

ROV Jason Cruise Planning Guide for Chief Scientists

Overview: This pre-cruise checklist is designed to ensure the Chief Scientist, the Jason Program Manager, and the Jason Expedition Leader all understand and acknowledge the science requirements and vehicle expectations before starting the cruise. We encourage all Chief Scientists to follow the checklist and to meet all deadlines to improve the Jason team's ability to fulfill science objectives and increase the chance for a successful science cruise. Please note, some of the information below will also be required in MFP.

All communications, including questions and needed documentation, for pre-cruise planning should be sent to jason-precruise@whoi.edu. This email list will ensure the Jason Program Manager, Expedition Leader & Engineering Leads are part of the planning process.

NOTE: Please include the cruise ID, PI name, and a description of the inquiry, e.g., "AT50-12 Levin, bio boxes", in the subject line.

6-12 Months Prior to Cruise

- ☐ **Send funded proposal to jason-precruise@whoi.edu to enable the Jason Team to review the science objectives, cruise location, and proposal details.**
- ☐ **Review Website**
 - ☐ [Jason Vehicle Tour](#)
 - ☐ [Vehicle Specification](#)
 - ☐ [Systems, Sensors and Sampling](#)
 - ☐ [User-supplied Equipment](#)
 - ☐ [Jason Capabilities](#)
 - ☐ [Jason Data Primer](#)
 - ☐ [Data Deliverable Document](#)
 - ☐ [NDSF Data Policy](#)
- ☐ **Determine the configuration you will use for Jason.**
 - ☐ single body system (max depth 4500m, with science sled with 100-200 lb. payload or heavy lift sled, providing 4000 lb. lift capability.)
 - ☐ two-body system (max depth 6500m, without heavy lift, 300-500 lb. payload)
- ☐ **Science-provided Equipment**
 - ☐ Determine if anyone in the science party will be bringing equipment (including sensors, sampling gear, cameras, biological boxes) to be installed on the vehicle.
 - ☐ Send details of the equipment, sizes, water weight, air weight, power communication and data requirements to jason-precruise@whoi.edu. Jason Program Manager will evaluate all equipment for compatibility with sub systems, and determine if any science equipment needs [implodable/explosable testing](#).
 - ☐ After any required pressure testing, send certifications to jason-precruise@whoi.edu and bring paper copies with you to sea.
- ☐ **Develop Jason [Basket](#) plan** (select ONE of the options below)
Science Skid - Jason's payload with the science skid is 300-500 lbs depending on vehicle configuration. Approximately 15 sq ft. (58" W x 37" D)

Heavy Lift Skid - Jason's payload with the heavy lift skid is 100-200 lbs depending on vehicle configuration or up to 4000 lbs through the frame.

- ☐ Begin to compile a list of basket mounted equipment including pictures, fully loaded wet and dry weights, dimensions and launch configuration.

☐ **Develop Jason Elevator, Undervator, or Minivator plan** (if any)

Elevator - Maximum Payload 170-230 lbs in water depending on configuration, 28.5 sq ft

Undervator - Maximum Payload 1000 lbs air & water weight (equally distributed)

Minivator - Maximum Payload 270lbs in water, ~13 sq ft

- ☐ Determine if Jason 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 Draft Cruise Plans. Send jason-precruise@whoi.edu a draft document containing:**

- ☐ Complete a first-draft of the Cruise Planning Questionnaire on MFP
- ☐ Create general dive targets (# of dives, approx. coordinates/area, expected depths)
- ☐ Determine lab space requirements
- ☐ Determine deck space requirements
- ☐ Determine Elevator needs, if any (details included above)
- ☐ Calculate estimated transit time to first site & from last site to port

☐ **Attend pre-cruise planning meetings**

☐ **Vessel operator pre-cruise meeting agenda**

Please note: This meeting is conducted by the vessel operator and is held separately from the Jason dive planning meeting.

