

# **ESGF Publication, Security, and Data Management for CMIP6**

Reporting period: April 1 2016 to June 30 2016

This is a report of work completed for second quarter of Year 2 for the subaward to University of Chicago: ESGF Publication, Security, and Data Management for CMIP6.

## **Ongoing maintenance**

### **ESGF 2.3.x releases**

Supported testing and updates to the ESGF 2.2.x release for all Globus components. This include improvements and bug fixes to CoG and improvements to GridFTP usage parser script that uploads download records to the ESGF infrastructure that gathers statistics.

### **ESGF node at Argonne**

Updated ESGF node at Argonne to 2.3.6 version of the code base: both development and production machine, that has been used for various code builds and testing. CoG, esgcat and Synda were also upgraded to support testing and new feature build.

## **Publication Service**

Ingestion service was included as part of the ESGF installer, so any node can choose to install the service for use. Created a script to add Globus URLs to datasets that are already published, so node administrators can use Globus interfaces against their data.

## **CoG integration with Globus**

### **Globus Auth integration with COG**

Globus released an updated authentication mechanism for it's services, called Globus Auth, that uses OAuth 2.0 with scopes and tokens for restricted access. Work was started to integrate use of Globus Auth in CoG and remove the legacy integration that was used: this work has been completed, and code for download of secure and public data using Globus on the CoG interface has been completed.

## **Managed data transfer and replication in ESGF**

### **Support Globus endpoints on Tier 1 sites**

In partnership with ICNWG, supported installation and use of GridFTP servers and required security configuration, for basic testing of transfer speeds between Tier 1 sites. Participated in the ICNWG to plan next steps and deployment of Globus endpoints for use with Synda.

## Prototype Globus as Identity Provider in ESGF

Initial prototype work for feasibility for using Globus as alternate identity provider in ESGF was completed. This allows for users with campus logins to use ESGF infrastructure, without removing the existing OpenID support. Further design work is ongoing to explore use of Globus sharing for data access both via GridFTP and HTTP/S protocols.