

## **External or internal control of the development of ecosystems.**

Helmut Lieth

USF, Universität Osnabrueck

The ecosystems of the world are in constant changes through time in response to environmental changes. This fact is recognised by many ecologists, but not recognised in its consequences by conservation ecologists and environmentalists.

Concepts of evolution, stability, species composition, structure and food chain structure are commonly used to analyse and interpret function and development directions of ecosystem. While species diversity appears to be the main parameter for the comparison of ecosystems, the question about the possible purpose of the ecosystems on the earth surface is rarely seldom inquired.

In a series of publication has the author shown how ecosystem structure and function are moulded by external environmental forces, against which the biological components of each ecosystem have little influence.

Present discussions about the evolution of species are mainly assuming that their development is mainly explainable with the development of parameters which enhance their functioning in any given environment for their own benefit. We inquire in this paper if that concept is universally applicable. When we assume that ecosystems are part of the energy flow system between the energy from earth interior, sun, moon, other stars as the main source and the mass free universe as the sink.

The basic relation between mass and energy was defined by Einstein:  $E = M C^2$ . Radiation energy can be understood as small particles travelling in one direction with the speed of light. When it hits the earth surface it will suddenly be broken and incorporated into the mass by gravity forces. This process is accompanied by sensible heat development if the energy freed is not used for other purposes.

Three common ways for energy utilisation appear on the surface of the earth: The evaporation of water, the production of molecules and the generation of information.

The size of earth mass, its rotation speed and elemental composition, and its distance from the irradiating sources, create different environmental conditions on different parts of the globe. From geological evidence we deduct that the surface structures on the earth surface develop according to the principle of optimal energy conduction, a principle that seems to hold true at all levels electronically, molecular, physiologically, structural, psychologically and sociological.. In many cases appears the development of the fastest energy conducting condition on the different position on earth to be the driving force. The comparison of the energy conducting capacities across the various structures on earth with Kirchhoff's laws may provide additional explanations for the development of the structures as we see them today. The paper tries to show the principle with some contrasting features on the earth surface, but indicates also that much more research is needed to prove or disprove the validity of the theory:

“The evolution of the structures on the surface of the earth is directed towards the fastest energy conducting systems under the specific temperature existing at any particular spot of the surface”.

The evolution of the biosphere is part of this principal but not the only way of achieving the best way of energy conduction. Considering this fact, we can assume that the majority of the ecosystem structure is the result of external forces.