help](#)

[Frequently Asked Questions](#)

### Welcome to the UNOLS Ship Time Request & Scheduling System

#### Log In for Member Activities

User Name:

Password:

☐ Store my credentials so I don't have to login next time  
(unless I logout)

[Log In](#)

[Forgot Your User Name Or Password?](#)

#### New Member?

[Create New Member Account](#)

#### Login or create account for these activities

- Facility Requests (ship time requests)
- Research Vessel & Facility Scheduling
- Technical Service Denitions
- Facility Specifications
- Reports
- System Administration

#### Public Information

#### Login not required for these activities

- [Research Vessel & Facility Schedules](#)
- [Research Vessel & Facility Specmcations](#)
- [Technical Services Information for Research Cruises](#)
- [Funded Projects](#)
- [Cruise Reports \(Ship Utilization\)](#)
- [Post Cruise Assessment](#)
- [UNOLS Web Site Home Page](#)

**Submit your STR form with your proposal in Fastlane**

# *A WORD ABOUT BUDGETS....*

- *Don't panic!*
- *Ship time and vehicle costs are not part of the regular OCE NSF budget\**
- *Ship time and vehicle costs do come out of a separate NSF fund, not the program budget*
- *If your proposal is going to an agency other than NSF, then ship time and vehicle costs must be paid by that agency and included in your proposal budget*

# A WORD ABOUT BUDGETS....



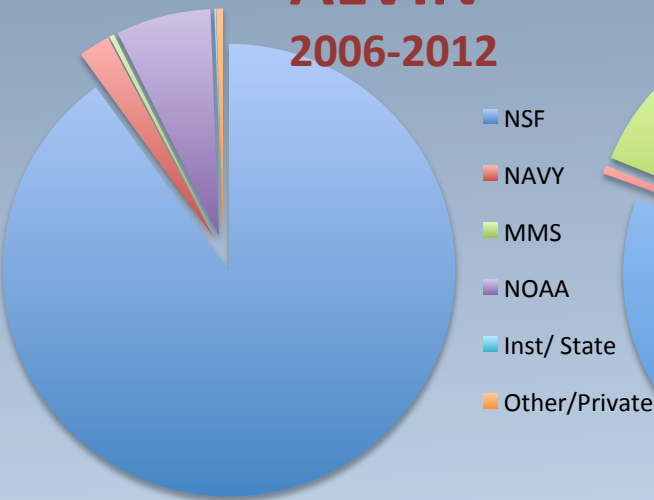
NSF is the primary funding source for UNOLS/NDSF vehicles and facilities

- OCE-CO; OCE-BIO; OCE-MGG
- OCE-ODP, OCE-OTIC, BIO-DEB, BIO-MCB
- OCE-PO, BIO-EF, ESI

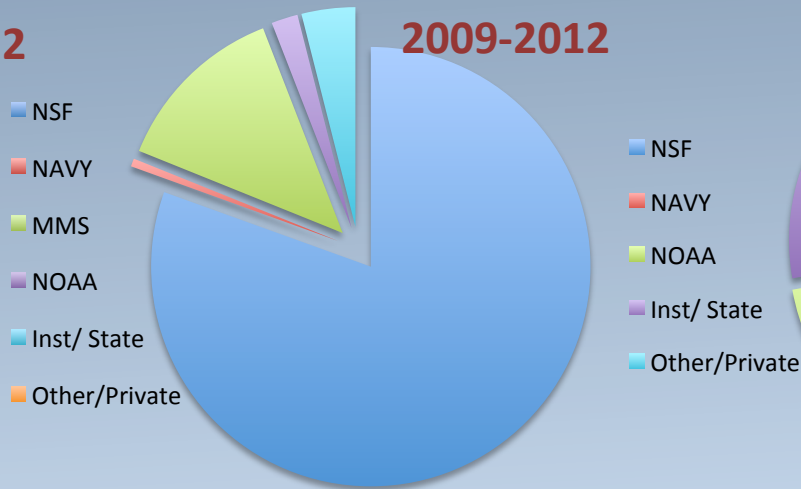
Other sources:

