

Task Statement of Work (SOW)

Date: June 15, 2016
Task: Data Services
Task Order: 6065/1
Task Monitor: 

I. Summary of Work

The task order covers Data Services within the Computational and Information Science and Technology Office (CISTO).

II. Period of Performance

The period during which the work for this task shall be performed is between March 1, 2016 and February 28, 2017. The effective period of performance for modification 6065.1 is October 6, 2016 through February 28, 2017.

III. Task Description***Area 1: Operations and Maintenance (O&M)***

The contractor shall be responsible for:

- a. DigitalGlobe (NGA) Data Processing
 - a. Support and maintain processing of National Geospatial-Intelligence Agency (NGA) DigitalGlobe very high-resolution commercial satellite imagery specifically for NASA science.
 - b. Support to ingest of NGA data via direct downloads from a variety of sources and from physical hard drives.
 - c. Support to copy, sort, catalogue, store, and run reports of the NGA data.
- b. Earth System Grid Federation (ESGF)
 - a. Support and maintain the ESGF data publication services, including application administration, configuration, support, and maintenance the ESGF software stack.
 - b. Support for the publishing of select datasets.
- c. Data Distribution Services
 - a. As needed, provide additional support for the operations of data portal and distribution services such as FTP, LAS, TDS, and GDS.
 - b. Maintenance of the Odisea service for ABoVE.
 - c. Support to install and configure and updated Web Map Service (WMS) within ADAPT and to enable access to high-resolution GMAO forecasts through the WMS.
 - d. Support to establish the mechanisms to capture statistics and run reports on the access metrics for the various data services.
 - e. As needed, provide support to assist in the resolution of trouble tickets associated with data portal and distribution services.
- d. ArcGIS
 - a. Provide an architecture for the operations of ArcGIS within ADAPT, with an emphasis on supporting the ABoVE research projects.
 - b. Implement and operation ArcGIS within ADAPT.

- c. Support the set up and creation of user data products through ArcGIS.
- e. Communications
 - a. Support for website updates as needed, including but not limited to, user documentation for data portal and distribution services.

Area 2: Climate Model Data Service (CDS) to Climate Analytics Services (CAS) Transition

The contractor shall be responsible for:

- a. Support the design and implementation strategy for CAS within CISTO.
- b. Knowledge and Technology Transfer:
 - a. Support knowledge and technology transfer of Climate Analytics-as-a-Service (CAaaS) from the Climate Informatics (CI) team to the CDS team. This includes but is not limited to: CAaaS functionality, CAaaS architecture, Hadoop, PyCDS Python Library, active BETA tests, and other core technologies.
 - b. Support knowledge and technology transfer of the CREATE requirements, science drivers, project history, goals, schedule, and all other relevant project activities from the CDS team to CI team.
- c. CREATE (IP/V) V2.0, Reanalysis Ensemble Service (RES), CAS integration:
 - a. Transition existing CREATE (IP/V) V1.0 functionality into the new CAS environment/architecture.
 - b. Support development of CREATE requirements for RES
 - c. Support RES architecture, operations, outputs, PyCDS extensions design
 - d. Provide reanalysis data and CF-compliance expertise to RES development activities.
 - e. Assist in the design and implementation of an RES compliant CREATE-V / RES web client.
 - f. Coordinate alpha, beta testing and delivery of CREATE-V RES web client in new CAS environment.
- d. CREATE (IP/V) V2.0, Reanalysis Ensemble Service (RES), CAS integration:
 - a. Transition existing CREATE (IP/V) V1.0 functionality into the new CAS environment/architecture.
 - b. Support development of CREATE requirements for RES
 - c. Support RES architecture, operations, outputs, PyCDS extensions design
 - d. Provide reanalysis data and CF-compliance expertise to RES development activities.
 - e. Assist in the design and implementation of an RES compliant CREATE-V / RES web client.
 - f. Coordinate alpha, beta testing and delivery of CREATE-V RES web client in new CAS environment.
- e. Maintain relationships and understanding of key science drivers/requirements to ensure CDS/CAS plans reflect the science needs of NASA and the broader climate science community.
- f. Support service documentation, web presence, and user services for CAS transition

IV. Deliverable Items and Schedule

In addition to the day-to-day work described in section III, the following deliverables will be completed:

Area 2 (Deliverables): CDS to CAS Transition

Number	Area	Deliverable	Due Date
DS01	N/A	Complete CDS/CI knowledge and technical transfer. Provide written design specifications	June 30, 2016 REMOVED

		and implementation plan capturing AREA 2 CDS to CAS transition activities	
DS02	N/A	Execute the DS01 design specifications and implementation plan.	February, 20 2017 REMOVED
DS03	N/A	Generate a "Next Steps" report	November 15, 2016 REMOVED
DS01	1	ELK - Service Statistics Finalize the installation of the ELK software package to capture statistics for data services and put into operations.	October 6, 2016
DS02	1	Review ArcGIS Requirements, Architecture and Implementation Plan Draft requirements for ArcGIS services within the NCCS, including but not limited to server, portal, and desktop, provide a review and potential modifications of the existing ArcGIS architecture, security, and implementation plan.	October 6, 2016
DS03	1	ArcGIS implementation Implement into operations the ArcGIS plan as outlined in from US-13.	February 28, 2017
DS04	1	Web Map Service (WMS) and World Wind Based on the previous WMS implementation, create a new WMS services in the data portal with a focus on enabling access to high-resolution forecast data. In addition, couple the WMS to a service, such as World Wind, for an easy method for visualizing the data on a globe.	February 28, 2017
DS05	2	CREATE V1.0 Harden CREATE (IP/V) tools and services developed in previous task year into an operational deployment, version 1.0 (V1.0).	October 6, 2016

V. Travel

The contractor is expected to propose travel as necessary to perform this task. As part of the contractor's Task Order response, a spreadsheet of proposed travel shall be provided to the Government that outlines the proposed travel during the contract year. It is expected that travel plans will change throughout the contract year. Therefore, travel plans shall be updated and forwarded to the Government on a monthly basis.

