



Geofizički odsjek

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O B A V I J E S T

Dana **23.5.2012.** u 13¹⁵ održat će se u okviru seminara i kolokvija na Geofizičkom odsjeku PMF-a sljedeće izlaganje:

Dr. Adrian Tompkins

(Earth System Physics Section,

Abdus Salam International Centre for Theoretical Physics, Trieste, Italy):

FOREST-SAGE and VECTRI: Two new impacts models at ICTP for deforestation and malaria and future plans

ABSTRACT: (a) **FOREST SAGE:** The impact of deforestation on climate is often studied using highly idealized "instant deforestation" experiments due to the lack of generalized deforestation scenario generators coupled to climate model land-surface schemes. A new deforestation scenario generator has been therefore developed to fulfill this role known as the deforestation ScenArio GEnerator, or FOREST-SAGE. The model produces distributed maps of deforestation rates that account for local factors such as proximity to transport networks, distance weighted population density, forest fragmentation and presence of protected areas and logging concessions. The integrated deforestation risk is scaled to give the deforestation rate as specified by macro-region scenarios such as "business as usual" or "increased protection legislation" which are a function of future time. FOREST-SAGE is based on the framework of the widely used Community Land Model (CLM), which is the land model for the Community Earth System Model (CESM), the Community Atmosphere Model (CAM) and the 4th generation ICTP regional climate model REGCM4. Example potential future deforestation scenarios for central Africa are shown, along with the resulting climate impact as modelled by REGCM coupled to CLM.

(b) **VECTRI:** In order to better address the role of population dynamics and surface hydrology in the assessment of malaria risk, a new dynamical disease model been developed at ICTP, known as the VECToR borne disease model of ICTP (VECTRI). The model accounts for the temperature impact on the larvae, parasite and adult vector populations in a similar fashion to previous dynamical models, but additionally explicitly accounts for the local population density, allowing for the incorporation of such impacts as bednet user migration, as well as including a new simple pond model framework for surface hydrology. These additions allow the model to be reasonably run on resolutions down to O (10km), essentially the resolution of the population and climate input data. Results from the model driven by ERAI reanalysis and FEWS/TRMM rainfall for various regions in Africa will be shown which are focus areas of the Healthy Futures and QWeCI project which demonstrate that the model produces a realistic spatial and temporal variability of malaria transmission.

Pozivaju se studenti, apsolventi i svi zainteresirani da prisustvuju predavanju, koje će se održati u predavaoni br. 2 Geofizičkog odsjeka PMF-a, Horvatovac 95, Zagreb. Studentima 2. godine diplomskog sveučilišnog studija fizika - geofizika je prisustvovanje predavanjima u sklopu Geofizičkog seminara obavezno.