- NOAA – OER; NAVY/ONR, MMS, Interior, Private

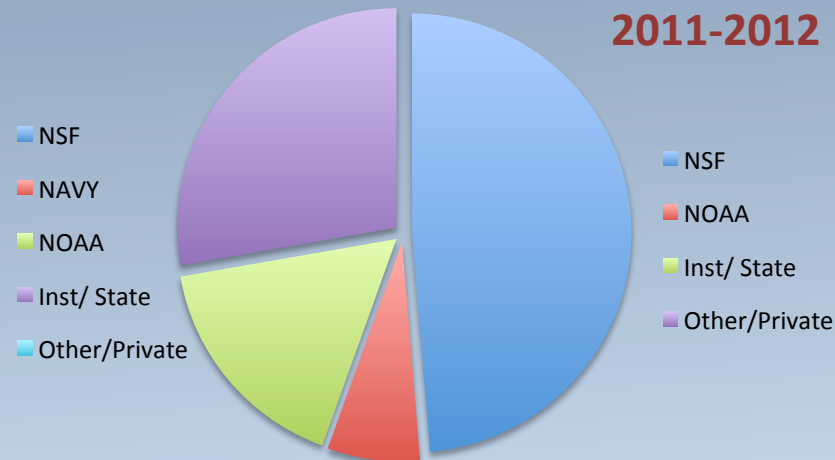
**ALVIN**  
2006-2012



**JASON**  
2009-2012

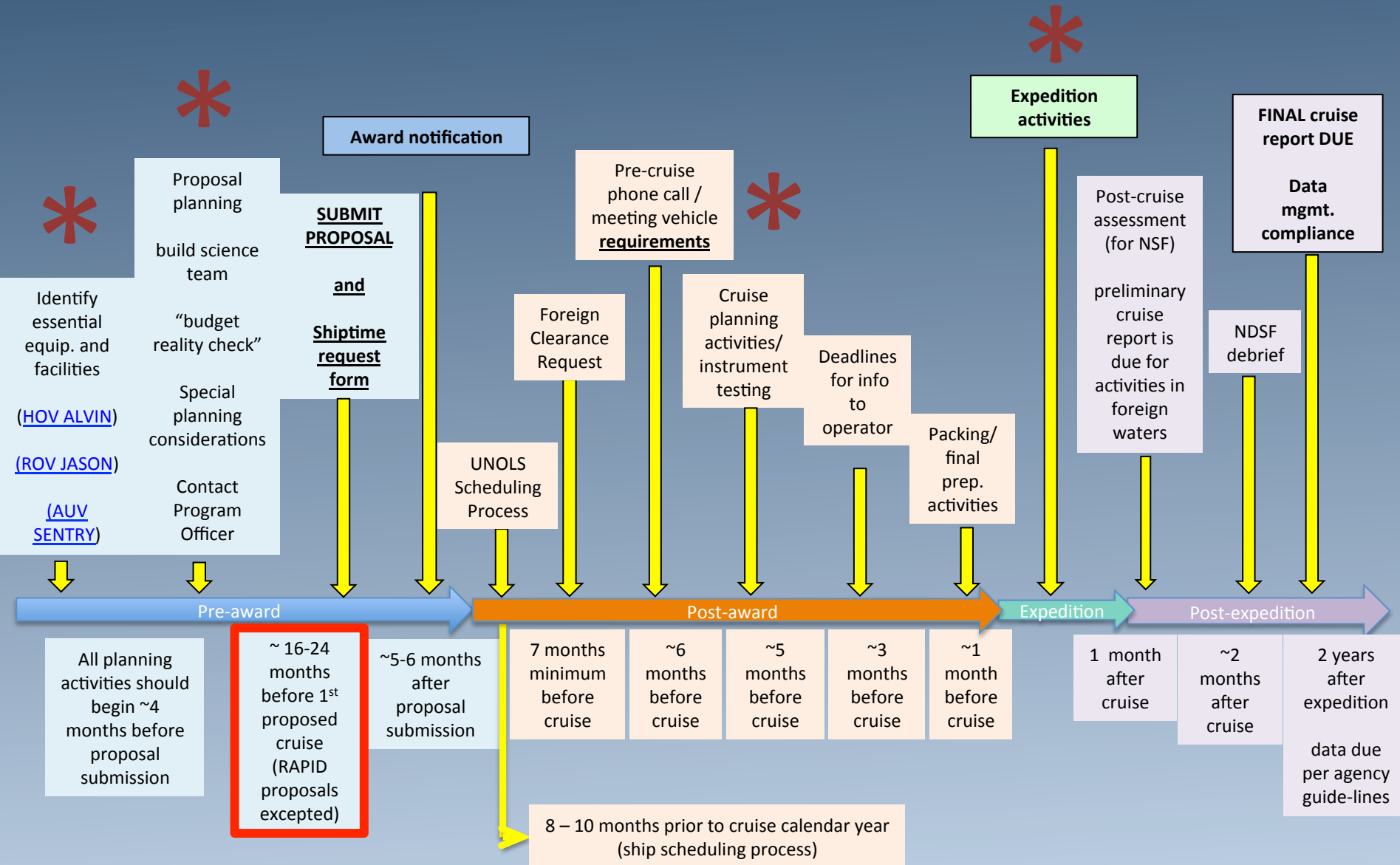


**ABE/SENTRY**  
2011-2012



*Data courtesy Scott Wankel*

# UNOLS EXPEDITION WORKFLOW



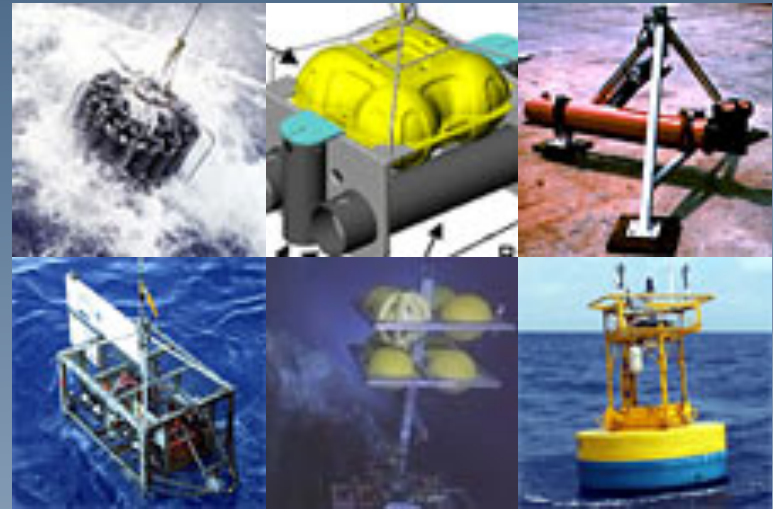


# NATIONAL DEEP SUBMERGENCE FACILITY

## Vehicles



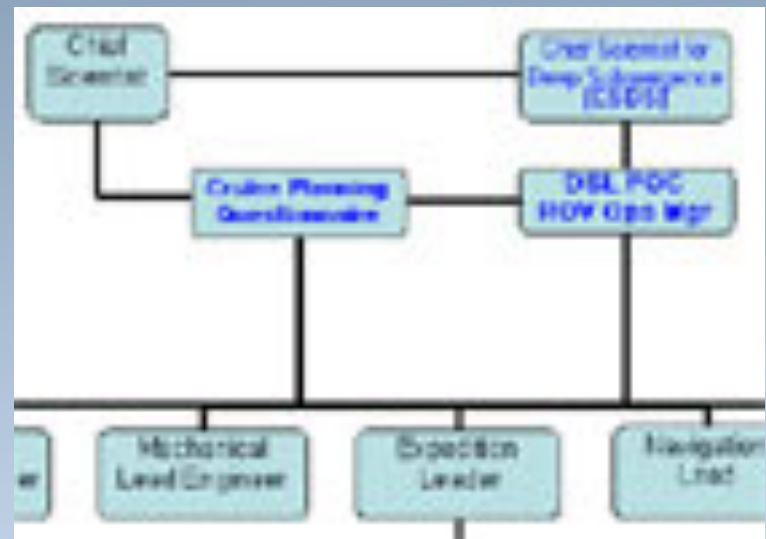
## Tools



## Personnel

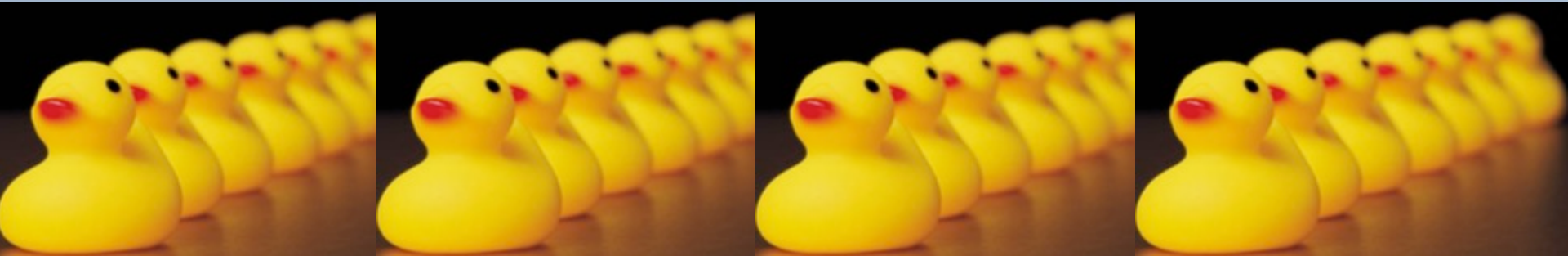


## Operations



# *SUCCESSFUL CRUISE PLANNING*

- ✧ Gather a good group of scientists and students – need “worker bees”
- ✧ Pre-plan specific dives and objectives  
