**2018-2019 JPSS Proving Ground Risk Reduction Quarterly Reporting**

2019-2020 Project Information

**Principal Investigator:** Kimberly Hyde

**Team Members:** Colleen Mouw, Ryan Morse

**Organization:** Northeast Fisheries Science Center; University of Rhode Island

**Project Title**: Optimization of phytoplankton functional type algorithms for VIIRS ocean color data in the Northeast U.S. Continental Shelf Ecosystem

2019-2020 Project Summary

This project aims to optimize remote sensing phytoplankton functional type/size class (PFT/PSC) algorithms for the Northeast U.S. Continental Shelf (NES) for applications in fisheries management and ecosystem modeling. We will be collecting *in situ* optical and pigment data on six Ecosystem Monitoring cruises operated by the Northeast Fisheries Science Center. All available *in situ* data will then be used to validate the ocean color data (e.g. RRS and IOP products) from VIIRS and other sensors and evaluate several abundance and absorption based PFT/PSC algorithms.

2019-2020 Reporting Period

*Mark table, below, with an “x” corresponding to the quarter submitted*

|  |  |  |  |
| --- | --- | --- | --- |
| *CY2019 Q3: Period of Performance: 7/1/19 to 9/30/19*  *Due: October 11, 2019* | *CY 2019 Q4: 10/1/19 to 12/31/19*  *Due: January 10,2020* | *CY 2020 Q1: 1/1/20 to 3/31/20*  *Due: April 10,2020* | *CY 2020 Q2: 4/1/20 to 6/30/20*  *Due: July 10,2020* |
| Submitted 10/11/19 |  |  |  |

2019-2020 Quarterly Dashboard



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Green (Controlled) | Yellow(Caution) | Red(Critical) | Variance Summary *(Provide explanations as needed. More detail may be included in issues and risks sections as needed.)* |
| **Scope** |  |  |  |  |
| **Budget** |  |  |  | A portion of year 1 funds were not properly obligated in FY’18 (see below for more details). |
| **Schedule** |  |  |  | The February 2020 Ecosystem Monitoring cruise has been canceled (see below for more details). |

**Legend**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | *On Target* |  | *Deviation from plan which can be recovered* |  | *JPSS Program Science Attention needed.* |

|  |
| --- |
| 2019-2020 Quarterly Accomplishments |

**Accomplishments during this Reporting Period**

1. **Summary of Accomplishments** *(This is a high level summary of quarterly activities. This paragraph should be kept brief to half of one page or less.)*

We participated in our fourth field sampling cruise on the Gordon Gunter (NOAA) August 19 to 30, 2019 collecting absorption, backscattering, fluorescence, and pigment samples. Laboratory analysis of chlorophyll, colored dissolved organic matter (cdom), and particulate absorption being conducted at URI is on track. Chlorophyll (NEFSC), nutrient analyses (University of Maine) and HPLC (University of Maryland) are 100% complete for the first two cruise and on track for the latest two cruises. We continue to acquire and compile all available *in situ* data including CTD (NEFSC), radiometry (NESDIS), particulate absorption (NESDIS), and phytoplankton imagery (WHOI) to add to our project database. Satellite data from multiple sensors (SeaWiFS, MODIS-Aqua, VIIRS, NOAA-20, OCCCI and HERMES) are current and we have started the sat-ship match-up analysis with the *in situ* data. Kyle Turner, a URI student in Dr. Mouw’s laboratory, has reviewed several published PFT/PSC algorithms and has started to optimize the algorithms for the northeast shelf.

1. **Milestones Progress** *(Provide details of the progress of each activity or milestone for this quarter as relevant. Quarterly Reports should reflect only current quarter.)*

* Data Compilation (Continuous) – 70% Complete (On Time)
* Satellite Data Processing (Continuous) – 90% Complete (On Time)
* Laboratory Analyses 2 – URI portion is 90% Complete (On Time)
* Satellite Analysis (satellite-ship data match-ups) – (On Time)
* Compilation of phytoplankton imagery data – In progress (Slight delay)
* Review of published PFT/PSC algorithms – 80% Complete (On Time)
* Laboratory Analyses 3 – URI portion is 20% Complete (On Time)
* Field Sample 4 – 100% Complete (On Time)
* Laboratory Analyses 4 – URI portion is xxx% Complete (On Time)

**Plans for the next Reporting Period:**

*Work planned for the next quarter. This section forms the basis for the next quarterly report*

**Additional Information** *(This include the following, as relevant. If particular elements are not relevant to quarterly activities, write N/A/)*

1. **User engagement:** *(In addition to PGRR meetings, this includes collaboration and support for other stakeholders such as upper level management or other agencies such as FEMA. This may include a specific event like a large fire or hurricane or a field experiment, for example.)*
2. **Conference/workshop participation:** *(Conference Name, dates, materials presented)*
3. **Project publicity:** *(news journals/articles etc.)*

Quarterly Pictures and Graphics

*JPSS Program Science requests pictures and graphics which reflect significant events or significant progress. Please include figure captions. This section should also include news worthy items. Please include pictures and graphics when experimental PGRR products benefit severe weather of environment forecasts or warnings or guidance. This section may exceed the 3 page count as needed.*

2019-2020 Annual Milestones with Quarterly Status Updates

*2018-2019 plan, schedule and milestones should build upon project proposals and allocated budget. This plan serves as a project management tool allowing PI’s to track and meet goals. Tasks are activities that need to be accomplished within a defined period of time. Tasks are broken down into milestones with defined start and end dates. The level of granularity is defined by individual PI. This table should be used for future quarterly reports.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Milestone** | **Planned Completion Date**  *(should be part of annual plan and should not change from quarter to quarter)* | **Actual Completion** | **Status** *(not started, on track, delayed, completed …)* |
| Task 1: *(task, activity or goal)* | | | |
| *(Milestone 1)* |  |  |  |
| *(Milestone 2)* |  |  |  |
| *(Milestone 3)* |  |  |  |
| Task 2: *(task, activity or goal)* | | | |
| *(Milestone 1)* |  |  |  |
| *(Milestone 2)* |  |  |  |
| *(Milestone 3)* |  |  |  |
| Task 3: *(task, activity or goal)* | | | |
| *(Milestone 1)* |  |  |  |
| *(Milestone 2)* |  |  |  |
| *(Milestone 3)* |  |  |  |
|  |  |  |  |

*Add rows as needed for all annual tasks and milestones. New milestones which may arise should be added at the end of the table as needed.*

|  |
| --- |
| Issues and Risks |

##### *This section should include no more than five or issues. Please separate risks from issues. Risks are the bad things that might happen. Dependencies on other projects and resources are considered risks. Issues have already occurred. High impact variances from Quarterly Dashboard can be addressed here as needed.*

##### Risk or Issue: *(State risk or issue and impact.)*

##### Mitigation Plan or Course Correction: *(This includes options and actions to reduce risks/threats to project objectives. For issues, this includes plans to address impacts.)*

##### Status: *(If an issue or risk is closed, then it should not be reported in subsequent quarters.)*

|  |  |  |  |
| --- | --- | --- | --- |
| **No Change/Open** | **Increasing** | **Decreasing** | **Closed** |
|  |  |  |  |

##### Comments: *(as needed)*