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ENVIRONMENTAL FACTORS AND MORTALITY

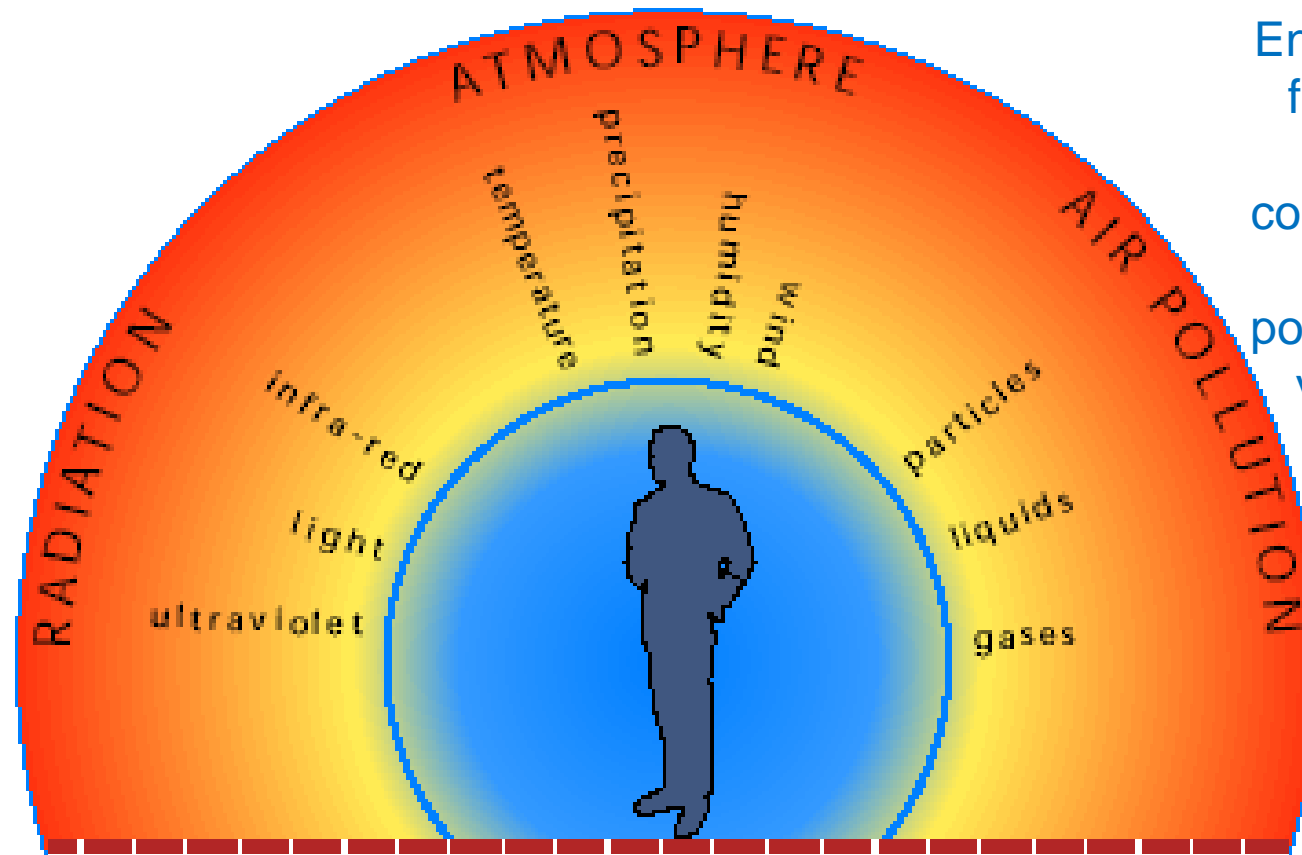


C*l*imate

WORLD

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Environmental factors, such as weather conditions and ambient air pollution, have vital impacts on human health.

