



Dorado Bioacoustic 2018 Update

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Agenda

- State of Development
- Outstanding Issues from Initial Integration
- Operations in 2019
- Development Targets for 2019
- Operational Procedures
- Protocol for Development Access

State of Development

- System Functional
 - 800 wHr Battery Pack
 - 12W average draw
- Current Integration Features
 - Isolated trigger
 - AUV switched power
 - AUV ethernet for Pre-dive Control
 - GIG-E Download & Charge Tether

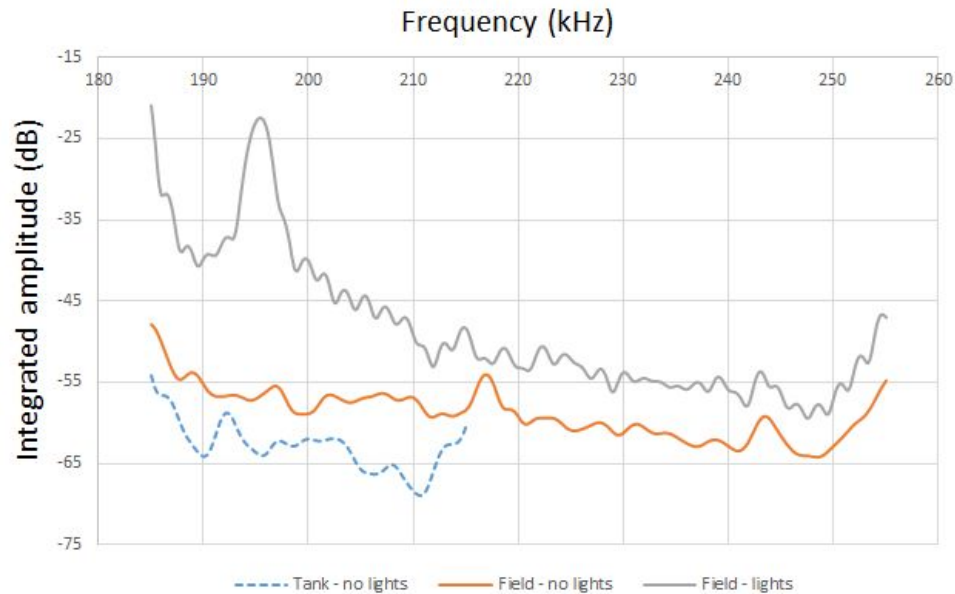


Initial Testing Results

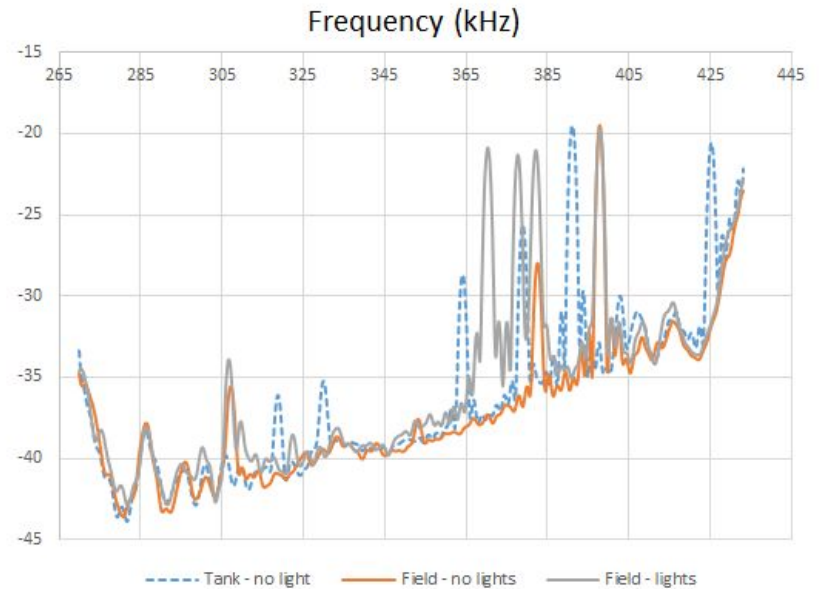


- 3 Carson Days:
 - 2 days noise isolation testing
 - 1 day I2MAP transects at Midwater-1
- Noise Sources:
 - Lights remain the largest contributor. Single switching frequency had expected results, but noise levels did not decrease much in the field. Each light has a strong subharmonic contribution at all slightly different narrow bands.
 - Intermittent short burst noise, still not identified by tests, but not as concerning.

