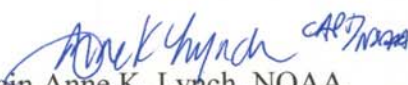




UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration
NOAA Marine and Aviation Operations
Marine Operations Center
439 W. York Street
Norfolk, VA 23510-1114

MEMORANDUM FOR: Lieutenant Commander Jeffrey Shoup, NOAA
Commanding Officer, NOAA Ship *Nancy Foster*

FROM:  Captain Anne K. Lynch, NOAA
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT: Project Instruction for NF-15-05
FKNMS Coral Reef Condition Assessment, Coral Reef Mapping and
Fisheries Acoustics Characterizations

Attached is the final Project Instruction for NF-15-05 FKNMS Coral Reef Condition Assessment, Coral Reef Mapping and Fisheries Acoustics Characterizations Survey, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of 14 June to 29 June, 2015. Of the 16 DAS scheduled for this project, 16 days are funded by Line Office Allocation. This project is estimated to exhibit a High Operational Tempo. Acknowledge receipt of these instructions via e-mail to OpsMgr.MOA@noaa.gov at Marine Operations Center-Atlantic.

Attachment

cc:
Scott Donahue
Sean Morton
Steve Gittings





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Florida Keys National Marine Sanctuary
33 East Quay Road
Key West, FL 33040

Final Project Instructions


Date Submitted: May 22nd, 2015

Platform: NOAA Ship *Nancy Foster*


Project Number: NF-15-05 (OMAO)

Project Title: Florida Keys National Marine Sanctuary Coral Reef Condition Assessment, Coral Reef Mapping, and Fisheries Acoustics Characterizations.


Project Dates: June 14th to June 29th, 2015

Prepared by:  DONAHUE.SCOTT.L.136585300
9
Date: 2015.05.22 14:45:24 -04'00'

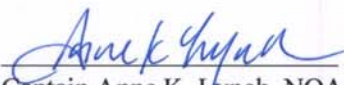
Scott Donahue
Chief Scientist
NOS/ONMS/SEGOM/FKNMS

Approved by: MORTON.SEAN.A.1365891954
 Digitally signed by MORTON.SEAN.A.1365891954
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER,
cn=MORTON.SEAN.A.1365891954
Date: 2015.05.26 10:53:03 -04'00'

Sean Morton
Superintendent
NOS/ONMS/SEGOM/FKNMS

Approved by: GITTINGS.STEPHEN.R.DR.1365823754
 Digitally signed by GITTINGS.STEPHEN.R.DR.1365823754
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER,
cn=GITTINGS.STEPHEN.R.DR.1365823754
Date: 2015.05.26 11:11:04'00'

Steve Gittings, Ph.D.
Science Coordinator
NOS/ONMS

Approved by:  Dated: 5/29/2015

Captain Anne K. Lynch, NOAA
Commanding Officer
Marine Operations Center - Atlantic

I. Overview

A. Brief Summary and Project Period

Summary: The present project builds on past research and monitoring in Florida Keys National Marine Sanctuary with the Florida Fish and Wildlife Conservation Commission and focuses on connectivity between the network of marine reserves in the Dry Tortugas region, including the connections between populations of fish in the Dry Tortugas National Park (DRTO), the DRTO Research Natural Area (RNA), the Tortugas Ecological Reserve North (TER North) and spawning habitat at Riley's Hump (RH), located within the Tortugas Ecological Reserve South (TER South).

For the 2015 FKNMS mission on the Nancy Foster we will work in the waters of the Florida Keys from Key Largo to the Dry Tortugas region. Two primary 'daytime' projects are proposed: a) fish sampling and acoustic tagging in the Florida Keys and Marquesas Keys (offshore and inshore habitats of the Marquesas Keys, and the outlier reef at Western Dry Rocks off Key West), b) deployment and installation of the Integrated Tracking of Aquatic Animals in the Gulf of Mexico (iTag) array network. Multibeam and fishery sonar surveys will be conducted primarily during nighttime hours, but will have occasional daytime requirements.

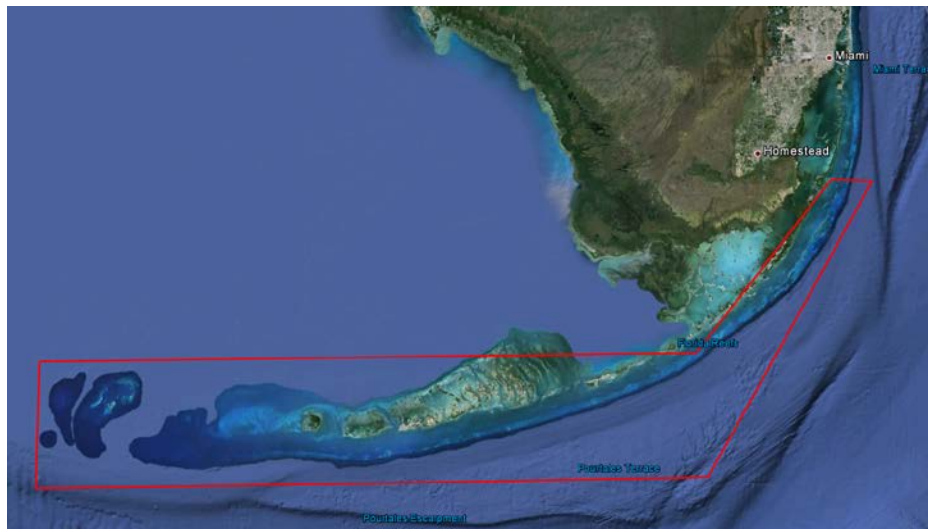
Project period: June 14th – June 29th, 2015

B. Days at Sea (DAS)

All 16 DAS scheduled for this project are funded by Line Office Allocation. Transit DAS are scheduled for June 27-29, 2015, departing Key West, FL and arriving in Charleston, SC. Key West, FL is the project port. This project is estimated to exhibit a High Operational Tempo.

C. Operating Area

In and around Florida Keys National Marine Sanctuary (area shown as red polygon).



D. Summary of Objectives:

- Deploy scuba divers to recover, download and redeploy acoustic receivers (VR2s) in the vicinity of Marquesas and Key West; forty-two receivers will be serviced in total (Appendices 1 & 2).
- Deploy scuba divers to recover, download and redeploy acoustic receivers (VR2s) and thermograph in Tortugas Ecological Reserve; six receivers and one thermograph will be serviced in total (Appendices 3 & 4).
- Deploy scuba divers to install approximately 31 'new' VR2 stands and receivers at various locations throughout the Keys (Appendices 5 & 6).
- Use ship to deploy four 'new' VR2AR stands and receivers at four locations on Portales Terrace (Appendices 7 & 8).
- Deploy scuba divers to place fish traps in the vicinity of Marquesas Islands, then acoustically tag fishes *in situ* (Appendix 9).
- Conduct sein net operations from small boats within and around the Marquesas islands.
- ROV operations – a small-boat based seabotix ROV from Florida Fish and Wildlife Commission. ROV surveys will target fish aggregations and benthic habitat features. ROV to be deployed either from the ship, or from small boats, depending on environmental conditions.
- Drop camera (small boat based) and/or diver visual surveys over bathymetry habitat features of interest, or for habitat validation purposes.
- Dive and drop camera via small boat on fish aggregations, fish traps, or benthic habitat features as required for the mission.
- Multibeam target areas in the vicinity of Key Largo, Marathon, Lower Keys, Marquesas and Dry Tortugas region. Appendix #4 shows general areas of interest for MBES surveys (Appendix 10).

E. Participating Institutions

NOAA's National Ocean Service - Office of National Marine Sanctuaries

NOAA's National Ocean Service - National Center for Coastal Ocean Sciences

NOAA Fisheries - Southeast Fisheries Science Center

NOAA's Teacher at Sea Program

Florida Fish and Wildlife Conservation Commission

F. Personnel/Science Party: name, title, gender, affiliation, and nationality

Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Abbitt, Rosemary	Scientist	6/14/15	6/20/15	F	NOAA	US
Acosta, Alejandro	Principal Investigator	6/14/15	6/26/15	M	Florida FWC	US
Barbera, Paul	Scientist	6/14/15	6/26/15	M	Florida FWC	US
Beaton, Morgan	Scientist	6/14/15	6/26/15	F	Florida FWC	US
Bickford, Joel	Scientist	6/20/15	6/26/15	M	Florida FWC	US
Binder, Ben	Scientist	6/20/15	6/26/15	M	Florida FWC	US
DeMaria, Don	Scientist	6/14/15	6/26/15	M	Florida FWC	US
Donahue, Scott	Chief Scientist	6/14/15	6/26/15	M	NOAA	US
Eaken, Dave	Scientist	6/14/15	6/26/15	M	Florida FWC	US
Field, Don	Scientist	6/14/15	6/26/15	M	NOAA	US
Henske, Bill	TAS	6/14/15	6/26/15	M	NOAA Teacher at Sea	US
Jeffers, Kelsey	Scientist	6/14/15	6/26/15	F	NOAA	US
McCallister, Mike	Scientist	6/14/15	6/26/15	M	Florida FWC	US
Morley, Danielle	Scientist	6/14/15	6/26/15	F	Florida FWC	US
Pawlitz, Rachel	Scientist	6/20/15	6/26/15	F	NOAA	US
Renchen, Jeff	Scientist	6/14/15	6/26/15	M	Florida FWC	US
Stafford, Brett	NOAA UDS & Dive Master	6/14/15	6/20/15	M	NOAA	US
Tobin, Ariel	Scientist	6/14/15	6/26/15	F	Florida FWC	US

G. Administrative

1. Points of Contacts:

Chief Scientist: Scott Donahue
Office: 305-809-4700 ext.239
Cell: 305-797-7223
Email: scott.donahue@noaa.gov

Principal Investigator: Dr. Alejandro Acosta
Office: 305-289-2330
Email: Alejandro.Acosta@MyFWC.com

Ops Officer: LT Lyndsey Davis
Ship VoIP: [301-713-7780](tel:301-713-7780)
Ship Iridium: [808-434-5653](tel:808-434-5653)
Email: ops.nancy.foster@Noaa.gov

2. Diplomatic Clearances

None Required.

