



Center for GeoHazards Studies

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Director

Plume of ash from Tungurahua Volcano drifts over town of Banos, Ecuador

Purpose

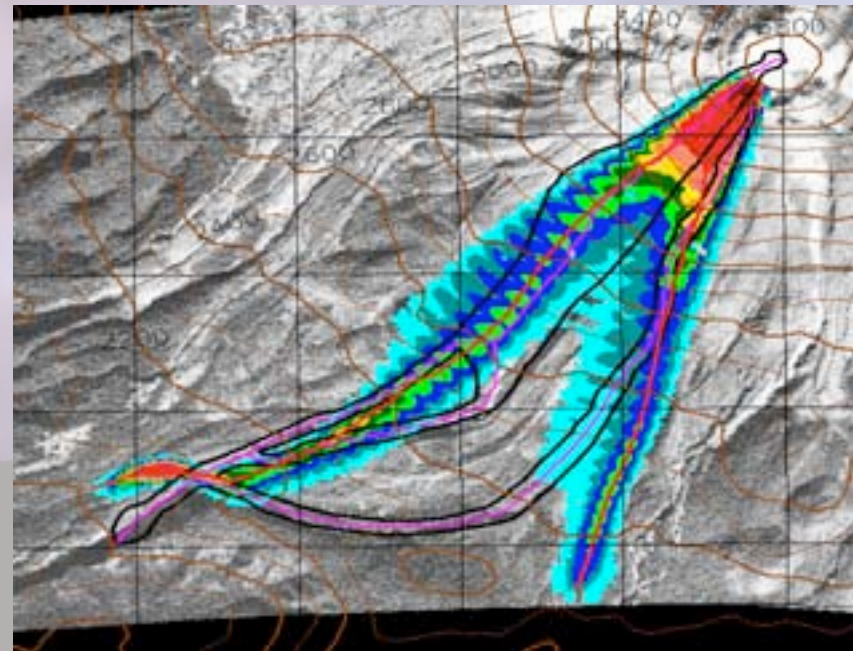
- *Direct support of UB2020 Strategic Strength - Extreme Events: Mitigation and Response*
- **Establish and maintain an international leadership role for UB in the area of geological hazards and risk**
- **Serve as a nucleus for**
 - interdisciplinary collaboration
 - proposal development
 - education and training
 - workshops and conferences
 - student recruitment.
- **Founding Director: Prof. Emeritus Michael Sheridan**



Interdisciplinary collaboration

- **Internal collaborations on existing projects and recent proposals include faculty from**
 - **Geology**
 - **Geography**
 - **Mechanical Engineering**
 - **Civil, Structural, and Environmental Engineering**
 - **Operations Management and Strategy**
 - **Learning and Instruction**
 - **Mathematics**
 - **Communication**
 - **Industrial and System Engineering**
 - **Center for Computational Research**
- **GeoHazards Seminar Series**
 - **2-3 per semester**
 - **in 09-10 will host 1 public lectures**

TITAN2D - model for geophysical mass flows developed by joint effort of Geology, Mechanical Engineering, & Mathematics, is being used by researchers and volcano observatories around the world.



International engagement

- **Current efforts and proposals involve researchers and students from**
 - **Many US universities and national laboratories**
 - **United Kingdom, Spain, Italy, Columbia, Mexico, New Zealand, Japan, France, Austria, and others...**

- **International workshops - focusing on communicating and mitigating hazards in at-risk communities**
 - **April, 2008 - At UB**
 - **July, 2009 - At Pasto, Columbia. Participants include stakeholders from local community and its government, and researchers from UB, Italy, UK.**

Pasto, Columbia, at the foot of active Galeras Volcano



Educational initiatives

- **Ph.D.** - NSF IGERT Infrastructure Resilience to Extreme Events (under review at NSF)
- **MS and Certificate** - PIRE: Interaction between science and society in communities under persistent and episodic risk: integrative approaches to improve disaster preparedness and response (to be re-submitted to NSF)
- **INVOGE** - MS program sponsored by Dept. Education, 1-yr exchanges with Univ. Blaise Pascal (Clermont-Ferrand) and Univ. Milan.



Ph.D. student Dawn Sweeney sampling Llama Volcano, Chile

Major proposals under development & student recruitment

- **Leading a major effort to establish a cyberinfrastructure for global volcanology and risk mitigation communities - \$2M from NSF (4 yrs)**
- **GeoHazards Field Station - to be developed as an international user facility for large-scale experiments, near Ashford NY**
- **Recruitment - Students are inspired by the idea that they can help people avoid or mitigate disaster**
- **Although examples shown here have focused on volcanic hazards (reflecting a center of gravity in the Geology Dept.), we are interested in a range of GeoHazards**
 - **avalanches**
 - **floods**
 - **earthquakes and faulting**
 - **cryosphere**
- **The applications aspects of GeoHazards meshes well with other environmental efforts in the Department and beyond at UB - linking natural sciences and engineering to societal needs**