Downward

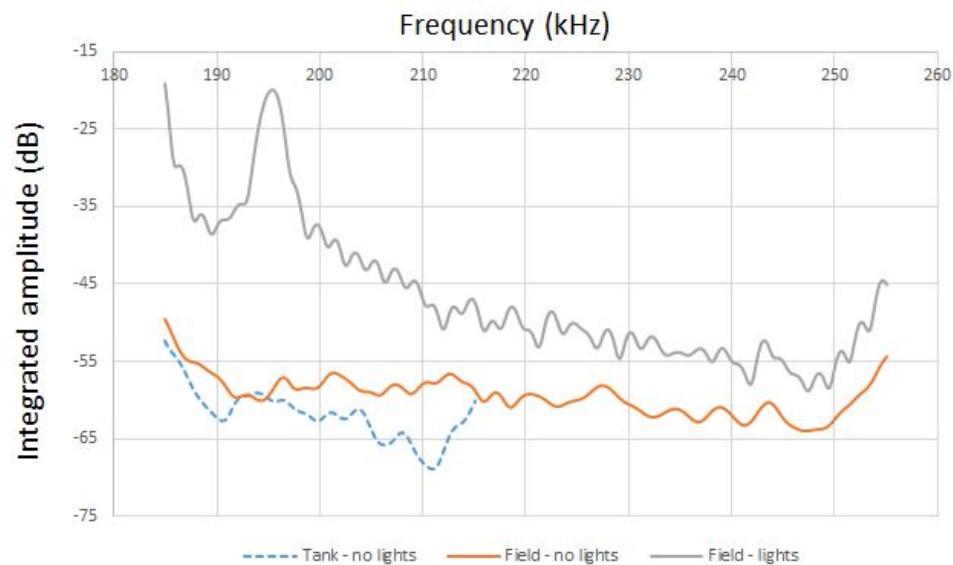


200 kHz

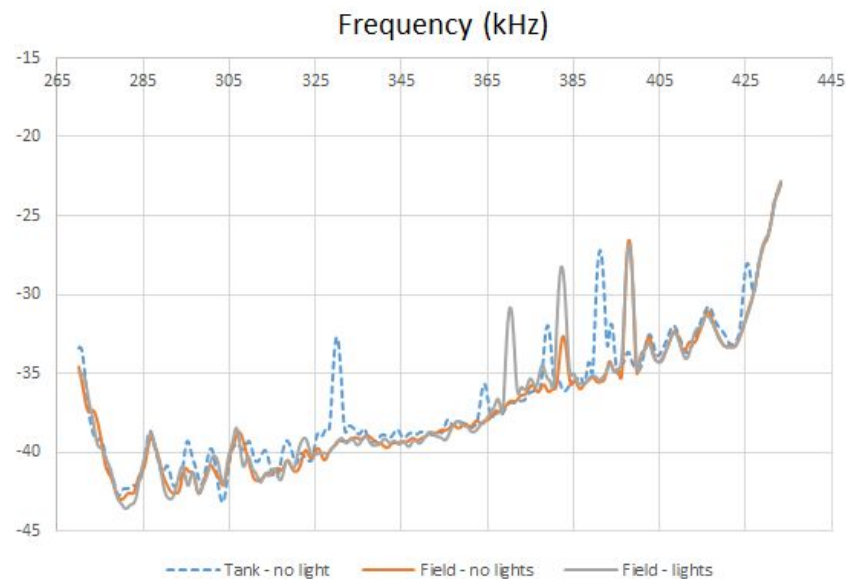


333 kHz