3. Licenses and Permits

This project will be conducted under Scientific Research Permits (U.S.) issued by Florida Keys National Marine Sanctuary (U.S.) to Scott Donahue (Chief Sci.) and Dr. Alejandro Acosta (Principal Investigator) on or about June 1st, 2015. These will be presented to the ship by the time it sails.

II. Operations

The Chief Scientist is responsible for ensuring the scientific staff are trained in planned operations and are knowledgeable of project objectives and priorities. The Commanding Officer is responsible for ensuring all operations conform to the ship's accepted practices and procedures.

- A. Project Itinerary: A general itinerary is shown below, however one with more detail can be found in Appendix 14.

Project period: June 14th – June 29th, 2015

Arrive: Key West, FL June 12th, 2015 (end of NF-15-04 cruise)

Load Vessel: Key West, FL September 14th, 2015

Depart: Key West, FL June 14th, 2015, by 1000.

Science crew swap using small boat: Key West, FL June 20st, 2015, 0800hrs

Arrive: Key West, FL June 26th, 2015

Offload Vessel: Key West, FL June 26th, 2015

Depart: Key West, FL June 27th, 2015

Arrive: Charleston, SC June 29th, 2015

B. Staging and Destaging:

Staging area/dock TBD, but could only occur in one of two places: US Coast Guard station at Trumbo Point, or NAS Key West Truman Harbor – Most staging will occur 6/14/15. We will need crane ops from approximately 0800 to 1000 to load science equipment on 6/14/15. There will be a rotation of select science crew on June 20th, 2015

De-staging will occur twice: 1) on 6/20/15 to swap select science crew members, 2) when back at port Key West on 6/26/15.

C. Operations to be Conducted:

1. Fish Tagging:

Logistics for trapping and diving are weather specific, and will be coordinated between the CO and Chief Scientists on site. Ideally, the divers and drop cameras will be deployed first to check the area where fish traps will be set, and again following the trap soak period. Traps will be equipped with GoPro cameras. After a soak time of \pm 4 hrs, the ROV, the drop camera, or divers (depending on site conditions) will be deployed to determine if any fish were caught that are appropriate for tagging. The acoustic tagging will be conducted underwater using a team of divers.

Additionally, divers will video tape their dives and record fish and habitat information. Based on the fish tagged, we will deploy new VR2s if necessary.

2. VR2 Downloads:

Teams of 2 divers will replace the existing VR2 receivers. Divers will bring down a newly programmed VR2, remove the existing VR2 and place the new one in the station and secure it. The previous VR2 will be brought to the surface for downloading and reprogramming.

3. Seabotix ROV Operations:

Live boat deployment of this small ROV will be conducted either from *Nancy Foster* or the small tender vessels. We anticipate deployments of 1 to 2 hours depending on current and wind conditions. A team of three people will be needed to operate the ROV. Dive operations can co-occur when this ROV is deployed, because it is launched from a small boat. No nighttime surveys are required or scheduled.

4. Multibeam Sonar Operations:

Multibeam survey areas will be provided to the Operations Officer. Polygons will be provided as maps and as ArcGIS shapefiles for use by ship Survey department for planning. Actual survey polygons for all proposed multibeam coverage during cruise operations will be provided or modified during daily operation meetings.

Multibeam operations will be conducted throughout the Florida Keys archipelago in select areas. Multibeam operations will mostly occur during nighttime hours, with some daytime surveys over VR2AR gate locations.

The Reson 7125 Seabat will be used for multibeam operations. Ship's Survey Department will determine appropriate frequency for operations given depth of the survey area. Underway CTD casts will be taken at the discretion of the survey technicians (e.g., Samantha Martin or Nick Mitchell) and as appropriate to ensure high data quality.

5. Fishery Splitbeam Sonar Operations

Fish distribution will be simultaneously mapped during multibeam sonar surveys using the Simrad EK60 suite. Additional areas 'of opportunity' for this survey will be provided during daily operations meetings.

6. Dives to Service Acoustic Tag Receivers

Up to 42 VR2 acoustic tag receivers will be serviced during the mission. Each unit will be retrieved, data downloaded, batteries replaced, reprogrammed, then redeployed. Dive depths could range from 20 fsw to 125 fsw. Dive operations will occur from ship's small boats.

7. Seining Operations

In order to describe early-life stages of snapper and other commercially important fish species abundance and distribution in shallow (< 1.25 m depth), nearshore seagrass beds, we conducted a stratified-random-design study using 21 m seines on the Marquesas Keys. We will sample the same locations sampled during 2014 cruise.

8. Dives to Deploy New VR2 Stands:

Up to 31 new stands (and associated VR2 receivers) will be deployed by divers during the mission. These stands are approximately 80lbs dry weight. Stands are dropped from small boats over the intended bottom features. Divers will follow the stand's marker buoy down to quickly locate the unit, situate the stand properly, install the acoustic receiver, then return to the surface. Dive depths could range from 20 fsw to 125 fsw.

9. J-Frame Deployment of New VR2AR Stands:

Four new acoustic release stands (and associated VR2 receivers) will be deployed by the ship using its J or A-Frame. These stands will be deployed without the need for divers, and will be deployed to depths between 300 fsw to 520 fsw.

D. Dive Plan

All dives are to be conducted in accordance with the requirements and regulations of the NOAA Diving Program (<http://www.ndc.noaa.gov/dr.html>) and require the approval of the ship's Commanding Officer.

The Dive Plan for NF-15-05 is presented in Appendix 11, and associated Dive Emergency Assistance Plans (DEAP) in Appendices 12 & 13.

E. Applicable Restrictions

Conditions which preclude normal operations:

Poor field conditions:

1. Tropical cyclone activity is possible during this mission – the CO will determine best mitigation practice for the ship in this scenario.
2. Summertime thunderstorms could influence dive ops periodically– teams will deploy/retreat at the direction of the CO and/or Chief Sci.
3. Oceanic currents could be too strong for safe ROV or diving operations – Chief Sci to advise CO

Equipment failure:

1. ROV failure will not jeopardize the primary objectives of this mission – an attempt to correct an issue with either ROV will be made, but not at the expense of our field schedule.
2. Nitrox compressor failure will jeopardize the mission – in this case, the ship could do a touch-and-go in Key West for delivery of enough scuba tanks to complete the mission (to be coordinated by Chief Sci).
3. Dive equipment failure – spare parts will be on hand to fix the most common problems.

Safety concerns:

1. Dive related injuries – NOAA Dive Masters will be on board to supervise all dive operations while underway; Brett Stafford will serve as the DM on leg 1, and Scott Donahue as DM on leg 2. A diving safety drill will also be coordinated with the CO on the first day of diving operations to prepare all teams for an unlikely dive injury scenario. The most likely dive emergency situation will be AGE or DCS.
2. General deck operations – CO (or their designee) can relay safety issues surrounding deck ops to Chief Sci and party.
3. Exposure – Coxswains and science crew will need to stay hydrated and protected from sun/rain exposure.

Unforeseen circumstances: The CO and/or the Chief Sci will determine best mitigation for unforeseen circumstances with a ‘safety first’ approach.

III. Equipment

- A. Equipment and Capabilities provided by the ship (itemized)
 - 1. Two small boats, preferably NF3 and NF4.
 - 2. Dry laboratory space with access to two ship computers.
 - 3. Wet laboratory space with electrical outlets (i.e., 120V), and running fresh and salt water.
 - 4. Air compressor to fill scuba cylinders.
 - 5. Nitrox compressor with NN 32% capability.
 - 6. 15 Nitrox tanks.
 - 7. Multibeam and fishery sonar systems (e.g., Reson and Simrad systems), and supporting equipment (e.g., CTD).
- B. Equipment and Capabilities provided by the scientists (itemized)
 - 1. One emergency oxygen kit.
 - 2. One oxygen analyzer for verifying nitrox mixtures.
 - 3. One small ROV (i.e., small enough to operate from a small boat).
 - 4. 18 scuba tanks, along with 3 storage racks for them.
 - 5. Appropriate number of RASS pony bottles for all science dives > 100fsw.
 - 6. VR2 and VR2AR sonic receivers.
 - 7. Up to 15 laptop computers (possibly one per scientist).
 - 8. 3-5 chevron fish traps.
 - 9. Approximately 35 VR2 stands (~80lbs each).
 - 10. One or two trained science party members to mix breathing gas and/or fill scuba cylinders (the *Nancy Foster* crew will train them at start of project).

