From Proposal to Post-Cruise

Responsibilities of a PI/Chief Scientist
TOPICS

• Proposals with ship time
• Cruise science planning
• Cruise logistics planning
• On the cruise
• Post-cruise wrap-up
(we will revisit these topics at sea)

photo credits- past CST cruises
The proposal

“Now THAT is a good idea…….”

“But how do I get it funded???”
Is your proposed cruise component essential to science objectives? novel? feasible? cost-effective? Could it be an ancillary project?

You will need to show you will make good use of the capabilities of a Research Vessel.
✓ Going to sea is essential

Include in your proposal justifications for the essential information in the UNOLS Ship Time Request (STR) form.

1. What ship(s) can accomplish your mission?

A. How big a science party will your project need and support?

B. What ship’s equipment does your research require? e.g. sonars, winches, lab spaces (smaller ships are easier to schedule and cost less)
2. What deck, lab and over-the-side equipment does your work require?

Is it part of the ship’s scientific equipment or within the UNOLS pools of shared use equipment?

Is it something you can use on loan from a colleague?

Can you buy it with adequate lead time?
- Include all UNOLS equipment requirements on STR form

- Carefully plan for loaned equipment with colleagues DURING the proposal stage and include support letters in the proposal

- Carefully budget for equipment resources (including any technical assistance, shipping, over the side insurance)
3. How many days should I request?

- Understand operator’s preferred departure and return times
- Include contingency days if equipment or weather is likely to be an issue (but be ready to use these days if all goes perfectly)
DON’T NEGLECT planning added considerations for polar, foreign cruises, marine mammal or protected areas, permits, shipping, clearances.

show in your proposal that you know your research local(s) and understand the logistic requirements.
Shiptime requests for global ships

Timing is important (August NSF deadline)

- Communicate with UNOLS and ship schedulers as needed during proposal planning
- Consider combining your cruise with other work proposed/funded in same area (avoid long transits)
- Stay flexible- scheduling may not coincide with your optimal time frame
- Reviewers appreciate indications that you have researched the value added components
My proposal was FUNDED!!!!!!!

WHA-HOO!
NOW WHAT DO I DO???
ANSWER

• Cruise science planning 101
Develop a Science Team for your Cruise (the earlier the better!!)

Team spirit and open communications leads to a more successful and enjoyable cruise for all.

Careful staffing leads to complete preparations and the accomplishment of goals.
• Are the science activities of my team members complementary and/or synergistic?

• Will there be open berths and/or wire time available for other scientists with interests in your cruise area, students or training opportunities? (post on UNOLS cruise opportunities page)
Communicate Science Objectives and Cruise Priorities

• Foster communications among Science Team to align sampling objectives and cruise logistics
  • Schedule a pre-cruise planning meeting well in advance, in person if possible
  • Develop a primary cruise plan and contingency scenarios collaboratively
  • Follow-up with conference calls
Cruise Logistics Planning
Communicate with Marine Tech and Marine Dept

- closely follow the established cruise planning procedures and timetable for your vessel

- don’t be afraid to ask for clarification and assistance in the cruise planning process from the ship operator and UNOLS
START LOGISTICS EARLY

Give plenty of extra time for logistical preparations for polar work, foreign clearances, marine mammal and protected areas considerations, etc.
• discuss in detail your cruise equipment needs with Marine Tech

(Do not just assume it will be there!)
- deck (winches, wire needs)
- instrumentation (CTD/sensors, sampling bottles)
- lab (fume hoods, laminar flow hoods, fridge/freezer space)
- navigational needs
- other (transducers, special computing needs?)
- vans

• provide specifics about any PI supplied equipment and instrumentation
- over-the-side equipment may require special planning
- lab equipment
There are many on-line resources to help logistics planning for your cruise

http://shipsked.ucsd.edu/Schedules/Instructions_For_Scientists/
KNOW your equipment to prevent surprises
• If you plan to use any UNOLS Shared-Use equipment or Pooled assets discuss your plans with person responsible for this equipment ASAP and reserve it as soon as the cruise dates are set.
Familiarize yourself with your equipment and its setup **BEFORE** the cruise (all PIs)

How will you deploy it?