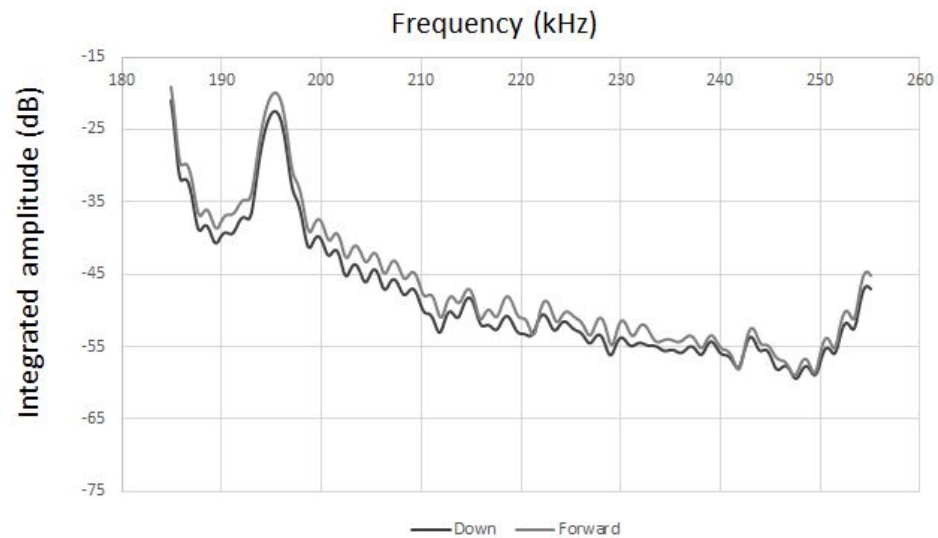
Forward



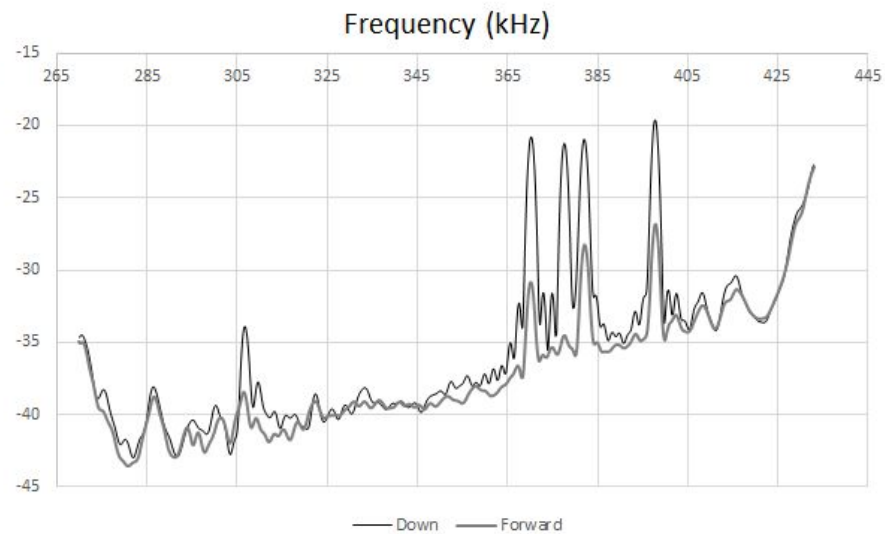
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