IV. Hazardous Materials

- A. Policy and Compliance

No Hazardous Materials are being brought aboard the ship for this project.
- C. Inventory

No Hazardous Materials are being brought aboard the ship for this project.
- D. Chemical safety and spill response procedures

No Hazardous Materials are being brought aboard the ship for this project.
- D. Radioactive Materials

No Radioactive Isotopes are planned for this project.

E. Inventory (itemized) of Radioactive Materials

No Radioactive Isotopes are planned for this project.

V. Additional Projects

A. Supplementary (“Piggyback”) Projects

No Supplementary Projects are planned.

B. NOAA Fleet Ancillary Projects

No NOAA Fleet Ancillary Projects are planned.

VI. Disposition of Data and Reports

Disposition of data gathered aboard NOAA ships will conform to NAO 216-101 *Ocean Data Acquisitions* and NAO 212-15 *Management of Environmental Data and Information*. To guide the implementation of these NAOs, NOAA’s Environmental Data Management Committee (EDMC) provides the *NOAA Data Documentation Procedural Directive* (data documentation) and *NOAA Data Management Planning Procedural Directive* (preparation of Data Management Plans). OMAO is developing procedures and allocating resources to manage OMAO data and Programs are encouraged to do the same for their Project data.

A. Data Classifications: *Under Development*

a. OMAO Data

b. Program Data

B. Responsibilities: *Under Development*

VII. Meetings, Vessel Familiarization, and Project Evaluations

A. Pre-Project Meeting: The Chief Scientist and Commanding Officer will conduct a meeting of pertinent members of the scientific party and ship’s crew to discuss required equipment, planned operations, concerns, and establish mitigation strategies for all concerns. This meeting shall be conducted before the beginning of the project with sufficient time to allow for preparation of the ship and project personnel. The ship’s Operations Officer usually is delegated to assist the Chief Scientist in arranging this meeting.

B. Vessel Familiarization Meeting: The Commanding Officer is responsible for ensuring scientific personnel are familiarized with applicable sections of the standing orders and vessel protocols, e.g., meals, watches, etiquette, drills, etc. A vessel familiarization

meeting shall be conducted in the first 24 hours of the project's start and is normally presented by the ship's Operations Officer.

- C. Post-Project Meeting: The Commanding Officer is responsible for conducted a meeting no earlier than 24 hrs before or 7 days after the completion of a project to discuss the overall success and short comings of the project. Concerns regarding safety, efficiency, and suggestions for future improvements shall be discussed and mitigations for future projects will be documented for future use. This meeting shall be attended by the ship's officers, applicable crew, the Chief Scientist, and members of the scientific party and is normally arranged by the Operations Officer and Chief Scientist.

- D. Project Evaluation Report

Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the Chief Scientist. The form is available at <http://www.oma.noaa.gov/fleeteval.html> and provides a "Submit" button at the end of the form. Submitted form data is deposited into a spreadsheet used by OMAO management to analyze the information. Though the complete form is not shared with the ships', specific concerns and praises are followed up on while not divulging the identity of the evaluator.

VIII. Miscellaneous

- A. Meals and Berthing

The ship will provide meals for the scientists listed above. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the project, and ending two hours after the termination of the project. Since the watch schedule is split between day and night, the night watch may often miss daytime meals and will require adequate food and beverages (for example a variety of sandwich items, cheeses, fruit, milk, juices) during what are not typically meal hours. Special dietary requirements for scientific participants will be made available to the ship's command at least seven days prior to the project.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Chief Scientist. The Chief Scientist and Commanding Officer will work together on a detailed berthing plan to accommodate the gender mix of the scientific party taking into consideration the current make-up of the ship's complement. The Chief Scientist is responsible for ensuring the scientific berthing spaces are left in the condition in which they were received; for stripping bedding and linen return; and for the return of any room keys which were issued. The Chief Scientist is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the project and at its conclusion prior to departing the ship.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Chief Scientist will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the Chief Scientist to ensure that the entire scientific party has a

mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

All persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO's Drug and Alcohol Policy dated May 17, 2000 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, NF 57-10-01 (3-14)) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Chief Scientist or the NOAA website <http://www.corporateservices.noaa.gov/noaaforms/eforms/nf57-10-01.pdf>.

All NHSQs submitted after March 1, 2014 must be accompanied by [NOAA Form \(NF\) 57-10-02 - Tuberculosis Screening Document](#) in compliance with [OMAO Policy 1008](#) (Tuberculosis Protection Program).

The completed forms should be sent to the Regional Director of Health Services at the applicable Marine Operations Center. The NHSQ and Tuberculosis Screening Document should reach the Health Services Office no later than 4 weeks prior to the start of the project to allow time for the participant to obtain and submit additional information should health services require it, before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of either form. Ensure to fully complete each form and indicate the ship or ships the participant will be sailing on. The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

The participant can mail, fax, or email the forms to the contact information below. Participants should take precautions to protect their Personally Identifiable Information (PII) and medical information and ensure all correspondence adheres to DOC guidance (http://ocio.os.doc.gov/ITPolicyandPrograms/IT_Privacy/PROD01_008240).

The only secure email process approved by NOAA is [Accellion Secure File Transfer](#) which requires the sender to setup an account. [Accellion's Web Users Guide](#) is a valuable aid in using this service, however to reduce cost the DOC contract doesn't provide for automatically issuing full functioning accounts. To receive access to a "Send Tab", after your Accellion account has been established send an email from the associated email account to accellionAlerts@doc.gov requesting access to the "Send Tab" function. They will notify you via email usually within 1 business day of your approval. The "Send Tab" function will be accessible for 30 days.

Contact information:

Regional Director of Health Services
Marine Operations Center – Atlantic
439 W. York Street

Norfolk, VA 23510
Telephone 757-441-6320
Fax 757-441-3760
Email MOA.Health.Services@noaa.gov

Prior to departure, the Chief Scientist must provide an electronic listing of emergency contacts to the Executive Officer for all members of the scientific party, with the following information: contact name, address, relationship to member, and telephone number.

C. Shipboard Safety

Hard hats are required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. At the discretion of the ship CO, safety shoes (i.e. steel or composite toe protection) may be required to participate in any work dealing with suspended loads, including CTD deployment and recovery. The ship does not provide safety-toed shoes/boots. The ship's Operations Officer should be consulted by the Chief Scientist to ensure members of the scientific party report aboard with the proper attire.

D. Communications

A progress report on operations prepared by the Chief Scientist may be relayed to the program office. Sometimes it is necessary for the Chief Scientist to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the Chief Scientist. Special radio voice communications requirements should be listed in the project instructions. The ship's primary means of communication with the Marine Operations Center is via email and the Very Small Aperture Terminal (VSAT) link. Standard VSAT bandwidth at 128kbs is shared by all vessels staff and the science team at no charge. Increased bandwidth in 30 day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required and it must be arranged through the ship's Commanding Officer at least 30 days in advance.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the *OMAO Fleet IT Security Policy* 1.1 (November 4, 2005) prior to establishing a direct connection to the NOAA WAN. Requirements include, but are not limited to:

- (1) Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.
- (2) Installation of the latest critical operating system security patches.
- (3) No external public Internet Service Provider (ISP) connections.

Completion of the above requirements prior to boarding the ship is required.

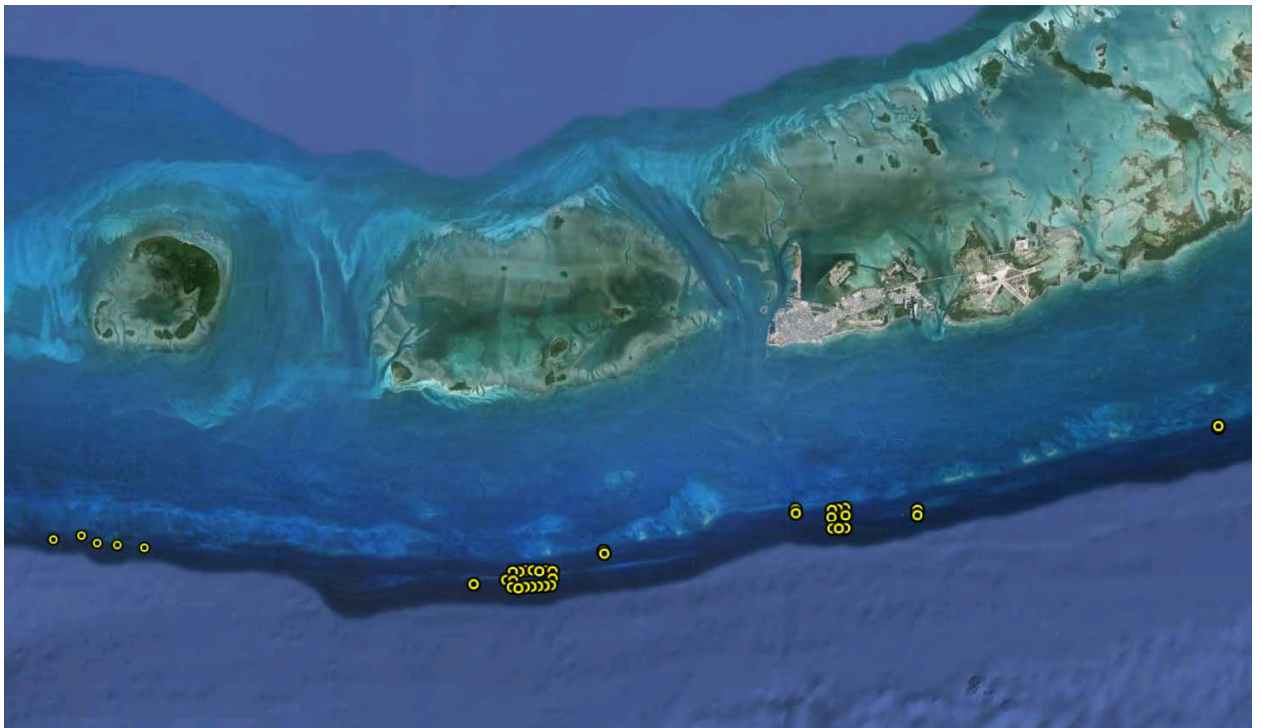
Non-NOAA personnel using the ship's computers or connecting their own computers to the ship's network must complete NOAA's IT Security Awareness Course within 3 days of embarking.