Make sure you have all the equipment and computers and ship them early
- ✧ Plan for sample prep and shipping
- ✧ Decide on night-time operations



# SUCCESSFUL CRUISE PLANNING

## Cruise Planning Website

### SHIPS & TECHNOLOGY

[Ships](#)

[Underwater Vehicles](#)

[Ocean Observatories](#)

[Instruments](#)

#### Cruise Planning

► [Ships](#)

► [NDSF Vehicles](#)

– [Other Vehicles](#)

[National Deep Submergence Facility](#)

## Cruise Planning

Preparing for a seagoing expedition involves many months (often years) of planning. There are many forms and documents to prepare; there are many criteria to be met and logistical issues to sort out; there are even issues of personal preparation. The most successful research cruises are typically the ones that are planned early, with an awareness of both the big picture and the fine details. To start, please indicate if you are using :

- » [Ships](#)
- » [NDSF Vehicles](#)
- » [Other Vehicles](#)

And, review the following resources:

- » [Ship/ROV Schedules](#)
- » [Agent Information](#)
- » [Cruise Planning Questionnaire](#)
- » [Cruise Synopsis](#)
- » [WHOI Winch Pool](#)
- » [Cruise Forms](#)
- » [Ship & NDSF Contacts](#)
- » [COI Small Boat Fleet](#)
- » [Shared Equipment](#)
- » [Vessel Chartering \(pdf\)](#)
- » [Wood Packing Material -WPM Regulations](#)
- » [Related Links](#)
- » [FAQs](#)

