

NDSF Cruise Planning Update

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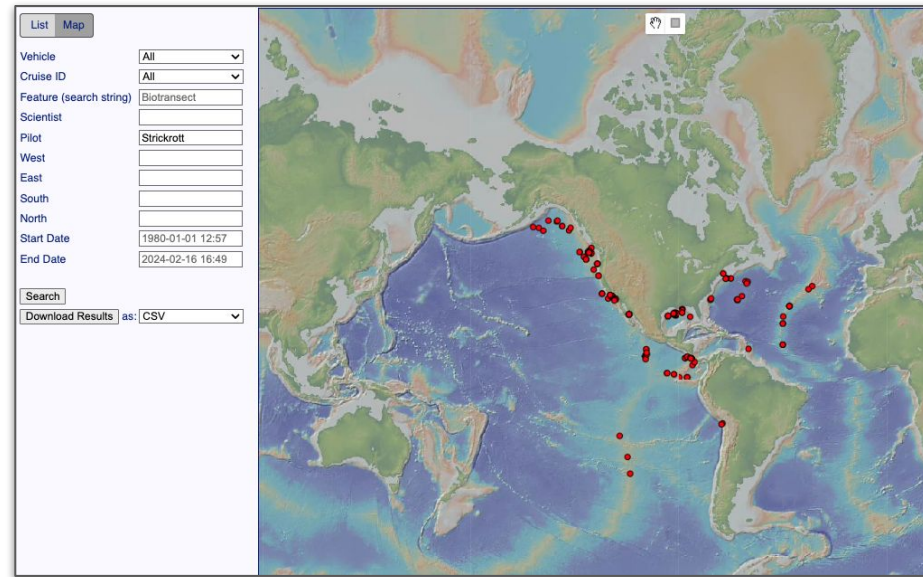
NDSF NATIONAL
DEEP SUBMERGENCE
FACILITY



NDSF Website Overhaul

Special thanks to Kathryn Pietro (Alvin Project Manager),
WHOI Communications & WHOI Creative Services

- Streamlining & Updating Content
- Anchoring and menu formatting
 - Getting to what you want quickly
- MGDS Metadata Catalog and Map
- Training Materials
 - Sealog/AIS training video for *Alvin*
 - Sealog training video for *Jason*
 - Sealog “Sandbox” training module - **PCAR 2023**: *anticipated end of 2024*
 - Using GeoMapApp to make a bathymetry underlay **PCAR 2023** ✓
- Continued efforts to unify documentation and directory structures, update and standardize images and content across all vehicles.



NDSF pre-cruise planning

- Improving “Plan an Expedition”
- Checklists for each vehicles
 - Highlights important user “to-do’s”
 - Sealog customization and standard data product **PCAR 2023** ✓
 - Pressure testing requirements **PCAR 2023** ✓
 - Basket and “Vator” stats **PCAR 2023** ✓
 - WiFi in *Jason* Control Vans **PCAR 2023** ✓
- Continued efforts to streamline documentation and directory structures.

Expedition Planning Guide

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.

Step 1: Do you understand the vehicle capabilities and data products?

Select a vehicle:



Take a tour of Alvin

ALVIN DATA DELIVERABLES DOCUMENTS



Take a tour of Jason

JASON DATA DELIVERABLES DOCUMENTS



Take a tour of Sentry

SENTRY DATA DELIVERABLES DOCUMENTS

➤ Please review the NDSF Data Policy



Step 2: Have you secured funding?

YES, congratulations, please remember to update Marine Facilities Planning (MFP).

- For cruise scheduling matters please contact Kerry Strom
- For additional MFP resources please see the MFP-Scientist How-To Guide

NO, please view the proposal planning guide

- It is important for potential users to discuss their requirements with NDSF personnel listed below and/or in the CONTACTS section, early in the proposal preparation process. In the meantime, we strongly encourage potential users to read the UNOLS cruise planning guideline page.



Step 3: Review vehicle checklists

Select a vehicle:



Alvin



Jason



Sentry



Step 4: Post Cruise

- Post Cruise Assessment Report from Marine Facilities Planning (MFP)
- NDSF CSDS will reach out for a post cruise debrief