F. Foreign National Guests Access to OMAO Facilities and Platforms

Foreign National access to the NOAA ship or Federal Facilities is not required for this project.

VIII. Appendices

1. Map of general locations of existing VR2s to be serviced in the vicinity of Key West (yellow circles).

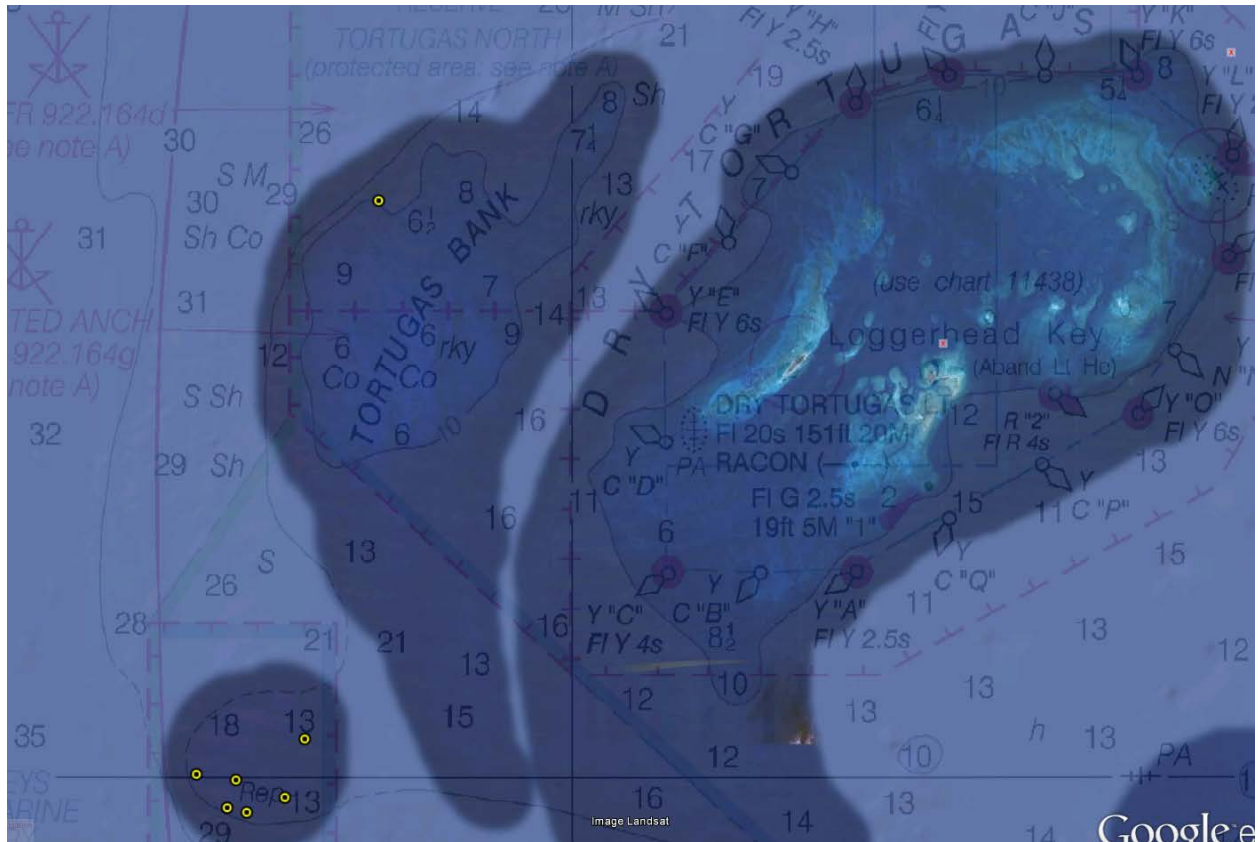


2. Coordinates of existing VR2 station in the vicinity of Key West.

Location	Station Number	Latitude	Longitude
Western Dry Rocks	1	24 ⁰ 26.022	81 ⁰ 56.913
Western Dry Rocks	2	24 ⁰ 25.903	81 ⁰ 57.935
Western Dry Rocks	3	24 ⁰ 26.002	81 ⁰ 56.697
Western Dry Rocks	4	24 ⁰ 25.816	81 ⁰ 56.737
Western Dry Rocks	5	24 ⁰ 25.785	81 ⁰ 56.530
Western Dry Rocks	6	24 ⁰ 25.822	81 ⁰ 56.326
Western Dry Rocks	7	24 ⁰ 25.830	81 ⁰ 56.115
Western Dry Rocks	8	24 ⁰ 25.842	81 ⁰ 55.908
Western Dry Rocks	9	24 ⁰ 25.852	81 ⁰ 55.701
Western Dry Rocks	10	24 ⁰ 25.876	81 ⁰ 55.504
Western Dry Rocks	11	24 ⁰ 26.068	81 ⁰ 55.454
Western Dry Rocks	12	24 ⁰ 26.274	81 ⁰ 55.456
Western Dry Rocks	13	24 ⁰ 26.293	81 ⁰ 55.663
Western Dry Rocks	14	24 ⁰ 26.271	81 ⁰ 55.874
Western Dry Rocks	15	24 ⁰ 26.297	81 ⁰ 56.078
Western Dry Rocks	16	24 ⁰ 26.297	81 ⁰ 56.288
Western Dry Rocks	17	24 ⁰ 26.260	81 ⁰ 56.496
Western Dry Rocks	18	24 ⁰ 26.257	81 ⁰ 56.705
Gate	19	24 ⁰ 26.847	81 ⁰ 53.852
Gate	20	24 ⁰ 26.777	81 ⁰ 53.826
Gate	21	24 ⁰ 28.032	81 ⁰ 47.813
Gate	22	24 ⁰ 27.925	81 ⁰ 47.802
Eye Glass Bar	23	24 ⁰ 28.022	81 ⁰ 46.666

Eye Glass Bar	24	24 ⁰ 27.808	81 ⁰ 46.682
Eye Glass Bar	25	24 ⁰ 27.488	81 ⁰ 46.656
Eye Glass Bar	26	24 ⁰ 27.491	81 ⁰ 46.450
Eye Glass Bar	27	24 ⁰ 27.500	81 ⁰ 46.244
Eye Glass Bar	28	24 ⁰ 27.861	81 ⁰ 46.237
Eye Glass Bar	29	24 ⁰ 28.076	81 ⁰ 46.252
Eye Glass Bar	30	24 ⁰ 28.044	81 ⁰ 46.478
Gate	31	24 ⁰ 28.017	81 ⁰ 43.975
Gate	32	24 ⁰ 27.865	81 ⁰ 43.977
Gate	33	24 ⁰ 30.395	81 ⁰ 34.483
Gate	34	24 ⁰ 30.345	81 ⁰ 34.484
Marquesas	MRQ-1	24 27.160	-82 11.180
Marquesas	MRQ-2	24 27.276	-82 10.293
Marquesas	MRQ-3	24 27.061	-82 09.797
Marquesas	MRQ-4	24 27.008	-82 09.164
Marquesas	MRQ-5	24 26.935	-82 08.308