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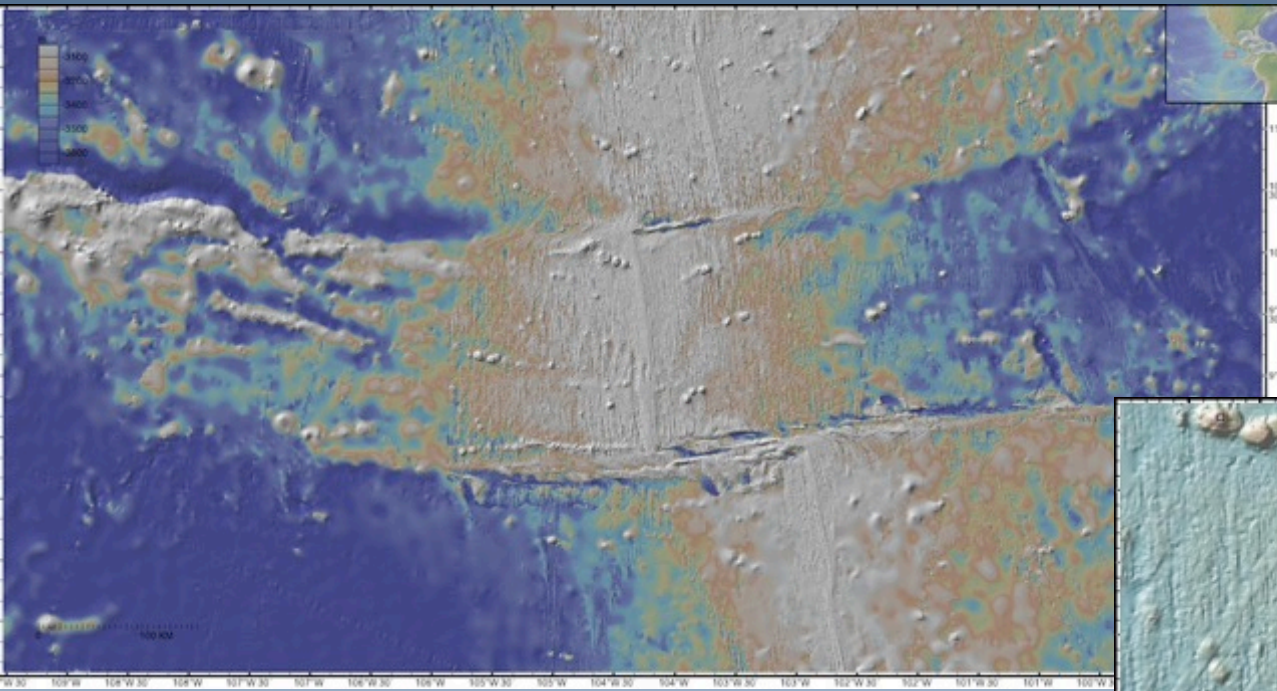


Cruise planning involves bringing together diverse people and equipment for a scientific cruise. Here the ROV JASON is being loaded aboard the Research Vessel Knorr (Tom Kleindinst - WHOI)



# *SUCCESSFUL CRUISE PLANNING*

## Site Surveys: Know your area!



PetDB


GeoMapApp





# SUCCESSFUL CRUISE PLANNING

## Know your vehicles!



WHOI • WHOI People

MEDIA JOBS E-NEWSLETTER CONTACT **SUPPORT WHOI**





HOME ABOUT WHOI RESEARCH PEOPLE SHIPS & TECHNOLOGY EDUCATION NEWS & MULTIMEDIA OCEAN TOPICS

**SHIPS & TECHNOLOGY**  
Ships  
**Underwater Vehicles**


- NDSF Vehicles
- HOV DEEPSEA CHALLENGER
  - ▶ HROV *Nereus*
  - ▶ AUVs
  - ▶ Towed Vehicles

Ocean Observatories  
Instruments  
Cruise Planning  
National Deep Submergence Facility


## National Deep Submergence Facility Vehicles

SHARE THIS:    TOOLS: 


The National Deep Submergence Facility builds and operates vehicles that take scientists or a "scientific presence" deep beneath the surface to observe, sample, and conduct experiments.



**HOV *Alvin***  
*Alvin* is a 3-person research submarine that takes scientists deep into the ocean. Since its launch in 1964, the *Alvin* has enabled more than 2,500 scientists, engineers, and observers to visit the floor of the deep sea.



