

SOMTS pre-cruise meeting notes

PRE-CRUISE PLANNING & CHECKLIST

General Info

Meeting date	2010-04-26, Mon
Ship	R/V Melville
Cruise Name	MV1012 (Long Range Acoustic Communications)
Cruise Start Date	2010-09-08, Wed
Cruise End Date	2010-09-21, Tue
Load Start Date	2010-09-07, Tue
Load End Date	2010-09-07, Tue
Off-load Start Date	2010-09-22, Wed
Off-load End Date	2010-09-22, Wed
Chief Scientist	Dr. William S. Hodgkiss
Start Port	San Diego, California, USA
Intermediate Ports	N/A
End Port	San Diego, California, USA
# of Scientific Participants	≥11 Science Party (Song: 6, Terrill: 2, Preston: 3) + 2 SIO Techs

Equipment Requirements

Equipment Requirements	Find/make overboarding attachment
24 HOUR OPERATIONS ?	Yes
Trawl Winch (9/16”M, 0.680EM)	No
CTD Winch (0.322EM)	Yes
CTD Equipment	Yes (for SSP only, and no water samples; before deploying and after recovering FORA)
Hydro Winch (0.25’M)	No
Portable Winches	8’ x 8’ x 8’ (22,000 lbs.), tow cable rated for 59,000 lbs.; sheave not rated
Navigation	Standard (need water depth, but not critical)
Dynamic Positioning	Standard
Multibeam Sonar	Yes
ADCP	Yes
Doppler Sonar	N/A
PDR (3.5kHz, 12kHz)	12kHz only (to keep track of bottom; 3.5kHz will interfere); can use multibeam for this purpose
Magnetometer	No
Gravity	Yes

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IMET	NTP server
XBT	Yes (4/day, will be charged); can be dropped next to acoustic array
Seismics (Air/Water Guns, Hydrophone Streamers, etc.)	No
Air Compressor Vans	No
Coring (Gravity, Piston, Multi, etc.)	No
Explosives	No
Containers/Vans	One 20' container (8000 lbs.), not human-occupied, no power required, placed starboard and aft of hangar for easy access
Electrical, Special Requirements	FORA winch (220V or 440V, 3-phase, current to be confirmed)
Foreign Shipments	No
Isotopes	No
Hazmat (chemicals, lithium batteries.) Battery Specialties	No
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Hazmat response issues	N/A
Laser	No
Freezers/Reefers	No
SIO Technicians	1 MT + 1 CT
Data Processing	Standard
Communications	Broadcast science party's GPS webpage to bridge. Need email access (verify Inmarsat for backup) to update Matlab acoustic transmission settings between Melville and New Horizon
Clearances	N/A
Notice to Mariners	~1000m payout
Internet Requirements	HiSeasNet with Inmarsat backup

Additional Notes

This is a joint R/V New Horizon and R/V Melville cruise. New Horizon will be the acoustic source ship.

- Dr. Hodgkiss will be leading the group on the Melville; Dr. Song will be leading the group on the New Horizon.
- The New Horizon will be far to the west at 125 degrees (deep water) and ~500 nmi away for marine mammal mitigation.
- Observers will not be required on the New Horizon.

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Equipment (FORA):

- New Horizon: ~75m payout
- Melville (FORA): ~1000m payout (250-300m tow cable + 220m array + 300m rope)
- Towed depth: surface to 350m possible; tow speed: 4-4.5 knots
- Ship should advance at a modest speed, turn about once.
- Equipment will be installed and left in place during the cruise (will be used 22/24 hours per day).
- Emergency recovery situations (equipment can be recovered in 15 min with winch):
 - Longlines/crosswire will destroy the array (there should not be any fish in the area).
 - The array is neutrally buoyant, but the tow cable will pull it underwater --> must be recovered immediately if the ship stops.
- The acoustic array will operate at ~124dB and 100-300Hz.
- Paint chippers will interfere with the array -- do not use them during ops (test this during transit).
- Need to make/find overboarding attachment.
- J-15-3 (a spare will be brought)
- Paperwork/certification for the winch/sheave will be provided by the science party.

Equipment needs:

- Time syncing:
 - Request time sync to GPS; NTP server syncing can be provided.
 - Science party has standalone GPS; sync on Linux boxes not required.
 - Science party would like to broadcast their GPS webpage to the bridge.
- SSP will be obtained from CTD at the beginning of the cruise, and XBT when underway.
 - XBT drops: 4/day for each vessel (will be charged)
- Network connectivity crucial for updating MatLab-based settings between the two vessels.
 - New Horizon will be out of HSN range, and will need to use FBB.

Dr. Terrill's Melville radar install/testing will be performed during this cruise (not related to this cruise).

- This can be craned aboard, bolted down, and configured in 1-2 days.
- Note that September 6 is a holiday.
- Plan: Perform the installation on September 7 and then leave at 0800 on September 8 (New Horizon will need some time to reach the destination).
- Assistance in loading and setup will be provided by Dr. Song.

Science party:

- Special needs/information: one member has heart stents.
- Will try to bring more undergraduates.

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