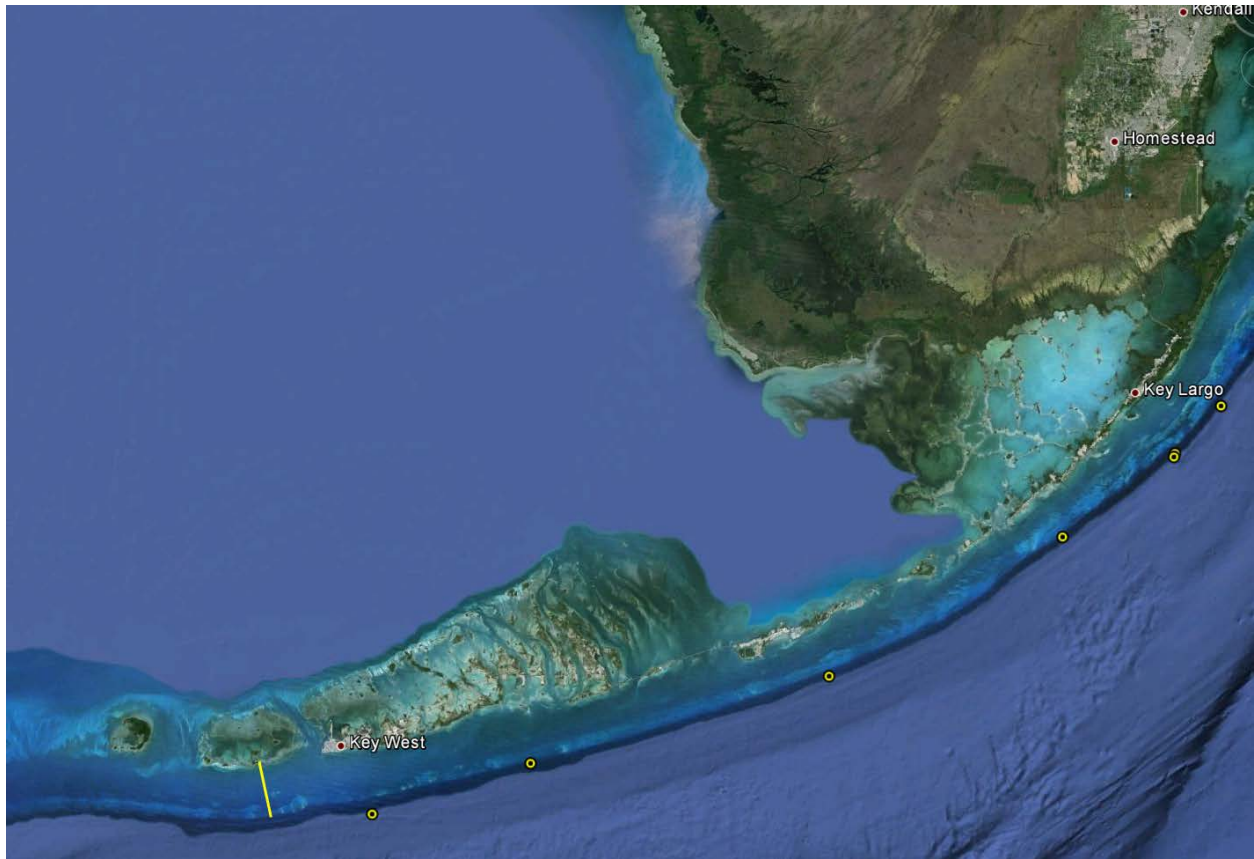
3. General location of VR2s and thermograph to be serviced in Tortugas Ecological Reserve (yellow circles).



4. Coordinates of VR2s and Thermograph in the Tortugas Ecological Reserve.

Riley's Hump Station	Latitude	Longitude	Depth (m)
1	24.5013	-83.1324	31.4
2	24.4906	-83.1215	30.8
3	24.4995	-83.1184	30.5
4	24.4939	-83.1011	32.6
48	24.4891	-83.1146	28.7
49	24.5127	-83.0941	25.6
TER Thermograph	24.68545	-83.068	22.8

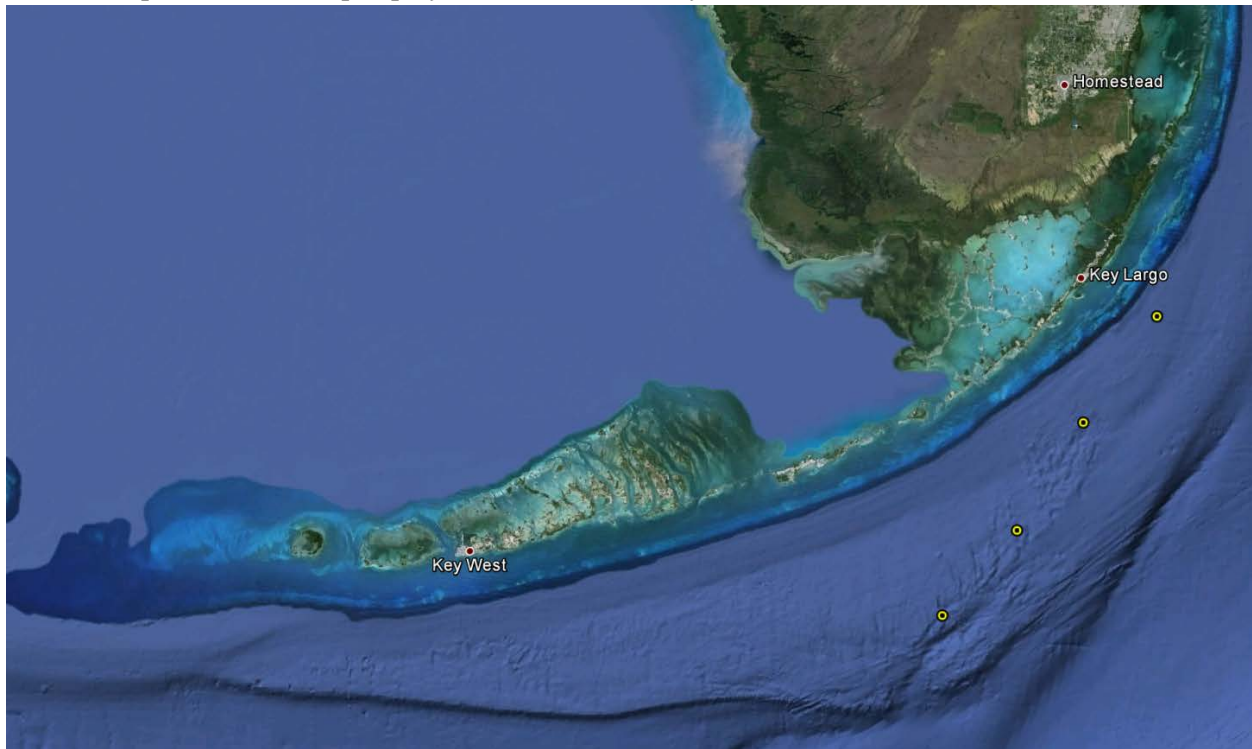
5. Map of 31 new VR2 locations (yellow features). The yellow line West of Key West represents the ‘gate,’ which will have 24 new VR2 stations running from inshore to off shore, and the remaining seven new Keys-wide stations are shown as yellow circles.



6. Coordinates of new VR2 stations.

VR2 Location	Latitude	Longitude
Shoreward gate end	24 31.800	-81 55.000
Oceanward gate end	24 26.777	-81 53.826
Spiegel grove	25 04.00	-80 18.05
Duane	24 59.388	-80 22.888
Bibb	24 59.709	-80 22.776
Eagle	24 52.184	-80 34.217
Thunderbolt	24 39.663	-80 57.784
Adolphus bush	24 31.814	-81 27.710
Vandenberg	24 27.164	-81 43.594

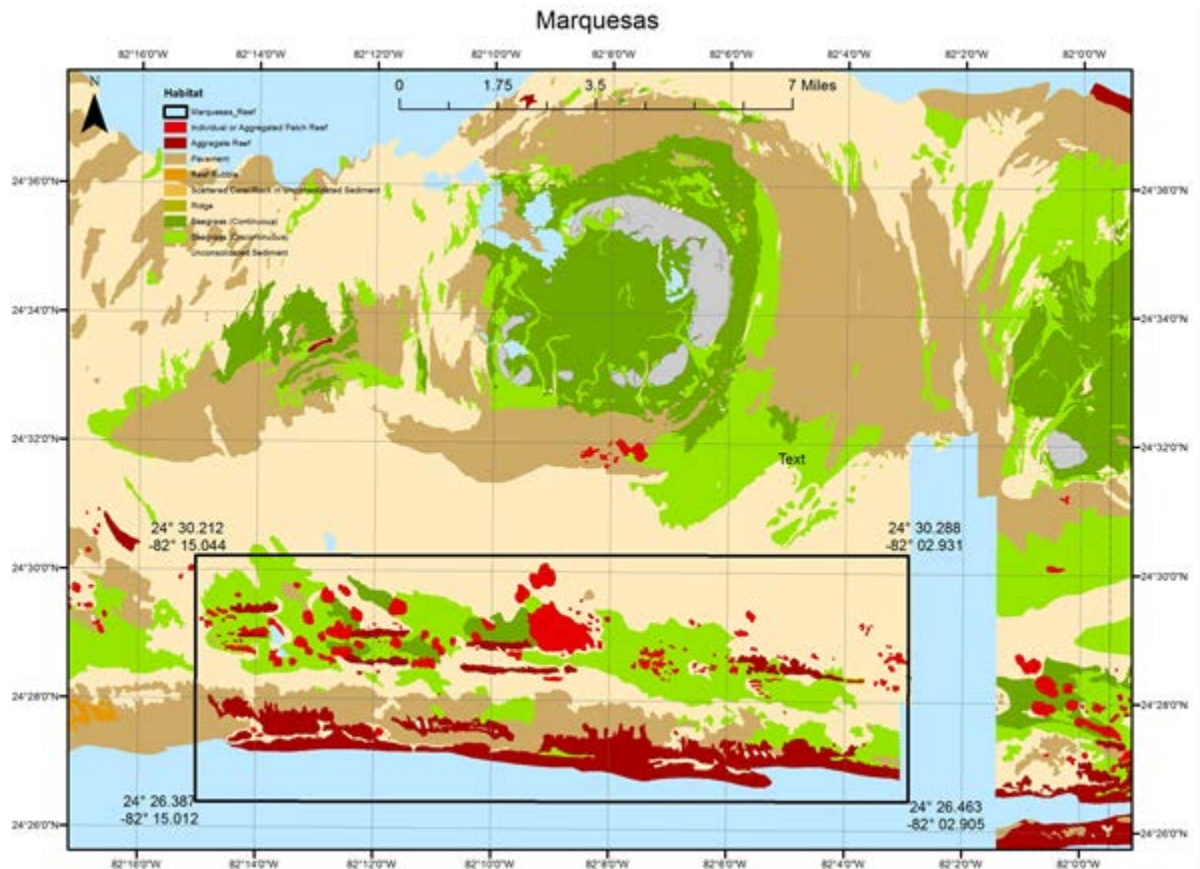
7. Map of four new ship deployed VR2AR stations (yellow circles).