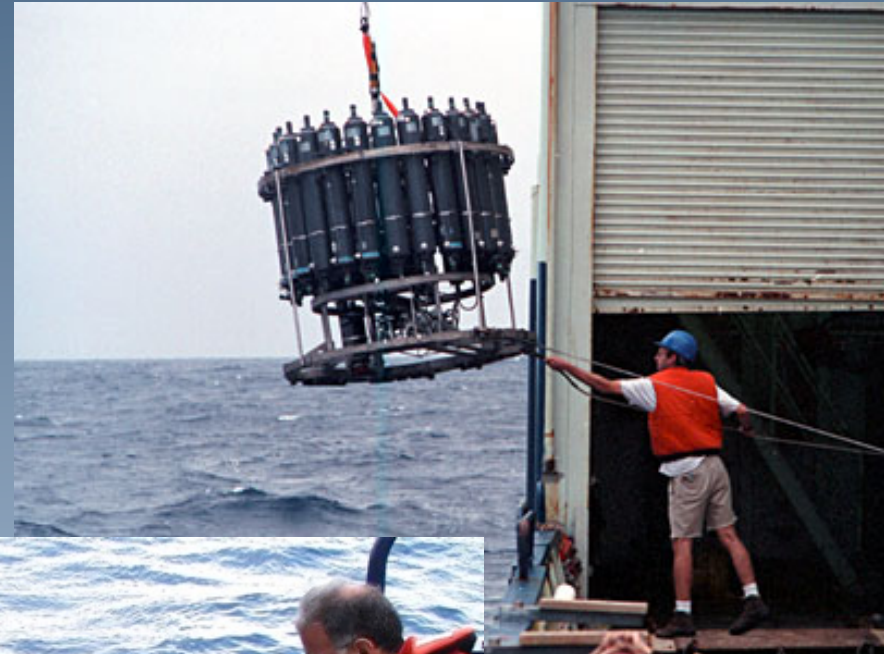
**ROV *Jason/Medea*;**  
*Jason/Medea* is a remotely operated vehicle (ROV) system designed and built by WHOI's Deep Submergence Laboratory. A 10-kilometer (6-mile) tether relays electrical power, control signals, data and live video imagery between a surface ship and the vehicle.



**AUV *Sentry***  
The autonomous underwater vehicle (AUV) *Sentry* is following in the wake of its predecessor, ABE, as a fully autonomous underwater vehicle capable of exploring the ocean down to 6,000 meters (19,685 feet) depth.

# *SUCCESSFUL CRUISE PLANNING*

## Maximize your sea time – Night Ops!





# *SUCCESSFUL CRUISE PLANNING*

## Making the most of your cruise



- Early detailed planning and communication
- Provide operators with reasonable objectives
- Detailed dive plans essential
- Concomitant ROV and AUV operations Optimize efficient use of assets
- Weather awareness
- SAFETY! SAFETY! SAFETY!

