HLWYM HEmails

From: Brittain Hill [bhill@cnwra.swri.edu]
Sent: Thursday, November 06, 2003 5:03 PM
To: Ernesto Quinones; John Trapp
Cc: Donald Hooper; James Rubenstone; Larry Campbell
Subject: Re: ASHPLUME validation

As I've been on travel most of the past month, I think I've missed some developments. I wasn't aware there was an ongoing program to validate ASHPLUME amongst two different groups at NRC. Thought we took care of that issue years ago. If we're going to devote this level of resource to assisting IA, then the focus should move to remobilization of tephra and not the tephra dispersal itself. I agree that it would be fun to play with tephra dispersion. However, the ASHPLUME code has been reviewed extensively (Woods, Sparks, and now Spera), published 3 times (Jarzemba 97, Hill 98, Connor 01), and clearly works for the purpose intended. What is are the specific goals of this new task?

ASHFALL is based on the Macedonio/Armenti models, which have a slightly different approach to parameterizing the horizontal diffusion processes than Suzuki. Should note, however, that they used the same vertical column model as Suzuki. Once you wade through the math, there really isn't much difference between these modeling approaches.

Running the code on YM conditions will not provide validation - need to use specific eruption data as we did with the 1995 Cerro Negro eruption. Also, need to focus on the distance of concern (<20 km), whereas most of the Ruapehu work emphasized more distal hazards.

We are working on re-installing our parallelized version of ASHPLUME, and implementing the variable wind field approach proposed by Chuck before his departure. This is, however, a lower priority task that several other investigations on magma-repository interactions, remobilization, and overall programmatic issues (IRSR, KTI agreements, AMRs, Risk insights etc).

Please be aware that there is a heap of programmatic work going on, and that we also have numerous high risk-significance programs ongoing as well. We will try to accommodate this new work as best we can, however, other planned activities need to progress without disruption in the limited time left to us.

Britt

Ernesto Quinones-Padovani wrote:

> All,
> Following Bret's email, Keith Compton and I had a fairly long conversation on the ongoing project that we have regarding the validation of the ASHPLUME code. Keith's approach is basically to get ASHFALL, and run both codes on YM conditions. Our simpler and direct approach was to get the necessary input parameters from the 1995 and 1996 Ruapehu eruption models and run ASHPLUME on those conditions, since a pretty good match with the field measurements was accomplished using ASHFALL and RAMS/HYPACT. I let Keith take ownership of the project since his background is in dispersal modulation and is very eager to help us in this matter. However, he eventually will need to get in touch with us and discuss his plans and collected information. I will set up a conference meeting with Britt and Don as soon as he's ready. Feel free to shout your suggestions,
>
> Ernesto

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Recipients:
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Tracking Status: None
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