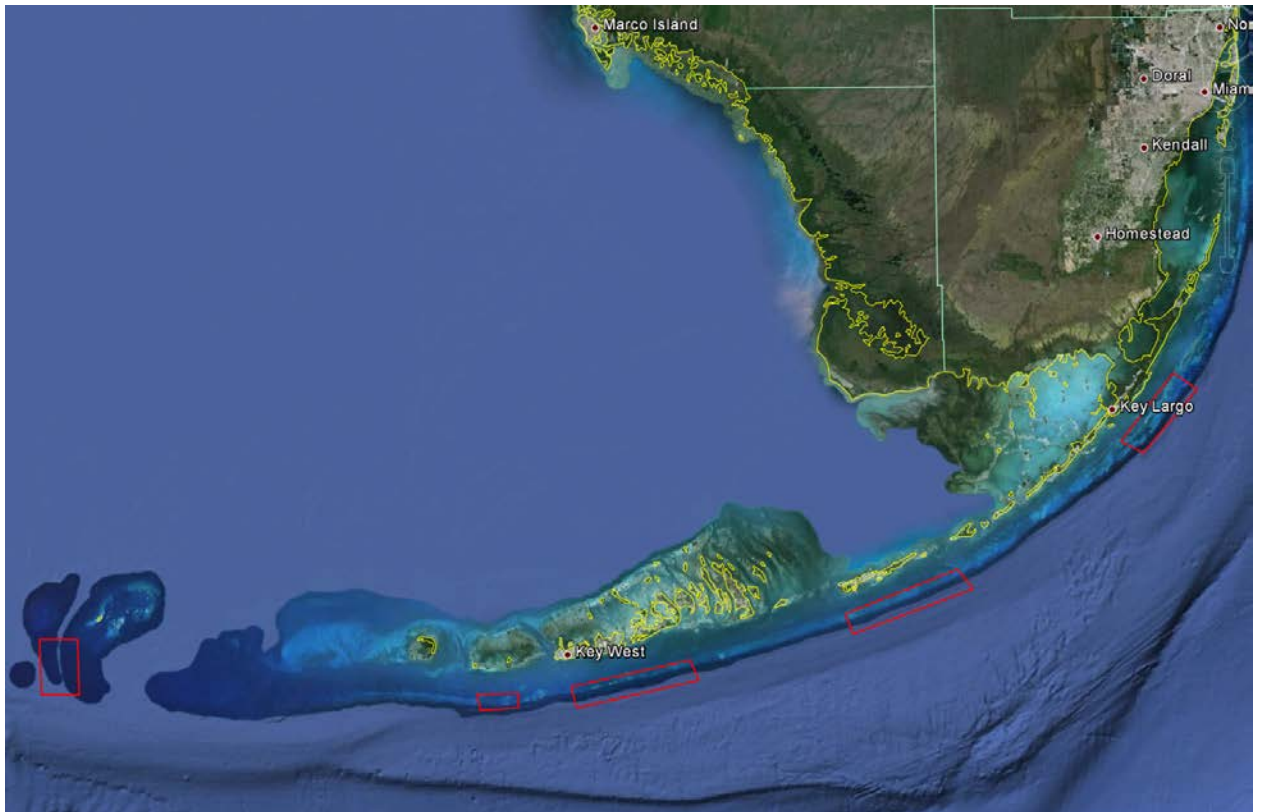
8. Coordinates of new ship deployed VR2AR stations.

VR2 Location	Latitude	Longitude
Key Largo Hump	25 00.661	-80 16.800
Islamorada Hump	24 48.175	-80 26.674
409 Hump	24 35.500	-80 35.500
Marathon Hump	24 25.528	-80 45.328


9. Proposed area of diving exploration around Marquesas region.



10. General areas of interest for additional multibeam and fisheries sonar surveys shown with red polygons.



11. Draft dive plan for duration of NF-15-05 cruise.

NOAA Form 57-03-20 (7-14)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				
DIVE OPERATIONS PLAN						
DIVE OPERATIONS						
DATE(S) of DIVE OPERATIONS	6/14/15 to 6/26/15		DIVE OPS START TIME	0800	DIVE OPS STOP TIME	1700
LOCATION of DIVE OPERATIONS	Florida Keys and Dry Tortugas		DISTANCE FROM SHORE	80	EVAC TIME to CHAMBER	5-10
PLATFORM or FACILITY	NOAA Ship Nancy Foster		DEPTH RANGE	20-125	NUMBER of DIVERS	15
PLANNED NUMBER of DIVE EVOLUTIONS PER DAY	26	MAXIMUM NUMBER of DIVES to be LOGGED PER DAY	36	NUMBER of CONSECUTIVE DIVE DAYS		14
SAFE SHIP CHECKLIST REQUIRED	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	DIVE MODE	OPEN CIRCUIT SCUBA <input checked="" type="checkbox"/> REBREATHER <input type="checkbox"/>	DIVE PURPOSE		SCIENTIFIC DIVE <input checked="" type="checkbox"/> WORKING DIVE <input type="checkbox"/>
FLOAT PLAN REQUIRED	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	DECOMPRESSION CALCULATION	DIVE COMPUTER <input checked="" type="checkbox"/> DECOMPRESSION TABLES <input type="checkbox"/>	DIVE DUTY		ON-DUTY DIVE <input checked="" type="checkbox"/> OFF-DUTY DIVE w/SEP GEAR <input type="checkbox"/>
DIVERS (Attach additional sheets if more than 12 divers participate in the dive)						
DIVEMASTER Brett Stafford, Scott Donahue		LEAD DIVER Kelsey Jeffers		DIVER Paul Barbera		
DIVER Paul Barbera		DIVER Dani Morley		DIVER Alejandro Acosta		
DIVER Ariel Tobin, Mike McCallister		DIVER Morgan Beaton, Don DeMaria		DIVER Rosemary Abbitt		
DIVER Dave Eaken		DIVER Jeff Renchen		DIVER Don Field		
DESCRIPTION						
PURPOSE of DIVES and TASKS to be PERFORMED Assess, remove, interrogate, and replace VR2 sonic receivers between Western Dry Rocks and Western Sambo Ecological Reserve; Acoustic tagging of live fin-fish; Reef Visual Census (RVC) fish surveys on select targets from multibeam operations; Florida Reef Resilience DRM benthic surveys of opportunity.						
PRINCIPAL DIVER WORN EQUIPMENT and BREATHING MEDIA Standard scuba equipment (SEP gear for NOAA divers). All divers will use NN32% as main breathing gas, with air filled RASS on those dive that require them.						
TOOLS and SPECIALIZED EQUIPMENT to be USED Small hand tools (e.g., wrench, small hand saw, scraper, screwdriver, pliers)						
Tethered comms dive? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>						
POTENTIAL HAZARDS and MITIGATIONS (Certain hazards are present on all dives (AGE, DCS, drowning, etc.). The hazards listed below are unique to this operation.) Boats and down lines (topside support making other vessels aware, knife for entanglement) Cuts, scrapes, fire coral, marine life, spiny sea urchins, stinging organisms such as jellyfish, sea lice, fire worms, lionfish, and stonefish (protective dive wear, attention to surroundings, first aid kit stocked and ready).						
PRIMARY MEANS of EVACUATION for EMERGENCIES Florida Fish and Wildlife Conservation Commission (law enforcement) and US Coast Guard.						
AUTHORIZATION						
SUBMITTED BY (DIVEMASTER/LEAD DIVER) Scott Donahue		SIGNATURE 		DONAHUE,SCOTT.L.1365853009 2015.04.24 13:33:07 -04'00'		DATE 04/24/15
APPROVED BY (UNIT DIVING SUPERVISOR/DESIGNEE) Brett Stafford		SIGNATURE STAFFORD,JOHN.BRETT.10821 64258		Digitally signed by STAFFORD,JOHN.BRETT.108216458 DN: c=US, ou=U.S. Government, ou=DOD, ou=NA, ou=OT&C, ou=STAFFORD,JOHN.BRETT.108216458 Date: 2015.05.20 12:38:59 -04'00'		DATE 05/20/15
RESET						