Travel may include (but not be limited to):

- Attend conferences relevant to support this task.
- Travel to other centers as required.
- Attend technical meetings as required.
- Travel to training locations.
- Trips to Goddard in support of deliverable activities.

After the completion of the travel, the Contractor shall provide to the Task Monitor and Contract Management a Trip Report for both domestic and foreign travel that includes:

- Name of Traveler
- Trip Itinerary
- Task Name and Number
- Purpose of Trip
- Contact(s) and Summary of Discussion(s)
- Summary of Presentation(s)/Talk(s)
- Copy of Presented Material, if applicable

In addition to the above, the following information shall be included in all Trip Reports for foreign travel:

- Statement of and Date of Threat Vulnerability Briefing
- Statement of and Date of Threat Vulnerability Debriefing (including the date the debriefing questionnaire was mailed to the Threat Vulnerability office. If no formal debriefing was required, so state)
- Statement of and Date of Export Compliance Briefing (if not applicable, so state and provide date of approval for 1676 package)

Approvals of all travel (conferences, meetings, or training; domestic or international) must adhere to all relevant NASA directives and to the CISTO Travel Approval process.

VI. Training

It is expected that the contractor personnel assigned to this work have the necessary training at the beginning of this task to complete all deliverables. The contractor may propose training beyond what is typically expected of the proposed labor categories that they deem necessary in support of their technical approach to meet the deliverables. Training plans must be updated and forwarded to the Government on a monthly basis to include, but not limited to, the following information: training completed, upcoming training, and proposed modifications to the training plans.

Training may include (but not be limited to):

- Conferences tutorials or workshops relevant to support this task.
- Cross training at other centers as required.
- On-line training.

The Contractor shall provide to the Task Requester and Contract Management a Report for all training that includes:

- Name of Person Attending Training
- Training Content/Agenda/Overview
- Task Name and Number
- Purpose of Training
- Summary of Training/Presentation(s)/Talk(s)
- Contact(s) and Summary of Discussion(s)
- Copy of Training Material, if applicable

VII. Work Location

This work shall be performed both on-site at the Goddard Space Flight Center and off-site at the contractor's facility.

VIII. Reporting Requirements

The contractor shall:

- (B.1.2) Monthly Status Reports (MSR) shall be submitted on or before the 8th calendar day of each month for the previous month or as jointly determined following contract award. There should be one MSR per month that covers all task orders under the contract. The MSR shall be distributed electronically to the Contracting Officer (CO), Contracting Officer's Representative (COR), and all Task Monitors.
- (B.1.4) All White Papers or Reports outlined in the Deliverable Schedule shall be provided electronically to the COR and Task Monitor as specified.
- (B.1.5) Provide an electronic copy of a Monthly Highlights Report (MHR) to the COR and Task Monitors by the last business day on or before the 4th calendar day of each month. There should be one MHR per month that covers all task orders under the contract. The highlights will be incorporated into the Monthly NCCS report written by Government personnel to the High-End Computing Portfolio Manager.
- (B.1.8) Provide a final task order report within 30 days after completion in electronic form to the Contracting Officer (CO) (letter transmittal only), Contracting Officer's Representative (COR), and Task Monitor.
- (B.1.9) Travel reports shall be included in the next MSR.
- (B.1.10) Provide an electronic copy of the NASA Form 533 for this task 10 days after the close of the Contractor's accounting period and Quarterly in accordance with contract Attachment C. Send the 533 to Contracting Officer (CO), Contracting Officer's Representative (COR), Resource Analyst (Code 603), and Finance Office (Code 155).
- Provide an electronic copy of the NASA Form 533 for this task 10 days after the close of the Contractor's accounting period and Quarterly in accordance with contract Attachment C.
- (B.1.12) The annual Financial Report of NASA Property in the Custody of Contractors (NASA Form 1018) is due October 15. This shall be submitted through the NF 1018 Electronic Submission System (NESS).
- (B.1.13) An electronic copy of the New Technology Reports is due to the Contracting Officer (CO) and New Technology Representative if one is required by any of the task orders under the contract.
- (B.1.15) Electronic monthly and annual Safety & Health Reports (S&HR) shall be submitted to Contracting Officer (CO) and Code 350. There should be one S&HR per month that covers all task orders under the contract.
- (B.1.16) An electronic Personal Identity Verification (PIV) Report shall be provided to the Contracting Officer (CO), Contracting Officer's Representative (COR), and Code 240 monthly. There should be one report per month that covers all task orders under the contract.
- Meet with the Contracting Officer's Representative (COR) and technical and financial Government representatives monthly to discuss financial status. Topics covered shall include: Funding provided by NASA, Funding planned to be provided by NASA, Funding obligated to the Task Order, Status of subcontracts for Tools and ODCs, Expenses invoiced, Funds available on the Task Order (not expensed or obligated on subcontracts), and Expected monthly labor expenses.

IX. Security Requirements

This task shall comply with IT security requirements as documented in the NCCS IT Security Plan and 600 IT Security Plan as applicable.