# *SUCCESSFUL CRUISE PLANNING*

## *A note on dive plans*

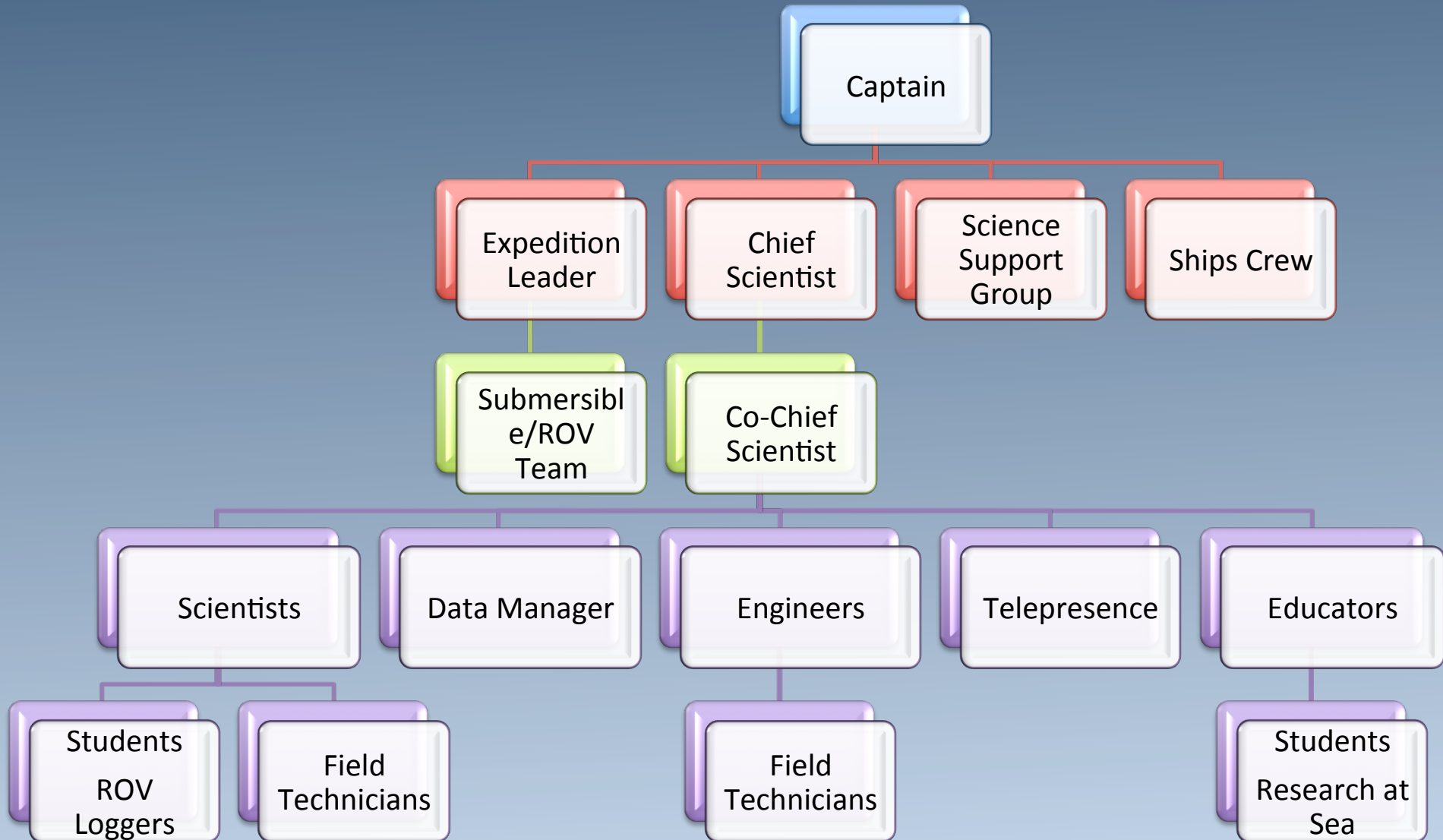


- Thorough, detailed, clear, early communication with Expedition Leader and Pilots
- Have a detailed dive plan!
- Have a detailed backup plan!
- Basket & external equipment configurations **THE NIGHT BEFORE!**
- Don't go to "Mexican Food Night" before your Alvin dives!

