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Dear all,

after a busy week in Vienna the list of those interested in the COSMOS volcano activity group has slightly increased. I thank all those dozen people who met for business lunch down the river! In any case I think we can put together a nice group of really active people plus a number of people watching the activities with interest.

According to our discussions in Vienna, I will put together a talk on different aspects of volcanic activity and how that could be implemented into the COSMOS project. As you all know, the main purpose is to use the Earth System Model provided by COSMOS. This can be done in different ways as follows:

i) use volcano eruptions as a test bed for climate simulations
- there is currently not a single climate model that would be able to simulate the observed climate anomalies after big eruptions of the Pinatubo size. The models used in AR4 also have severe problems representing the NAO mode (as well as the NAM) of variability and the dynamic coupling between troposphere and stratosphere. All the models are "too zonal" and the reason is not known (talk on EGU Monday by G. Boer on Energy Cycles). Hence, there seems to be a fundamental (dynamic, numeric, parameterization???) problem and we might take this challenge as ours. The outcome will also have impact on future climate estimates!

ii) investigate the quasi-permanent (silent and small eruptive) degassing of the Earth and its impact on atmospheric chemistry, vegetation, ocean, clouds etc. This could be a follow-up of the publications my group did about 10 years ago - now with much better data. This also implies a new inventory of emissions, process studies (like effects on clouds and vegetation) requiring new observational methods.

iii) study the impact of medium size eruptions on climate. This has been done many times already, but now we know that first we need to solve the problem under i). At least this is valid for winter, when dynamic effects are dominant in higher latitudes. Radiative effects might be simulated much better and this is a way forward at the moment.

iv) include discussion on the ongoing MPI-Met project on Supervolcanos led by Claudia Timmreck. There is going to be a number of simulations and very interesting results coming up in the near future. Lots of activities were going on recently in preparation for the big simulation that also cover problems in i-iii) above!

In the next week or so I will put together a ppt file and send it around asking for additional input and comments from you all. I would appreciate if one or another would volunteer leading one of the above activities! Please come forward!! I could imagine to be most active in i), but not necessarily as THE leader, Claudia Timmreck certainly will take a lead in iv) - who is going to push ii) and iii)?????

Best wishes,

Hans

P.S.: I am sure I again forgot some people. So, please forward accordingly! There shall be a webpage soon that will facilitate correspondence quite a bit.

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