

Discussion Notes for a Visiting Scientist Position

Geological/petrological, topographic, seismological, cryospheric control on landslides and mass wasting in the glacial lakes areas of Cordillera Blanca and other glacierized areas of Peru.

Jeffrey Stuart Kargel—INAIGEM through Benjamin Morales

People to be involved later:

Jeffrey Kargel, INAIGEM; Benjamin Morales and others as appropriate; Alina Karki, University of Arizona GIS student TBD, Peruvian Assoc. for Mountaineering

Kargel- PI

Benjamín Morales Arnao and Local experts

Alina Karki, petrologist/geologist (from Nepal; my assistant)

Peruvian Assoc. for Mountaineering

Tasks:

1. Use historical database of high-energy mass wasting events (large rockfalls/landslides, large abalanches, and aluviones) to make an empirical assessment of the geological/petrological, topographic, seismological and cryospheric controls on these events.
2. Acquire satellite imagery and satellite data of many types for all of the glacierized Cordilleras.
3. Map the susceptibilities of the Cordillera Blanca and other glacial lakes regions to similar mass wasting events in the future.
4. Seismological wave modeling of wave interactions with the surface in glacierized areas.
5. Prioritization of most hazardous lakes based on this additional perspective.

Funding and research approach:

Stage 1: Discussion and proposal development. No exchange of funds. September 2016-April 2017

Stage 2 (May 2017-April 2018): INAIGEM funding for a proof-of-concept in an area selected by INAIGEM. Funding level:

Kargel \$15,000 compensation after any relevant Peru taxes, \$4000 field work (1 season, includes airfare, stay in Peru, porter)

University of Arizona GIS student, \$6,000 compensation

Alina Karki \$1,500 compensation after any relevant Peru taxes, \$4000 fieldwork (1 season), \$500 lab work (thin section preparation)

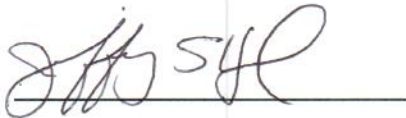
Huaraz-based grad student, \$1000 fieldwork

TOTAL: \$32,000 plus any relevant Peru taxes.

Field season expected to be June 2017.

If this is too much, we should talk and find some reasonable preliminary funding level and tasks/scope to match. Climbers: Peruvian Association for Mountaineering

Stage 3, 3 years: External funding (NASA, UNDP, USAID, NGO, others) Include funding for a Peru mountaineering team as needed, systematic satellite image analysis. We would have a field season every summer and could bring in many students, have many masters and PhD theses, and aim to have PhD student and senior researcher exchanges also.



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Benjamín Morales Arnao
Executive President of INAIGEM

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