Supporting Facilities at the University of South Florida

Major computational resources are available at the University of South Florida. For this project, numerical modeling activities will take place on PC clusters that are sufficient for all project tasks (sensitivity analyses and probabilistic modeling). USF School of Geosciences currently has a computational facility dedicated to volcanology that includes a small diskless cluster of 80 nodes for computationally intensive data analysis and modeling. This cluster will be available to project personnel (postdoctoral fellow and undergraduates) to work on the numerical modeling tasks of this project. PI S. Charbonnier hosts a laboratory space which includes five graduate student office spaces equipped with desktop workstations, two of which are currently available for the future postdoctoral fellow and undergraduates. In addition, two dedicated computer rooms that each include 9 desktop workstations with dual-boot Linux and Windows systems are also available for both research and educational purposes. These will be mostly used for the educational tasks of the proposal (including teaching of the new class on 'Modeling Volcanic Processes', development of the Vhub educational modules and as office spaces for the USF/Colima exchange students).

Advanced computer resources at the University of South Florida are administered by Research Computing (CIRCE at http://www.rc.usf.edu/). RC hosts a cluster computer which currently consists of 400 nodes with approximately 6400 processors. The cluster is built on the condominium model. The most recent addition to the cluster is comprised of 128, dual 8-core 2.6 GHz Intel Sandy Bridge nodes with 32GB RAM and 20 of the nodes are also equipped with dual Kepler GPUs. The nodes utilize QDR infiniband for a computational interconnect. A 100TB lustre file system is used to support high speed computations and researchers share a 100TB home file system. Research Computing supports 113 scientific software packages. This cluster will be also available for use in the project through the submission of allocation proposals and group memberships.

The Conferencing and Special Events Center at USF (http://www.usf.edu/student-affairs/conferences-special-events/index.aspx) can accommodate events ranging from 10 guests to 1,100 in one of the 26 meetings rooms. The USF Marshall Student Center has several pre-function spaces and has built in audio and video in many of the rooms. This space is ADA accessible and Wi-Fi Internet is available throughout the building. These will be used to host the two community-wide workshops planned in year 2 and year 4.

Supporting Facilities at the SUNY at Buffalo

The Center for Geohazards at UB coordinates the volcanology cyberinfrastructure program online at www.vhub.org, which is used as a collaborative tool during instrument development and for dissemination of information in collaborative projects. VHub's server and underpinning software (based upon the hubzero.org model) are maintained by a team at Purdue University through an annual subscription (around 50k$ per year), while VHub-enabled tools are able to remotely launch (potentially large scale) computations and utilize storage at UB's Center for Computational Research (http://www.ccr.buffalo.edu).