12. Dive Emergency Assistance Plan – Key Largo to Marathon

NOAA Form 57-03-21 (10-12) Page 1 of 2		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION						
DIVING EMERGENCY ASSISTANCE PLAN								
NOAA DIVING UNIT FKNMS - Key Largo	DIVE LOCATION Florida Keys - Key Largo	CALENDAR YEAR 2015						
INSTRUCTIONS: Complete a Diving Emergency Assistance Plan (DEAP) for each unique diving location and submit the plan to NDP.Diveplans@noaa.gov with the initial dive plan of each calendar year and every time any information on the DEAP changes.								
GENERAL PROCEDURES: <ol style="list-style-type: none"> A. Evaluate the victim's <u>C</u>irculation, <u>A</u>irway, and <u>B</u>reathing (CABs). If necessary, begin cardiopulmonary resuscitation (CPR) using a manually triggered ventilator (MTV) or bag-type oxygen resuscitator. B. If the victim is breathing, but unconscious, place the victim in the recovery position and administer oxygen using a non-rebreather type mask. C. If the victim is awake and alert, place the victim in a position of comfort and administer 100% oxygen using an MTV/demand oxygen resuscitator or non-rebreather type mask. If the victim is not nauseated, give clear non-alcoholic/non-caffeinated fluids to drink. D. If the victim's condition is life threatening or urgent, call the local Emergency Medical System (EMS) or U. S. Coast Guard (USCG) for transport to the nearest medical treatment facility. E. If the victim's condition is not urgent, contact the NOAA Dive Medical Officer (DMO) for guidance. If unable to reach the NOAA DMO with 15 minutes, contact the Divers' Alert Network (DAN). F. Use the Dive Accident Management Field Reference Guide to document a neurological exam and dive history information. G. Gather additional information about the incident and prepare the victim for transport. H. Secure the diver's gear for inspection. DO NOT DISASSEMBLE GEAR OR EXHAUST AIR FROM THE SYSTEM. Close the cylinder valve ONLY. Count and record number of turns required to secure the valve. I. Call and speak to the NOAA DMO, (855) 822-DIVE (3483), to report the incident. J. Call the Line Office Diving Officer (LODO) to report incident. If unable to reach the LODO, call the Deputy LODO. Continue calling until <u>positive</u> contact is made. Speak to a person, don't just leave a message. 								
EMERGENCY TRANSPORTATION CONTACTS:								
Primary Shore Based Emergency Transportation <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">NAME of TRANSPORTATION PROVIDER Any EMS</td> </tr> <tr> <td style="padding: 2px;">POINT of CONTACT Dial 911</td> </tr> <tr> <td style="padding: 2px;">PHONE NUMBER 911</td> </tr> </table>		NAME of TRANSPORTATION PROVIDER Any EMS	POINT of CONTACT Dial 911	PHONE NUMBER 911	Secondary Shore Based Emergency Transportation <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">NAME of TRANSPORTATION PROVIDER N/A</td> </tr> <tr> <td style="padding: 2px;">POINT of CONTACT</td> </tr> <tr> <td style="padding: 2px;">PHONE NUMBER</td> </tr> </table>	NAME of TRANSPORTATION PROVIDER N/A	POINT of CONTACT	PHONE NUMBER
NAME of TRANSPORTATION PROVIDER Any EMS								
POINT of CONTACT Dial 911								
PHONE NUMBER 911								
NAME of TRANSPORTATION PROVIDER N/A								
POINT of CONTACT								
PHONE NUMBER								
At Sea Vessel Emergency Transportation <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">NAME of TRANSPORTATION PROVIDER USCG or FL. Fish and Wildlife</td> </tr> <tr> <td style="padding: 2px;">POINT of CONTACT Hail on VHF ch 16 or 22a</td> </tr> <tr> <td style="padding: 2px;">PHONE NUMBER 305-292-8727; 305-289-2320(FWC)</td> </tr> </table>		NAME of TRANSPORTATION PROVIDER USCG or FL. Fish and Wildlife	POINT of CONTACT Hail on VHF ch 16 or 22a	PHONE NUMBER 305-292-8727; 305-289-2320(FWC)	At Sea Aviation Emergency Transportation <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">NAME of TRANSPORTATION PROVIDER N/A</td> </tr> <tr> <td style="padding: 2px;">POINT of CONTACT</td> </tr> <tr> <td style="padding: 2px;">PHONE NUMBER</td> </tr> </table>	NAME of TRANSPORTATION PROVIDER N/A	POINT of CONTACT	PHONE NUMBER
NAME of TRANSPORTATION PROVIDER USCG or FL. Fish and Wildlife								
POINT of CONTACT Hail on VHF ch 16 or 22a								
PHONE NUMBER 305-292-8727; 305-289-2320(FWC)								
NAME of TRANSPORTATION PROVIDER N/A								
POINT of CONTACT								
PHONE NUMBER								

DIVING EMERGENCY ASSISTANCE PLAN

NOAA DIVING UNIT FKNMS - Key Largo	DIVE LOCATION Florida Keys - Key Largo	CALENDAR YEAR 2015
---------------------------------------	---	-----------------------

EMERGENCY CONTACTS:

Primary Operational Hyperbaric Chamber	
NAME of FACILITY	Mariners Hospital
ADDRESS of FACILITY	91500 Overseas Highway (mm91.5) Tavernier
POINT of CONTACT	Dennis Holstein
PHONE NUMBER	305-434-1603

Secondary Operational Hyperbaric Chamber	
NAME of FACILITY	Mercy Hospital
ADDRESS of FACILITY	3663 South Miami Ave., Miami, FL
POINT of CONTACT	305-854-0300 (non-Emergency)
PHONE NUMBER	305-662-3637 (Emergency)

Primary Hospital Emergency Room	
NAME of FACILITY	Mariners Hospital
ADDRESS of FACILITY	91500 Overseas Highway (mm91.5) Tavernier
POINT of CONTACT	Emergency Room
PHONE NUMBER	305-434-1600

Secondary Hospital Emergency Room	
NAME of FACILITY	Homestead Hospital
ADDRESS of FACILITY	975 Baptist Way, Homestead, FL
POINT of CONTACT	Emergency Room
PHONE NUMBER	786-243-8510

USCG, Area Search and Rescue (SAR) Coordinator	
NAME of FACILITY	Atlantic Area SAR Coordinator
PHONE NUMBER	(757) 398-6700 (Atlantic)

USCG, Rescue Coordination Center (RCC)	
NAME of FACILITY	RCC Miami, FL
PHONE NUMBER	(305) 415-6800 (Miami)

NOAA DIVING PROGRAM CONTACTS:

Unit Diving Supervisor	
NAME	Brett Stafford
EMERGENCY CELL PHONE NUMBER	305-360-2713

Divers Alert Network (DAN)	
PRIMARY PHONE NUMBER	(919) 684-9111
TOLL FREE PHONE NUMBER	(800) 446-1615

Line Office Diving Officer	
NAME	Kimberly Roberson
EMERGENCY CELL PHONE NUMBER	(240) 997-8040
OFFICE PHONE NUMBER	(301) 713-3028

Deputy Line Office Diving Officer	
NAME	Tane Casserely
EMERGENCY CELL PHONE NUMBER	(989) 657-9951
OFFICE PHONE NUMBER	(989) 356-8805, x.17

NOAA Diving Safety Officer	
EMERGENCY CELL PHONE NUMBER	(206) 619-1615
OFFICE PHONE NUMBER	(206) 526-6223

NOAA Diving Medical Officer	
EMERGENCY CELL PHONE NUMBER	(855) 822-3483
OFFICE PHONE NUMBER	(206) 526-6474

RESET

13. Dive Emergency Assistance Plan –Big Pine Key to Dry Tortugas

NOAA Form 57-03-21 (10-12) Page 1 of 2		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
DIVING EMERGENCY ASSISTANCE PLAN		
NOAA DIVING UNIT FKNMS - Key West	DIVE LOCATION Florida Keys - Key West	CALENDAR YEAR 2015

INSTRUCTIONS:

Complete a Diving Emergency Assistance Plan (DEAP) for each unique diving location and submit the plan to NDP.Diveplans@noaa.gov with the initial dive plan of each calendar year and every time any information on the DEAP changes.

GENERAL PROCEDURES:

- A. Evaluate the victim's Circulation, Airway, and Breathing (CABs). If necessary, begin cardiopulmonary resuscitation (CPR) using a manually triggered ventilator (MTV) or bag-type oxygen resuscitator.
- B. If the victim is breathing, but unconscious, place the victim in the recovery position and administer oxygen using a non-rebreather type mask.
- C. If the victim is awake and alert, place the victim in a position of comfort and administer 100% oxygen using an MTV/demand oxygen resuscitator or non-rebreather type mask. If the victim is not nauseated, give clear non-alcoholic/non-caffeinated fluids to drink.
- D. If the victim's condition is life threatening or urgent, call the local Emergency Medical System (EMS) or U. S. Coast Guard (USCG) for transport to the nearest medical treatment facility.
- E. If the victim's condition is not urgent, contact the NOAA Dive Medical Officer (DMO) for guidance. If unable to reach the NOAA DMO with 15 minutes, contact the Divers' Alert Network (DAN).
- F. Use the Dive Accident Management Field Reference Guide to document a neurological exam and dive history information.
- G. Gather additional information about the incident and prepare the victim for transport.
- H. Secure the diver's gear for inspection. **DO NOT DISASSEMBLE GEAR OR EXHAUST AIR FROM THE SYSTEM.** Close the cylinder valve **ONLY**. Count and record number of turns required to secure the valve.
- I. Call and speak to the NOAA DMO, (855) 822-DIVE (3483), to report the incident.
- J. Call the Line Office Diving Officer (LODO) to report incident. If unable to reach the LODO, call the Deputy LODO. Continue calling until positive contact is made. Speak to a person, don't just leave a message.