How and where will you secure it?

Put together a spares box!

Bring your own tools, tape, hardware etc!
PREVENT SURPRISES AND SAFETY PROBLEMS

Discuss with other PIs the equipment they plan to use and procedures

In a few cases, you may need to arrange that PIs bringing unusual equipment discuss their operations and needs directly with the Marine Tech (especially true for any user-supplied wire or atypical over-the-ship operations)
The Chief Scientist shares responsibility for science party safety and behavior with Master.

“You’ll be fine with me. I know these waters like the back of my hand.”
Ensure you have ALL important medical information from all members of the science party.

Maintain an awareness of any medical issues or dehydration from extreme seasickness.
Communicate Safety and Cruise Protocols to Science Party
IN ADVANCE
(esp. any verbotims)

• During the cruise planning pre-cruise briefing
  • During the safety meeting
  • On the cruise as needed
Ensure your science party reads the UNOLS safety manual

During the cruise

Know and keep faithful to thy
(Ever Evolving)
Cruise Plan and Priorities
Keep thy balance!

• Ensure each science party accomplishes its #1 priority

• Evenly plan for and communicate all issues requiring cruise adjustments

• Hold ~daily science briefings with science teams
COMMUNICATE WITH CAPTAIN ON ALL MAJOR SCHEDULE CHANGES

• the point person to communicate all minor operational changes is generally the bridge officer on watch
• Post all updates to the cruise plan without delay
• designate a centralize point for posting schedule changes to science party
Other considerations

- Especially on long cruises-plan for recreation time, breaks from work, fishing
- Invite captain and interested crew to regular science meetings. Explain what you are doing and why.
- Visit the bridge often but during non-critical times operationally.
- **SAFETY CAN NEVER BE COMPROMISED.** The captain is in charge, even though you are the chief scientist.
MAINTAIN FLEXIBILITY, OPEN MINDEDNESS AND GOOD HUMOR ABOVE ALL!!
Post-cruise wrap-up

• Post Cruise Assessments (PCA)

• Post cruise report

• Post cruise science meeting

• Data Sharing Requirements
Post Cruise Assessments (PCAs)

• Completed by Chief Scientist, Master and Marine Techs
• PCAs provides important feedback to agencies on ship operations, technical support and scientific equipment
• PCAs help to provide guidance to UNOLS on ship-related issues, cruise planning and strategic fleet planning
• Provide CONSTRUCTIVE PRAISE and CRITICISM/SUGGESTIONS NOT complaints
Post-cruise report

• some ship operators have specific cruise report outline to follow
• an effective structure:
  1) Overall cruise narrative
     (Chief Scientist/ Science Team leaders)
  2) Cruise participants
  3) Each PI: -1-2 para on objectives and cruise sampling protocols/methods
     - Table of samples collected
     - Ship-data streams collected
     - Data archiving summary
Plan for a post-cruise meeting

very useful to build on cruise collaborations and science synergies

–may want to consider meeting at a conference
Data Sharing and Reporting

refer to NSF
Division of Ocean Sciences
Sample and Data Policy

be aware of Program specific requirements
Recap-Common Mistakes

- Last minute preparations
- Trying to do too much with too few people
- Inadequate spares, supplies and contingency plans
- Poor equipment designs: recovery systems, tracking aids
- Poor or confused communications
  - (who, when, what, where?)
- Ignoring regulations, authority of ship’s master
- Not taking the time to properly check over equipment
- Not checking charts and data bases for critical information, e.g. bottom type, currents, shipping lanes, protected areas
Problems

- Equipment failures-ship and science (learn to take in stride)
- Loss of time due to weather
- People problems
  - Drugs, alcohol (especially in port)
  - Illness
  - Injury
  - Hazing, sexual harassment and flirtation
  - Aggressive and pushy “collaborators”
  - Difficult captains
- “The totally unexpected”
  - Mistakes happen
WHY it is worth it

• Leadership-setting the direction of ocean science
• Exploration
• Discovery
• Friendships
• Education
• Travel