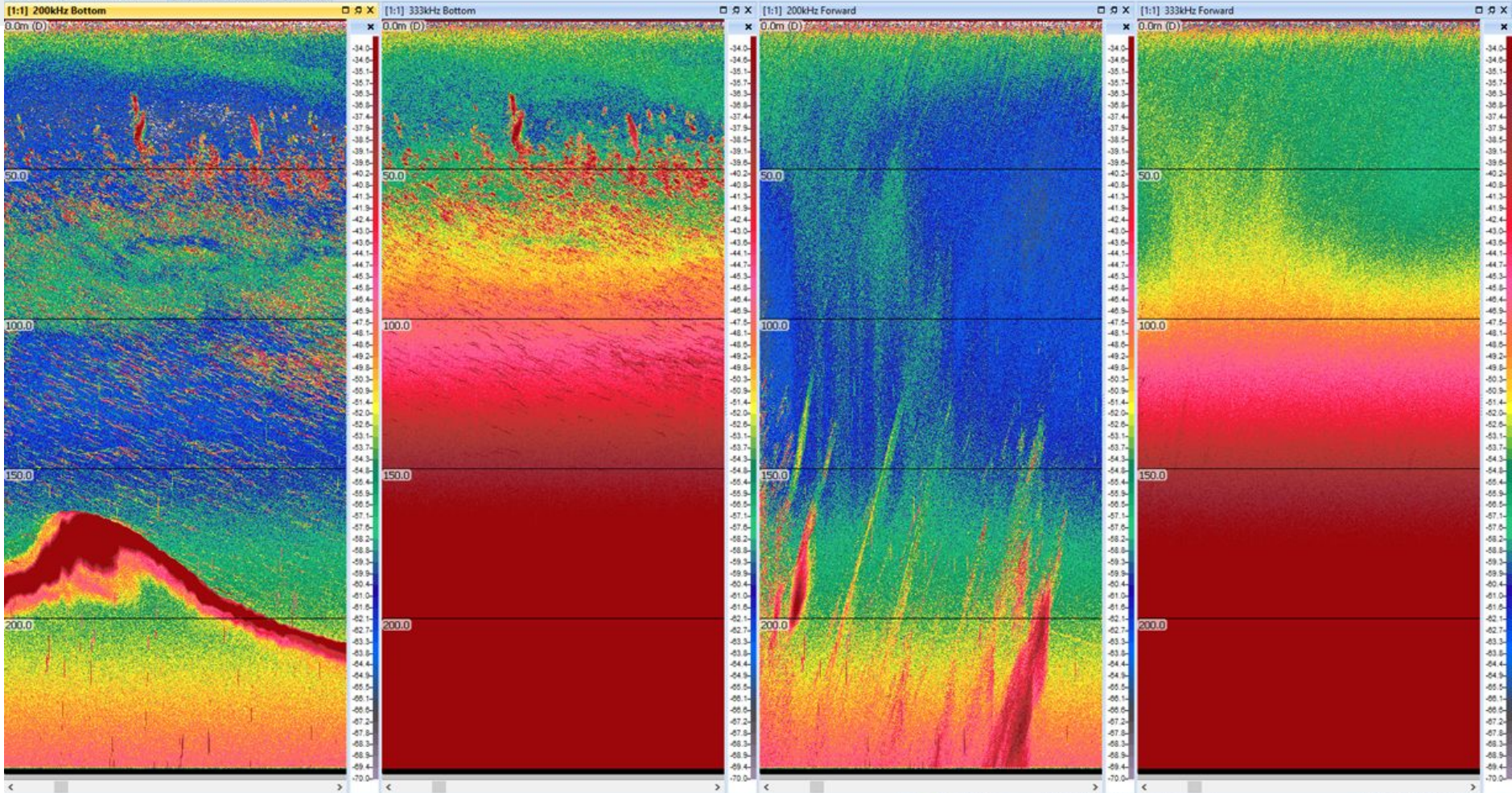
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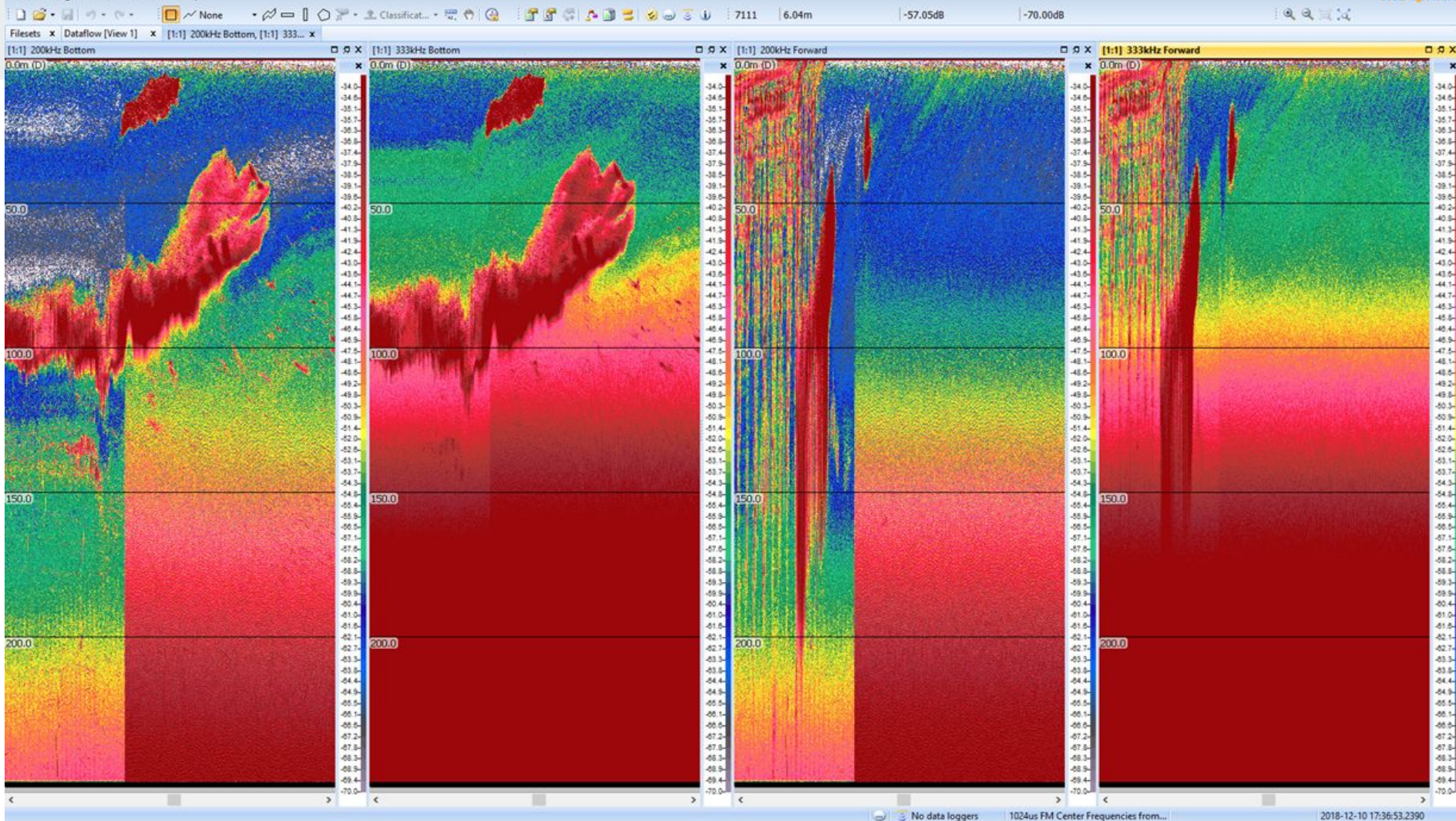