EMERGENCY TRANSPORTATION CONTACTS:

Primary Shore Based Emergency Transportation	
NAME of TRANSPORTATION PROVIDER	Any EMS
POINT of CONTACT	Dial 911
PHONE NUMBER	911

At Sea Vessel Emergency Transportation	
NAME of TRANSPORTATION PROVIDER	USCG or FL. Fish and Wildlife
POINT of CONTACT	Hail on VHF ch 16 or 22a
PHONE NUMBER	305-292-8727; 305-289-2320(FWC)

Secondary Shore Based Emergency Transportation	
NAME of TRANSPORTATION PROVIDER	N/A
POINT of CONTACT	
PHONE NUMBER	

At Sea Aviation Emergency Transportation	
NAME of TRANSPORTATION PROVIDER	N/A
POINT of CONTACT	
PHONE NUMBER	

DIVING EMERGENCY ASSISTANCE PLAN

NOAA DIVING UNIT FKNMS - Key West	DIVE LOCATION Florida Keys - Key West	CALENDAR YEAR 2015
--------------------------------------	--	-----------------------

EMERGENCY CONTACTS:

Primary Operational Hyperbaric Chamber	
NAME of FACILITY	Mariners Hospital
ADDRESS of FACILITY	91500 Overseas Highway (mm91.5) Tavernier
POINT of CONTACT	Dennis Holstein
PHONE NUMBER	305-434-1603

Secondary Operational Hyperbaric Chamber	
NAME of FACILITY	Special Forces Underwater Operations
ADDRESS of FACILITY	Flemming Key, Key West
POINT of CONTACT	24 hour Duty Cell - 305-797-2699
PHONE NUMBER	305-293-4157, 305-797-2704 (duty cell)

Primary Hospital Emergency Room	
NAME of FACILITY	Lower Keys Medical Center
ADDRESS of FACILITY	5900 College Road
POINT of CONTACT	Emergency Room
PHONE NUMBER	305-294-5531

Secondary Hospital Emergency Room	
NAME of FACILITY	Fisherman's Hospital
ADDRESS of FACILITY	3301 Overseas Highway, Marathon, FL
POINT of CONTACT	Emergency Room
PHONE NUMBER	305-743-5533

USCG, Area Search and Rescue (SAR) Coordinator	
NAME of FACILITY	Atlantic Area SAR Coordinator
PHONE NUMBER	(757) 398-6700 (Atlantic)

USCG, Rescue Coordination Center (RCC)	
NAME of FACILITY	RCC Miami, FL
PHONE NUMBER	(305) 415-6800 (Miami)

NOAA DIVING PROGRAM CONTACTS:

Unit Diving Supervisor	
NAME	Brett Stafford
EMERGENCY CELL PHONE NUMBER	305-360-2713

Divers Alert Network (DAN)	
PRIMARY PHONE NUMBER	(919) 684-9111
TOLL FREE PHONE NUMBER	(800) 446-1615

Line Office Diving Officer	
NAME	Kimberly Roberson
EMERGENCY CELL PHONE NUMBER	(240) 997-8040
OFFICE PHONE NUMBER	(301) 713-3028

Deputy Line Office Diving Officer	
NAME	Tane Casserely
EMERGENCY CELL PHONE NUMBER	(989) 657-9951
OFFICE PHONE NUMBER	(989) 356-8805, x.17

NOAA Diving Safety Officer	
EMERGENCY CELL PHONE NUMBER	(206) 619-1615
OFFICE PHONE NUMBER	(206) 526-6223

NOAA Diving Medical Officer	
EMERGENCY CELL PHONE NUMBER	(855) 822-3483
OFFICE PHONE NUMBER	(206) 526-6474

RESET

14. General daily itinerary (subject to change):

Date	Time	Activity
6/13	2000	Key West - Select science team members to sleep on ship (e.g., NOAA Teacher at Sea, NCCOS colleague)
6/14	0700	Mobilize rest of science crew and equipment
	0800-1000	Crane ops for science equipment
	morning	Depart Key West and Transit to Sand Key <LT Davis> welcome aboard/safety discussion, drills with science crew
	after lunch	Arrive at station VR2 station "Gate 31" Commence scuba dive operations – scuba dive accident and safety drill – ship’s crew also involved
	evening	Begin multibeam and fisheries acoustics/sonar surveys
6/15	0600	End multibeam operations
	0800 – 1130	Deploy divers ROV and/or drop camera to check the area where fish traps will be set. Set chevron fish traps (NF4). Recovery of traps TBD.
	1300 – 1630	Deploy drop camera or small ROV to determine if -any fish were caught that are appropriate for tagging. Deploy scuba divers to surgically tag fish.
	1700	Secure from daytime operations Continue multibeam and fisheries acoustics/sonar surveys
6/16	0600	End multibeam operations
	0800 – 1130	Commence scuba dive operations to service VR2 receivers: VR2 Stations in the vicinity of Eye Glass Bar #23-30, Gate #21-22
	1300 – 1630	Continue scuba dive operations to service VR2
	1700	Secure from daytime operations

		Continue multibeam and fisheries acoustics/sonar surveys
6/17	0600	End multibeam operations
	0800 – 1130	Commence scuba dive operations to service VR2 receivers and/or tag fish: VR2 Stations in the vicinity of Western Dry Rocks #1-18, Gate #19-20
	1300 – 1630	Continue scuba dive operations to service VR2
	1700	Secure from daytime operations
		Continue multibeam and fisheries acoustics/sonar surveys
		TRANSIT – to Riley’s Hump
6/18	0600	End multibeam operations
	0800 – 1130	Commence scuba dive operations to service VR2 receivers TRANSIT – TER North for thermograph retrieval (~14 NM from Riley’s Hump)
	1300 - 1600	Commence scuba dive operations to service thermograph and identify tagged corals in the vicinity of the profiler. Transit to Dry Tortugas National Park
	1800	Liberty at Fort Jefferson until sundown
	2200	Continue multibeam and fisheries acoustics/sonar surveys
6/19	0200	TRANSIT – to Western Dry Rocks
	0600	End multibeam operations
	0800 – 1130	Commence deployment of new VR2 units
	1300 - 1700	Continue deployment of new VR2 units
	1800	Continue multibeam and fisheries acoustics/sonar surveys
6/20		TRANSIT - to Key West main ship channel

	0600	Continue multibeam and fisheries acoustics/sonar surveys on transit to Key West
	0800	End multibeam operations
	Afternoon	NF4 launches for science crew swap, to occur at FKNMS office docks. Disembarking: Abbitt, Eaken, Jeffers, Stafford Embarking: Bickford, Binder, and Pawlitz Depart Key West ship channel; TRANSIT – to Western Dry Rocks <LT Davis> welcome aboard/safety discussion, drills with new science team members Continue deployment of new VR2 units as time allows
	Evening	Continue multibeam and fisheries acoustics/sonar surveys.
6/21	0600	End multibeam operations
	0800 – 1130	Commence deployment of new VR2 units
	1300 - 1700	Continue deployment of new VR2 units
	1800	Continue multibeam and fisheries acoustics/sonar surveys
6/22	0600	End multibeam operations
	0800 – 1130	Commence deployment of new VR2 units or Commence ROV and/or dives on targets of interest
	1300 - 1630	Continue deployment of new VR2 units or Continue ROV and/or dives on targets of interest
	1700	Secure from daytime dive operations
	1800	Continue multibeam and fisheries acoustics/sonar surveys
6/23	0600	End multibeam operations
	0800 – 1130	Commence deployment of new VR2 units or Commence ROV and/or dives on targets of interest

	1300 - 1630	Continue deployment of new VR2 units or Continue ROV and/or dives on targets of interest
	1700	Secure from daytime dive operations
	1800	Continue multibeam and fisheries acoustics/sonar surveys
6/24	0600	End multibeam operations
	0800 – 1130	Commence deployment of new VR2 units or Commence ROV and/or dives on targets of interest
	1300 - 1630	Continue deployment of new VR2 units or Continue ROV and/or dives on targets of interest
	1700	Secure from daytime dive operations
	1800	Continue multibeam and fisheries acoustics/sonar surveys
6/25	0600	End multibeam operations
	0800 – 1130	Commence deployment of new VR2 units or Commence ROV and/or dives on targets of interest
	1300 - 1630	Continue deployment of new VR2 units or Continue ROV and/or dives on targets of interest
	1700	Secure from daytime dive operations
	1800	Continue multibeam and fisheries acoustics/sonar surveys
6/26	0600	End multibeam operations
	0800 – 1130	Commence deployment of new VR2 units or Commence ROV and/or dives on targets of interest
		Secure from daytime dive operations Secure from ROV ops
	1200	TRANSIT - to Key West
	Afternoon	Arrive: Key West Demobilize equipment and science crew Chief Scientist to debrief with CO and OPS officers
6/27		TRANSIT - to Charleston, SC

6/28		TRANSIT - to Charleston, SC
6/29		Arrive: Charleston, SC