- ☐ Overall cruise plan (Chief Scientist)
- ☐ Daily routine (Dive day schedule, science meetings) (Jason Team, Chief Scientist)
 - ☐ Discuss pace of ops (daily dives, 24hr ops, etc)
- ☐ Plans for engineering dives (if applicable) (Jason Team)
- ☐ Weather/contingency planning - ROV operational limits, alternative plans, etc (Jason Team)
- ☐ Request WiFi router for use in Jason control vans to enable ship wifi inside.
- ☐ Discuss Lab and Deck space requirements

☐ **Attend Jason dive planning meeting**

- ☐ General dive targets
(# of dives, approx. coordinates/ area, expected depths)
- ☐ Identify any bathymetry and/or navigation hazards

☐ **Confirm List of Science-provided Equipment**

- ☐ Determine if anyone in the science party will be bringing equipment (including sensors, sampling gear, cameras, etc.) to be installed **on** the vehicle.
- ☐ Send details of the equipment, sizes, weight (in and out of water), and power requirements to jason-precruise@whoi.edu. Jason Team will evaluate all equipment for compatibility with sub systems, and determine if any science equipment needs [implodable/explosable testing](#).

☐ **Confirm List of Jason-supplied Equipment**
Routinely Installed Equipment

- ☐ SVP
- ☐ Temperature Probe (RTD based)
- ☐ CTD
- ☐ Oxygen Optode
- ☐ Magnetometer
- ☐ Major Water Sampler(s)
- ☐ 5L Niskin bottle(s)
- ☐ Standard Bio Box (10x10x14")
- ☐ Large Bio Box (32x12x14")
- ☐ Push Corers
- ☐ Scoop Nets & Bags
- ☐ Coral Cutting Jaws

Requested Equipment not normally carried

- ☐ Kongsberg EM2040 Multibeam Sonar
- ☐ Multi-chamber Slurp Sampler
- ☐ Single-chamber Slurp Sampler
- ☐ Microbial Manifold Water Sampler
- ☐ Rock Boxes
- ☐ Heat Flow Probe

☐ **Jason Watchstander Guidance** - During transit watchstander training is provided. (Jason Team)

☐ **Underlays/maps format/existing bathymetric and dive planning grids**

- ☐ NDSF Dive Planning document
 - ☐ Underlays - bathy files (.grd) or image files (.png, .tif, or .bmp)
**Files should be <30MB*
 - ☐ Targets - CSV format (.txt or .csv)
**Coordinates need to be in Decimal-Degrees and provided as Northings & Eastings*
- ☐ GeoMapApp for NavG3 underlay creation document
**Possible alternatives to GeoMapApp (ie. QGIS & Fledermaus but both require a license)*

☐ **Planned Basket weight and space** (select ONE of the options below)

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- ☐ Provide a list of basket mounted equipment including pictures, fully loaded wet and dry weights, dimensions and launch configuration.

☐ **Planned Elevator, Undervator, or Minivator work** (if any)

Elevator - Maximum Payload 170-230 lbs in water depending on configuration, 28.5 sq ft

Undervator - Maximum Payload 1000 lbs air & water weight (equally distributed)

Minivator - Maximum Payload 270lbs in water, ~13 sq ft

- ☐ Provide a list of elevator mounted equipment including pictures, fully loaded wet and dry weights, dimensions and launch configuration.

- ☐ **[Imaging system configuration](#)** - please review Imagery section of Data Primer document
- ☐ **Standard data product and Sealog Customization (Data lead)**
- ☐ **Review [planned media](#) (Photojournalists, Documentary film crew, etc) participation**
 - ☐ Chief Scientist to contact [Jayne Doucette](#) in the WHOI Communications Department
- ☐ **Review plans for outreach, livestream, etc**

- ☐ **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 jason-precruise@whoi.edu**
- ☐ **Review [Storage Media Recommendations](#)**
- ☐ **[Review training videos](#)**
 - ☐ [Jason Data Primer](#)
 - ☐ [Jason Watchstander Guidance](#)
 - ☐ [GeoMapApp for NavG3 Underlay Creation](#)
 - ☐ [NDSF Dive Planning](#)
- ☐ **Review additional resources & informational pages**
 - ☐ [Jason at-sea personnel requirements](#)
 - ☐ [Jason at-sea policies and procedures](#)
 - ☐ [Jason Watchstander Guidance](#)
- ☐ **Close out remaining action items**

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