

Science Mission Requirements for Global Class Vessel(s)

FIC Meeting, 1 December 2017

Committee

- Greg Cutter
- Byron Blomquist
- Clare Reimers
- Jim Swift
- Anyone else?

Tasks – Establish/define science drivers

- Fleet Improvement Plan
- Evaluation of existing fleet – service life, scheduling, costs
- Existing and future large-individual program needs
- Agency needs and funding

Tasks – Data gathering

- Examine existing SMRs for Global and Ocean Classes - DONE
- Survey existing Global Class users and captains, engineers. Create survey document that provides consistent and usable information.
- Gather information on international Global fleet – size, endurance, berthing, deck/lab facilities, build and maintenance costs, etc.
Examples: Discovery 2013 (UK), Investigator (Australia), Meteor (Germany), Pourquoi Pas (France), Tan Kah Kee (China)
- Survey the community and open discussions like having Town Halls

Survey – How do we do it to get lots of useful responses?

- Traditional method:

For the following questions, in addition to current needs, you should consider potential science missions that would require a Global Class Vessel in the next 30 years.

1. What should be the endurance of a Global Class RV?

45-50 50-55 55-60 60-65 days

2. What should be the Range of a Global Class RV?

5-10k 10k-15k 15k-20k nautical miles

BLAH, BLAH, YADA, YADA

- Or, try something different:

“Consider the existing Global Class RVs (TT, Atlantis, Revelle, R. Brown) that are considered to be doing a great job, now consider what the field could be doing in 25 years from now (maybe provide a copy of their SMR),” then ask survey questions like does the deck space need to be larger/smaller; more/less lab space; # of berths; greater range, etc.

International Global Examples



Discovery (2013): 327', 28 scientists



Investigator: 308', 40 scientists



Pourquoi Pas: 351', 40 scientists



Meteor: 320', 30 scientists



Tan Kah Kee: 255', 36 scientists



Tasks – draft strawperson SMR – the existing ones include:

- A. Overview and science drivers
- B. Size and cost
- C. Accommodations and habitability
- D. Operational characteristics – endurance, range, speed, sea keeping, etc. Green?
- E. Over-the-side and weight handling systems – winches, A-frames, etc.
- F. Science working areas
 - Deck
 - Labs
 - Vans
 - Storage
 - Workboats, masts

Tasks – draft strawperson SMR (continued)

G. Science and ship systems

- Navigation

- Data networks

- Communications – internal and external, particularly streaming

- Underway data collection and sampling

- Acoustic systems

- Visiting science (PI) systems

- Seismics

- Overboard discharge

H. Construction, operation, and maintenance

Revised Timeline

June 2017	Start process – define science drivers and gather data
December 2017	Survey past Global users, captains, engineers
February 2018	Open to community (Wiki, Dropbox, Google doc, forum?): UNOLS web site, email announcement Town Hall at 2018 OSM: Planning for the next US Global Class Research Vessel, Monday, 1245 pm
April 2018	Draft initial/strawperson SMR
May 2018	Circulate SMR to FIC
June 2018	Circulate SMR to Council
July 2018	Compile all inputs and create “living” SMR, start marketing