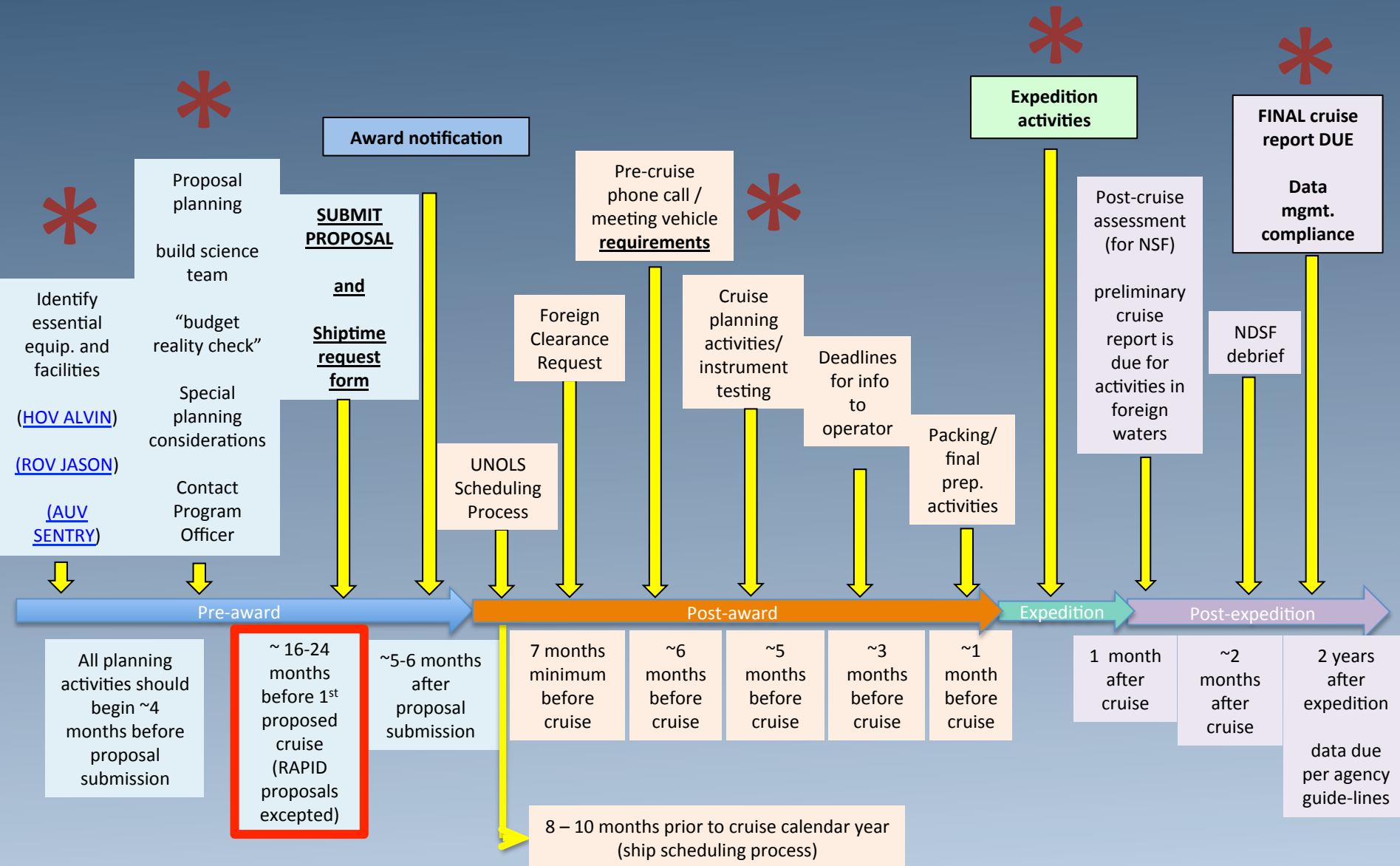


# SUCCESSFUL CRUISE PLANNING

## Chain of Command at Sea



# UNOLS EXPEDITION WORKFLOW



# Data Management



Search for Data



Discover, explore, and visualize data using  
our suite of visualization tools & services.  
[Learn more >](#)



# INTRODUCTION TO DEEP SEA RESEARCH

## What should you do next?

- *Go to sea!*
- *Talk to folks at this meeting!*
- *Get a mentor through DeSSC*
- *Write a proposal, support the fleet and facilities!*
- *Talk to your program managers*
- *Talk to NDSF folks*
- *Get involved with UNOLS – lot's of outreach!*
- *Contact any of us for more info!*



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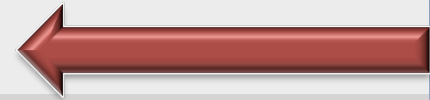
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## Breakout Sessions

### Emerging Technologies

- Room 3208
- Pete Girguis
- Carl Kaiser
- Tim Crone
- Anthony Tarantino

### Grant Writing

- Room 3321
- George Luther
- Karyn Rogers
- Select Program Managers

### Data Management

- Room 3320
- Vicki Ferrini
- Adam Soule

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