6 - 12 Months Prior to Cruise

- Send funded proposal to alvin-precruise@who.edu to enable the Alvin Team to review the science objectives, cruise location, and proposal details.**
- Review website**
 - [Alvin Vehicle Tour](#)
 - [Vehicle Specification](#)
 - [Systems, Sensors and Sampling](#)
 - [User-supplied Equipment](#)
 - [Alvin Capabilities](#)
 - [Data Deliverable Document](#)
 - [NDSF Data Policy](#)
- Review Camera configuration**
 - If planning > 4500m dives, note PATZ (pan and tilt, zoom) cameras will be removed
 - Determine placement of digital still camera
 - Alvin_GoPro2 can be mounted on Basket or Elevator (possibly arm as - well)
 - Alvin does not provide photo mosaicing as part of the standard data product. If planning for photo mosaicing, alternate custom imaging arrangements must be discussed. Please contact alvin-precruise@who.edu.
- Science-provided Equipment**
 - Determine if anyone in the science party has equipment (sensors, sampling gear, cameras, biological boxes, etc) to be installed **on or used in** the submersible (including any science user laptops).
 - Send details of the equipment, sizes, weight (in and out of water), and power requirements to alvin-precruise@who.edu. Alvin Operations Coordinator will evaluate all equipment for compatibility with sub systems, and determine if any science equipment needs **toxicity/flammability testing, implodable/explosable testing**.
 - After any required pressure testing, send certifications to alvin-precruise@who.edu.
- Develop Alvin Basket plan (400 lb max max payload in air, 16 sq ft, (48"x48"))**
 - Begin to compile a list of basket mounted equipment including pictures, fully loaded wet and dry weights, dimensions and launch configuration.
- Develop Alvin Elevator plan (if any)**
(400-1000 lbs max payload in air dependent on elevator configuration)
 - Determine if Alvin elevator operations are required
 - Begin to compile a list of elevator mounted equipment including pictures, fully loaded wet and dry weights, dimensions and launch configuration.

4 - 6 Months Prior to Cruise

- Develop detailed cruise and dive plans prior to the Alvin pre-cruise planning meeting. (scheduled 4-6 months prior to the cruise). Send to alvin-precruise@who.edu a draft document containing:**
 - Science Objectives
 - General dive targets to inform navy area clearances
(# of dives, approx. coordinates/ area, expected depths)
 - Intentions for user-supplied equipment
 - Intentions for facility-supplied equipment
 - Basket requirements
 - Elevator needs, if any (details discussed during pre-cruise meeting)
 - Imaging requirements
- Attend pre-cruise planning meeting(s).**
 - Pre-cruise meeting agenda**
 - Overall cruise plan (Chief Scientist)
 - [Alvin Observer Pre-Dive Briefing](#) which includes observer physical requirements & medical considerations to be shared with the science party (Alvin Operations Coordinator)

- Daily routine (Divide day schedule, science meetings) (Alvin Operations Coordinator, Chief Scientist)
- Bottom time expectations
- Weather/contingency planning
- Plans for Pilot-In-Training and any engineering dives (Alvin Operations Coordinator)
- Daily dive plan/launch and bottom targets**
 - General dive targets to inform daily/ cruise dive area requests at this time
 - Exact coordinates to be provided upon arrival to the vessel
Alvin (decimal degrees: e.g. 42.15188°)
Atlantis (degrees, minutes, seconds: e.g. 42° 9' 6.768")
 - Navy dive area clearance** (Alvin Operations Coordinator)
- Underlays/maps format/existing bathymetric and dive planning grids**
- Discussion of user-supplied equipment (Chief Scientist)**
 - Confirmation that all pressure, flammability, or toxicity testing needed has been completed or is planned (Alvin Operations Coordinator)
- Confirmation of all Alvin-supplied equipment to be installed on Alvin (Chief Scientist)**
 - Search Sonar
 - Magnetometer
 - Heat Flow Probe
 - Rock Collection Basket
 - Push Sediment Corers
 - 5m Capacity Slurp Sampler
 - Lg Capacity Slurp Sampler
 - Bio Collection Box: Standard (12x12x12")
 - Bio Collection Box: Large (12x24x12")
 - Bio Collection Box: Sensitive Sample (12x18x12")
 - Niskin Water Sampling Bottles (1.2 Liter)
 - Major Water Samplers
 - CTD
 - Scoop Nets
 - Temperature Probes
- Basket weight and space (400 lb max max payload in air, 16 sq ft. (48"x48"))**
 - Provide a list of basket mounted equipment including pictures, fully loaded wet and dry weights, dimensions and launch configuration.
 - NOTE: If rock sampling is anticipated, recommended maximum pre-launch basket load- out weight should not exceed 300 lbs in air
 - Planned Elevator work (if any)**
 - Provide a list of elevator mounted equipment including pictures, fully loaded wet and dry weights, dimensions and launch configuration.
 - 400-1000 lbs max payload in air dependent on elevator configuration
 - NOTE: If rock sampling is anticipated, recommended maximum pre-launch basket load- out weight should not exceed 400 lbs in air
 - Imaging system configuration**
 - Review standard Data Product and Sealog Customization (Data lead)**
 - Any planned media (Photojournalists, Documentary film crew, etc) participation**
 - Chief Scientist to contact [Jayne Doucette](#) in the WHOI Communications Department
 - Generate action items for both parties with deadlines**

No later than 1 Month Prior to Cruise

- Send draft dive plans including locations and coordinates to alvin-precruise@who.edu**
- Review Storage Media Recommendations**
- Review training videos**
 - [Alvin Imaging System user guide \(AIS\)](#)
 - [Sealog & AIS training videos](#)
 - [MGDS Underlay Tutorial](#)
- Review additional resources & informational pages**
 - [Operations](#)
 - [Observer information](#)
 - [Safety information](#)
- Close out remaining action items**

* This list is for planning with DSV Alvin and does not include the broader overall cruise plan.

Example Alvin Checklist

Questions/Feedback

- Reach us at ndsf_info@whoi.edu