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333 kHz







Outstanding Issues and Modifications

- Resolve loss of nav data on last dive series fed from the MVC to the acoustics software.
- Add magnetic switch to the sphere.
- Change charge enabling behavior (board mod)
- Improve battery monitoring/charging
- Spares purchasing, go-to-sea equipment tote.
- More ? Aside from the lights



2019 Development

1. Light noise abatement:
 - a. Determine coupling mechanisms.
 - b. Evaluate solutions (mods or different lights)
 - c. Test in the tank
2. Software features:
 - a. Runtime QC
 - i. Remote interface for sphere health & charge monitoring
 - ii. Automatic Ping Enabling
 - iii. Data fusion scoping effort
3. Single Boardset: Simrad scheduled to fix software issues that led to dual boardsets. We can simplify the system, but this may not be required.



2019 Deployments

Overall the focus in 2019 is to use the platform to collect data and harden developments from 2018.

There are 23 days at sea planned for the I2MAP payload, spread through the year.

Date	PI	Platform(s)	Action(s)
26-Feb	KBB	i2MAP	AUV test day
3-May	KBB	i2MAP	AUV test day
8-Apr	KBB/Robi	i2MAP+ROV survey	Deploy AUV/ROV Survey
21-May	KBB/Robi	i2MAP+ROV survey	Deploy AUV/ROV Survey
8-Jul	KBB/Robi	i2MAP+ROV survey	Deploy AUV/ROV Survey
31-Jul	KBB/Robi	i2MAP+ROV survey	Deploy AUV/ROV Survey
16-Sep	KBB/Robi	i2MAP+ROV survey	Deploy AUV/ROV Survey
21-Oct	KBB/Robi	i2MAP+ROV survey	Deploy AUV/ROV Survey
7-Jan	Robi	i2MAP	Deploy AUV
8-Jan	Robi	i2MAP	Recover AUV
4-Feb	Robi	i2MAP	Deploy AUV
5-Feb	Robi	i2MAP	Recover AUV
28-Feb	Robi	i2Map	Deploy&Recover AUV
9-Apr	Robi	i2MAP	Recover AUV
22-May	Robi	i2MAP	Recover AUV
6-Jun	Robi	i2Map	Deploy&Recover AUV
9-Jul	Robi	i2MAP	Recover AUV
1-Aug	Robi	i2MAP	Recover AUV
17-Sep	Robi	i2MAP	Recover AUV
22-Oct	Robi	i2MAP	Recover AUV
8-Nov	Robi	i2MAP	Deploy&Recover AUV
10-Dec	Robi	i2MAP	Deploy AUV
11-Dec	Robi	i2MAP	Recover AUV



Operational Procedures for 2019

- Chad or Kelly will accompany the acoustics payload when in use at sea.
- Battery pack charging will be handed over by Q2.
- Development testing must not impede the time-series.
- Development testing must be coordinated b/t ops, dev, and science.