

## **Facilities, Equipment & Other Resources – Tamara Pico**

### *California Institute of Technology (Caltech)*

Flood routing calculations using a two-dimensional hydraulic model will be performed using the high performance computing (HPC) center at Caltech. This cluster consists of 240 nodes, with 32 cores per node, and a memory of 192 GB per node. These computational resources are supported by 2.5 petabytes of storage.

### *Oregon State University*

The OSU/CEOAS Stable Isotope Laboratory provides community access to state-of-the-art tools for stable isotope mass spectrometry (Alan C. Mix, Director). Analyses of sediment cores collected on R/V Oceanus cruise 2017 can be conducted here. OSU provides baseline support for maintenance and management.

Instrumentation includes:

Dual-inlet Thermo/Finnigan MAT 252 mass spectrometer equipped with a Kiel-III separate acid bath carbonate preparation system,

Thermo Delta-V mass spectrometer equipped with a GasBench-II headspace sampler with cryotrapping capabilities for analysis of  $d^{13}C$  in DIC, air, and solids produced by digestion or laser ablation, as well as a microvolume dual inlet and a Kiel-III separate acid bath carbonate preparation system.

A ThermoFisher MAT-253 mass spectrometer is optimized for small trace-gas samples.

A Finnigan/MAT DeltaPlusXL mass spectrometer is equipped with a continuous flow inlet, Carlo-Erba NA1500 elemental analyzer with CosTech “Zero Blank” autosampler for analysis of  $d^{13}C$  and  $d^{15}N$  in organic materials, a Hewlett Packard 6890 Gas Chromatograph with a Finnigan/MAT GC/C-III interface for analysis of  $d^{13}C$  in biomolecules, and a Finnigan/MAT TCEA system for analysis pyrolysis of solids.

DeltaPlusXL mass spectrometer equipped with both dual and continuous flow inlets for water  $d^{18}O$  studies using a high-precision automated water-equilibration device of our own design, molecular oxygen ( $d^{18}O$ ) TCEA pyrolysis of liquids (dD), and GC/TC pyrolysis for dD analyses of organic biomolecules.