

Memorandum of Understanding
on
Global Reporting Geophysical Observatories in Chile
between
The IRIS Consortium
and
The University of Chile

1 Purpose

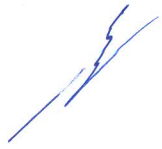
The purpose of this MOU is to establish goals and responsibilities for collaboration between the Incorporated Research Institutions for Seismology (IRIS) and the University of Chile (UCH), through its Seismological University Network (SUN), in the establishment and operation of a network of Global Reporting Geophysical Observatories in Chile (GRGOC).

2 Background

Following the Chilean earthquake of February 27, 2010, IRIS and UCH collaborated with other international organizations to install a network of more than 100 portable seismic stations to record aftershock activity in and around the mainshock rupture zone. To continue this successful collaboration and extend permanent observations throughout the entire length of Chile, IRIS submitted a successful proposal, in collaboration with UCH, to the US National Science Foundation (NSF) Major Research Instrumentation (MRI) program, to install and operate ten geophysical observatories equipped with a suite of seismic, infrasound and metrological sensors. These ten observatories are to be installed and operated jointly by IRIS and UCH and integrated with the SUN stations.

In addition to the important role that the SUN and GRGOC will play in the monitoring and reporting of earthquakes in Chile, the data from these stations provide a unique resource to support fundamental research and education related to earthquake hazard assessment, regional and global seismicity and Earth structure. To this end, IRIS and the University of Chile are committed to provide free, open and unrestricted access to all data from GRGOC stations and encourage collaborative research programs between Chilean and US scientists.

IRIS and UCH will collaborate on the installation and operation of the GRGOC stations. UCH staff will be trained on station operation and data collection. It is intended that after an initial three years of joint support and operation, title to all equipment will be transferred to the University of Chile while taking full commitment for its long-term operation and support unless unforeseeable circumstances weakens SUN present feasibility.



3 Goals

The primary goals of the GRGOC project are to:

- Improve SUN with a backbone network of geophysical observatories to support earthquake monitoring, reporting and research;
- Operate the GRGOC stations with an average data availability of 85%;
- Archive all GRGOC data at the IRIS Data Management Center and openly share the data from these observatories and SUN stations;
- Encourage collaborative science projects between Chilean and US scientists;
- Share experience on installation, operation and data collection from modern digital observatories and provide training to Chilean technical and operational staff.

4 Joint Responsibilities

IRIS and UCH agree to collaborate in the installation and operation of the GRGOC stations, sharing the economic resources and the staff made available by both parties.

IRIS and UCH will jointly select sites for installation of GRGOC stations.

IRIS and UCH will coordinate with USGS and Chilean Government Authorities to ensure that data from the GRGOC stations are delivered without delay to national (SUN) and international (USGS NEIC) centers for use in rapid location and reporting of national and global earthquake activity.

IRIS and UCH will encourage joint research programs between US and Chilean scientists and will support independent use of the GRGOC data by any interested parties.

5 Responsibilities of IRIS

Equipment – IRIS will provide the permanent equipment items and major operating supplies for installation of the 10 GRGOC stations as described in the proposal to NSF. This will include broadband seismometers, strong motion sensors, infrasound sensors, meteorological packages, data acquisition systems and communication equipment.

Personnel – IRIS will provide personnel to lead the installation teams to install the GRGOC stations and for annual visit to Chile to check on station operation and provide maintenance. IRIS will provide remote consultation on station performance and repair.



Documentation - IRIS will provide documentation describing siting, installation and operation of all equipment.

Training - During installation and maintenance visits, IRIS staff will provide training to UCH personnel on station operation and maintenance.

Data - IRIS will archive and openly distribute all data from the GRGOC stations and any additional data provided by UCH without restriction or delay, using standard IRIS archiving and distribution tools. In particular, IRIS will arrange for all data to be provided to the USGS National Earthquake Information Center. Standard quality assessment tools will be used to monitor the waveform quality and completeness.

Advisory Committee - The IRIS Board of Directors will appoint a GRGOC Science Advisory Committee to provide assessment of GRGOC operations and advice on the development of scientific projects. The Committee will be co-chaired by IRIS and UCH representatives.

6 Responsibilities of the University of Chile

The University of Chile will provide the following materials and services related to the installation of the GRGOC stations, as far as the financial support is secured from the appropriate governmental office:

- Equipment and Supplies – UCH will provide services, equipment, materials and supplies available on the local market for use in construction of the GRGOC sites and annual maintenance;
- Supplies and services for construction and installation will be based on a written Implementation Plan to be agreed upon by the IRIS and UCH Project Managers prior to station installation;
- Siting and Permitting – UCH will be responsible for obtaining and maintaining all necessary permissions and permits for land use related to GRGOC sites;
- Communications - UCH will be responsible for providing technical support to the appropriate governmental office which will obtain, license and payment for telecommunications of data from the GRGOC sites to a central facility at UCH. UCH will provide the necessary facilities required to transmit all data via the Internet to IRIS, subjected to the provision stated above;
- Personnel – UCH will provide personnel to participate in all aspects of station construction and installation and network operation.

Data - UCH agrees that all data from GRGOC stations will be provided to the IRIS Data Management Center in real time for free and open distribution.

7 Responsible Parties



The GRGOC project will be under the direction of IRIS President, David Simpson and SUN Director, Sergio Barrientos, as Principal Investigators.

IRIS and UCH will designate Project Managers for the project whom will be responsible for management of station construction, installation and operation and serve as the primary Points of Contact for communication related to joint activities. These Points of Contact are: Robert Busby (IRIS) and Diana Comte (UCH).

The GRGOC Science Advisory Committee will review the progress of the GRGOC project on an annual basis and provide recommendations to the Principal Investigators.

8 Duration and Modification

This MOU will be effective as of the date of signing and remain in effect for three years.

Modification or extensions to this MOU can be incorporated at any time on joint agreement between the parties.

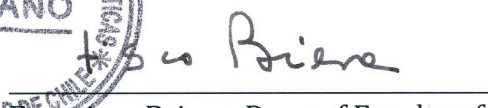
9 Endorsement

Agreed to by:



Brian Stump, Chair, Board of Directors

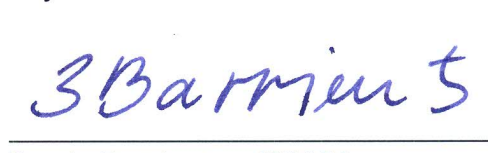




Francisco Brieva, Dean of Faculty of Physical and Mathematical Sciences



David Simpson, IRIS President



Sergio Barrientos, SUN Director

For
IRIS Consortium
Washington D.C.

For
Universidad de Chile
Santiago, Chile

Date: March 14, 2011

Date: March 09, 2011

