Geophysical Research Abstracts,
Vol. 11, EGU2009-8945, 2009
EGU General Assembly 2009

Effects of Land Surface using a Regional Coupled Model on Mediterranean Climate.

D. Ronzio (1), P. Faggian (1), V. Artale (2), and A. Dell'Aquila (2)
(1) CESIRICERCA, Milano, Italy (dario.ronzio@cesiricerca.it), (2) ENEA Casaccia, Roma, Italy (vincenzo.artale@enea.it)

In the framework of European CIRCE Project, the object is to describe the climate change in the Mediterranean area and to give some information about environmental impacts.
We analyzed the simulations from the regional model PROTHEUS, comprehensive of atmospheric and oceanic components, applied over the Mediterranean Basin (-10, 40 °E; 22, 57 °N), with a spatial resolution of about 30km, for the period 1961-2000.
There is a considerable interest in variability and trends in surface temperature and precipitation.

Correlations observed between temperature and precipitation in many regions provide evidence that processes controlling the hydrological cycle and temperature are closely coupled.
Surface climate is determined by the balance of fluxes, which can be changed by radiative (e.g., albedo) or non-radiative (e.g., water cycle related processes) terms.

We investigated the role of the energy fluxes comprising the energy balance equation, with particular emphasis on the soil heat flux, the radiation fluxes and the moisture flux and its relation to surface humidity to achieve an understanding of the system.