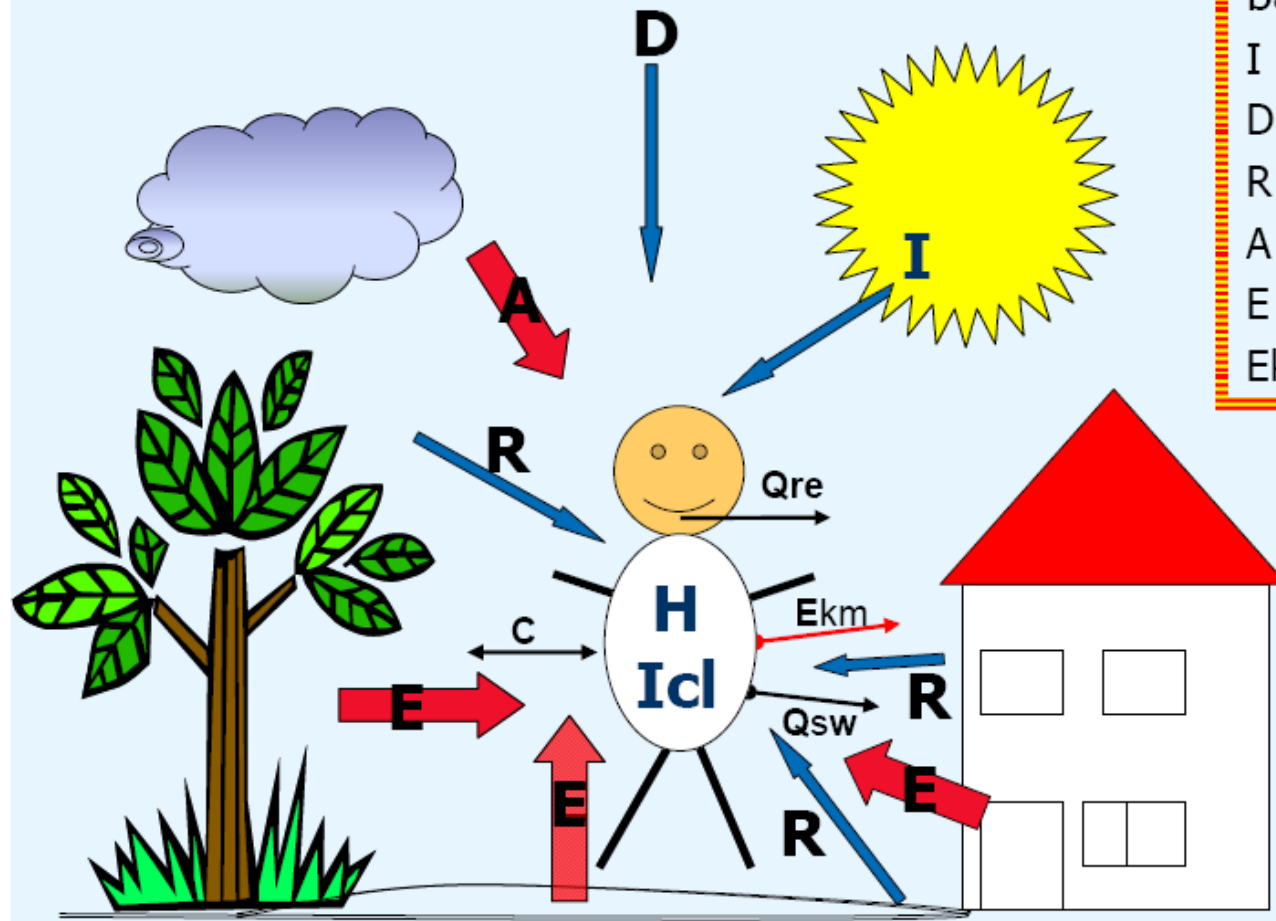
*If one wants to assess the influence of climate on the human organism in the widest sense, it is necessary to evaluate the effects **not** only*

*of **a single parameter***

but of all thermal components.

This leads us to the necessity of modelling the human heat balance.

Energy balance applied on human beings



Components of the radiation balance

I solar radiation

D diffuse radiation

R shortwave reflected radiation

A longwave radiation of atmsp.

E longwave radiation of surfaces

Ekm longwave radiation human

H internal heat production

Icl clothing insulation

C convection

Qsw sweat evaporation

Qre heat flux respiration

Assumptions and goals:

- Heat-related mortality is of great importance especially under poor environmental conditions appear mostly in urban agglomerations, where limited ventilation exists.
- This is the case of Athens, where the topography and the specific microclimatic conditions are key factors having impact on the air pollutants dispersion. The synergy of these factors influence humans' health significantly. The abovementioned goals will be in the context of a PhD thesis combining heat related mortality with weather conditions.
- The impact of environmental factors on organic-cause mortality will be examined on daily and monthly basis by the application of correlation analysis and generalized linear models (GLM). In the models fitting procedure, we will use as dependent variable the daily mortality while as independent covariates the bio-meteorological parameters and air pollutants.
- Besides, the daily values of the thermal indices PET (Physiologically Equivalent Temperature) and Universal Thermal Climate Index (UTCI) will be evaluated in order to interpret the grade of the thermophysiological stress and examine the impact on mortality, within the greater Athens area.