Task Order Statement of Work (SOW)

Date: 11 March 2019
Task Name: ICESat-2 Instrument Science Algorithms Support
Task No. / Mod: Task #5 (3)
Task Monitor (TM): Thomas Neumann
Contract number: NNG15CR65C
Contract SOW Reference:
FUNCTION 3-IMPLEMENTATION PHASE SERVICES-MULTI-DISCIPLINARY FUNCTIONS

Task Mod Summary: This modification extends the period of performance for 12 months to 31 October 2020.

Any sections below that are not applicable to your task, State N/A and delete any example information.

I. Scope

a. Background: The purpose of this task is to implement and support algorithms that will be used during ATLAS (the Advanced Topographic Laser Altimetry System; the sole instrument of the ICESat-2 mission) Integration and Test in support of the ICESat-2 Project Science Office in the Cryospheric Sciences Laboratory, Code 615. In addition, the task provides support to use these algorithms to generate the Algorithm Theoretical Basis Document (ATBD) for the L1B data product where these algorithms and corrections are applied.

b. Summary of work: Analyze ATLAS data, performance and characterization. The performance of this task may require discrete studies in areas including, but not limited to: surface-slope / laser-return relationships, laser transmitter / receiver / optics characterizations, atmospheric dynamics, evaluation of integration and test data, algorithm development for optimal ATLAS operation, and consideration of the on-board optimization of ATLAS.

Some other specific tasks are to:

- work closely with the ICESat-2 Deputy Project Scientist for the Instrument team to develop and code algorithms needed for ATLAS calibration. Input of algorithms will include data collected from ATLAS and ground support equipment. Output of algorithms will be used to characterize instrument behavior and derive calibration parameters.

- work closely with ATLAS counterparts who develop and implement algorithms to process ATLAS data and evaluate instrument performance.

- work closely with the ICESat-2 Deputy Project Scientist for the Instrument and others on the Project Science team to product and maintain the L1B Algorithm Theoretical Basis Document, as needed.

- use IDL, Matlab, Python, or other suitable language.

- maintain version control of code and results.

- maintain documentation of code as directed by the ICESat-2 Deputy Project Scientist for the Instrument.

c. Required skills/knowledge: The contractor shall be experienced in algorithm development, numerical analysis, data collection, and uncertainty analysis. The contractor will have excellent writing skills to create and document the necessary data product documentation.

II. Period of Performance

This modification extends the period of performance for the task order through 31 October 2020.

III. Subtask Description

N/A.

IV. Deliverables/Schedules/Milestones

The contractor shall deliver the following:

Ref#	*Deliverables*	*Due Date*
1	*Status Reports*	*Monthly*
2	*Performance Reports*	*Monthly*
3	*End-of-task Report*	*End of task*

V. Management Approach

a. Staff Allocation, Expertise, and Skill Mix

The contractor shall staff this work item with the appropriate skill mix and staffing level for the work.

b. Configuration Management

Systems and documents will be covered under the Project Configuration Management Plan, as modified by the ICESat-2 Project Science Office.

c. Facilities

The contractor will use IT services as provided by the government.

d. Risk Management and Best Practices

The contractor shall manage schedule, cost, and technical risk through monitoring and reporting of progress and performance metrics, identifying issues well in advance of negative consequences, recommending corrective action to the TM or the Deputy Project Scientist for the Instrument, and implementing corrective actions with the compliance of the TM or the Deputy Project Scientist for the Instrument.

e. Performance Metrics

N/A

f. Government Furnished Facilities, Equipment, Software and Other Resources

The Government will provide account and passwords to government-furnished workstations where existing versions of various relevant software packages shall be maintained. It shall be the contractor's responsibility to complete any GSFC required security-related training courses.

g. Quality Assurance Requirements

The contractor providing technical services shall comply with all CMMI Level 2 processes established for the Project and deliverable products. Applicable requirements include, but not limited to:

1. NPR 7120.5E NASA Space Flight Program and Project Management Requirements
2. NPR 7123.B NASA Systems Engineering Processes and Requirements
3. GPR 7120.99 Goddard Project Management
4. GPR 7120.5A Goddard Systems Engineering
5. GPR 7150.4 Goddard Software Engineering Requirements

VI. ODC (Travel and Procurement)

N/A – there is no non-local travel or other ODCS for the SOW.

Location	*Duration*	*Dates*

VII. Work Location

This work shall be performed primarily at the Goddard Space Flight Center (On-site).

VIII. Reporting Requirements

a. Weekly or Bi-weekly status report

N/A

b. Monthly performance report

As described in Section 4. Reports should include work completed, and plans for the next month.

IX. Security Requirements

The contractor shall comply with Information Technology Security procedures and requirements as defined by NPG 2810.1A in the performance of this task. In addition, the contractor shall comply with all applicable federal rules and regulations and agency directives. No classified data will be included in this task.

X. Data Rights

This SOW shall adhere to all applicable Data Rights Clauses.

XI. Applicable Documents

N/A

XII. References

N/A