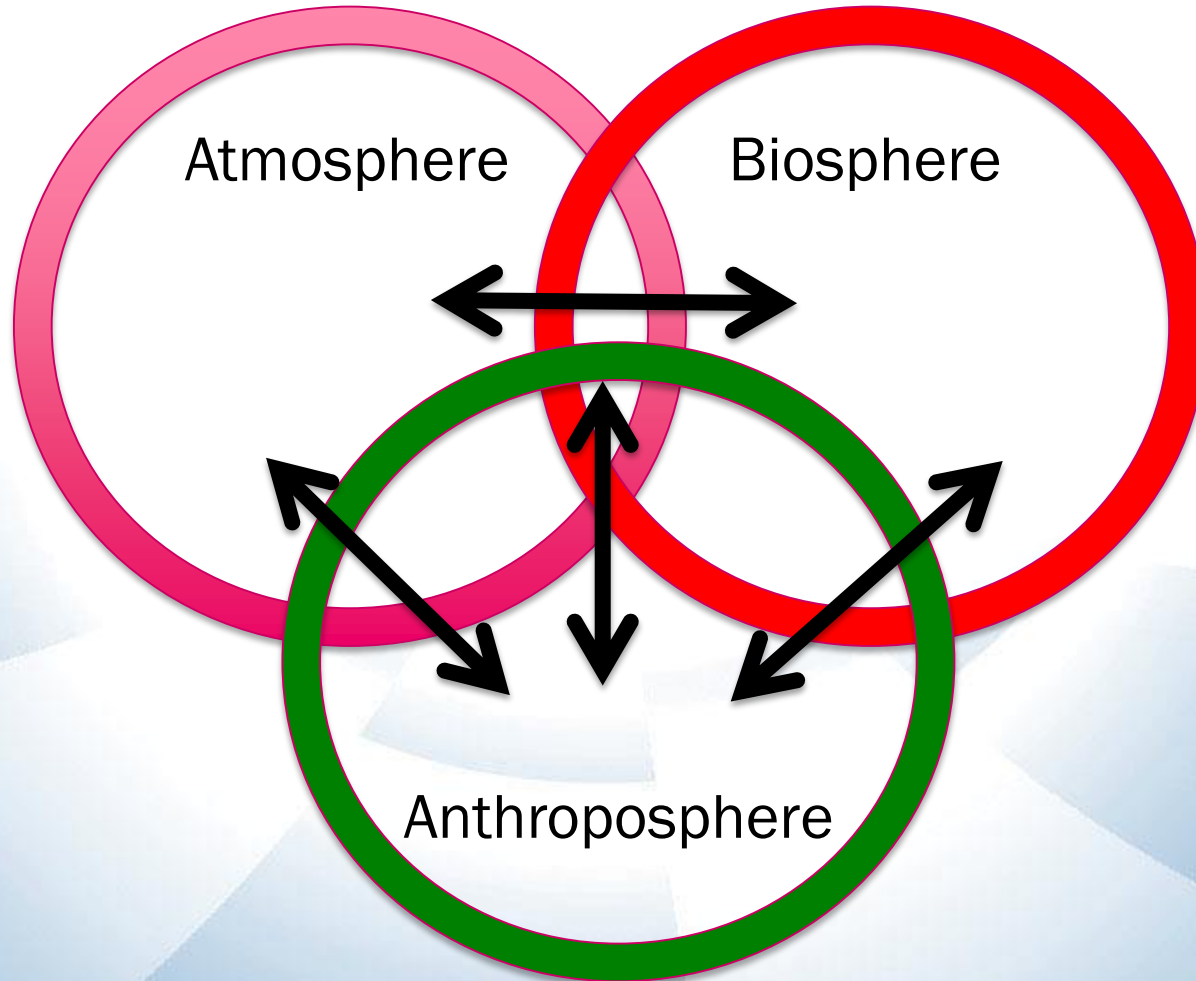


ILEAPS, Integrated Land Ecosystem Atmosphere Process Study

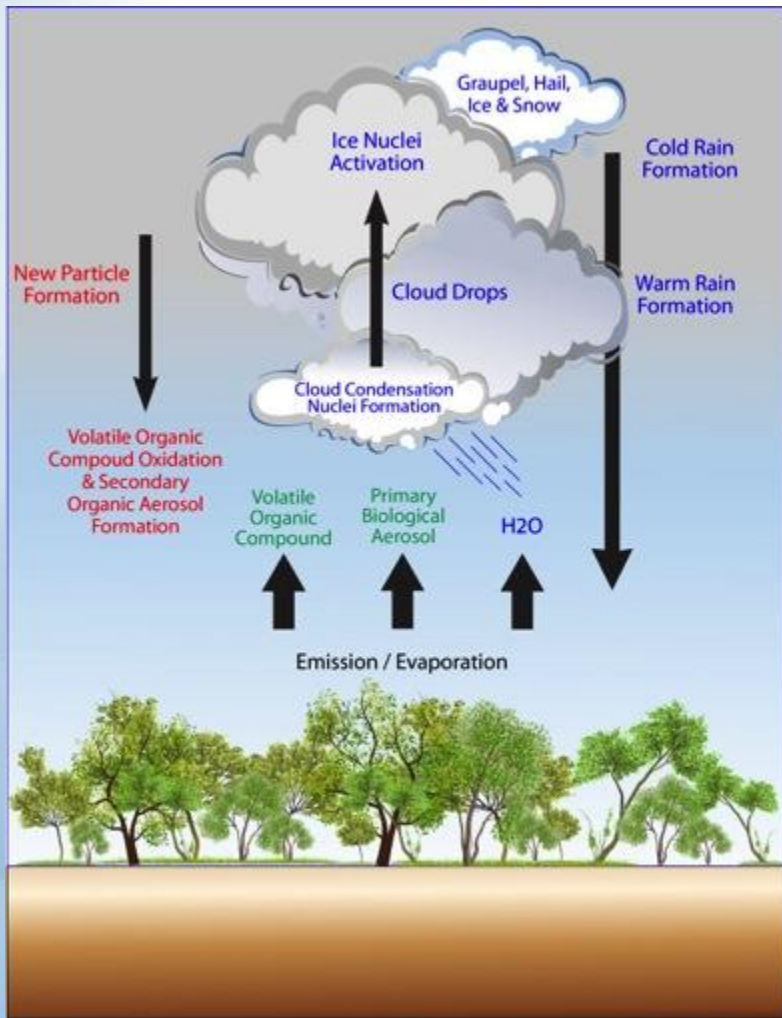
Co-Chair Hans Christen Hansson
Stockholm University
Sweden

ILEAPS past and future



Science led foci: nurture and stimulation

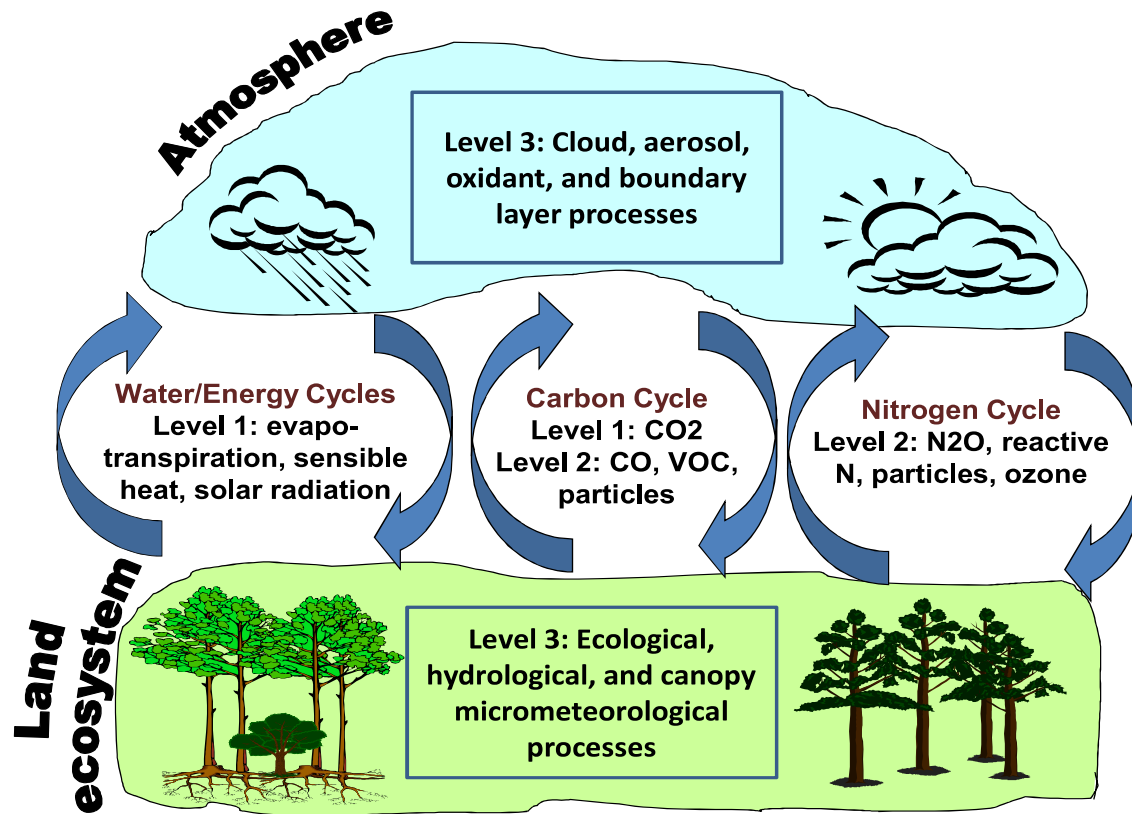
Challenge of holistic observations



Aerosol and water cycling over the pristine rainforest.

Secondary organic aerosol formed by photo-oxidation of volatile organic compounds and primary biological aerosol emitted from biota in the rainforest (plants and microorganisms) serve as biogenic nuclei for cloud condensation nuclei and ice nuclei, which induce warm or cold rain formation, precipitation, and wet deposition of gases and particles. Adapted from [Pöschl et al. \(2010\)](#).

Flagship site



IGAC

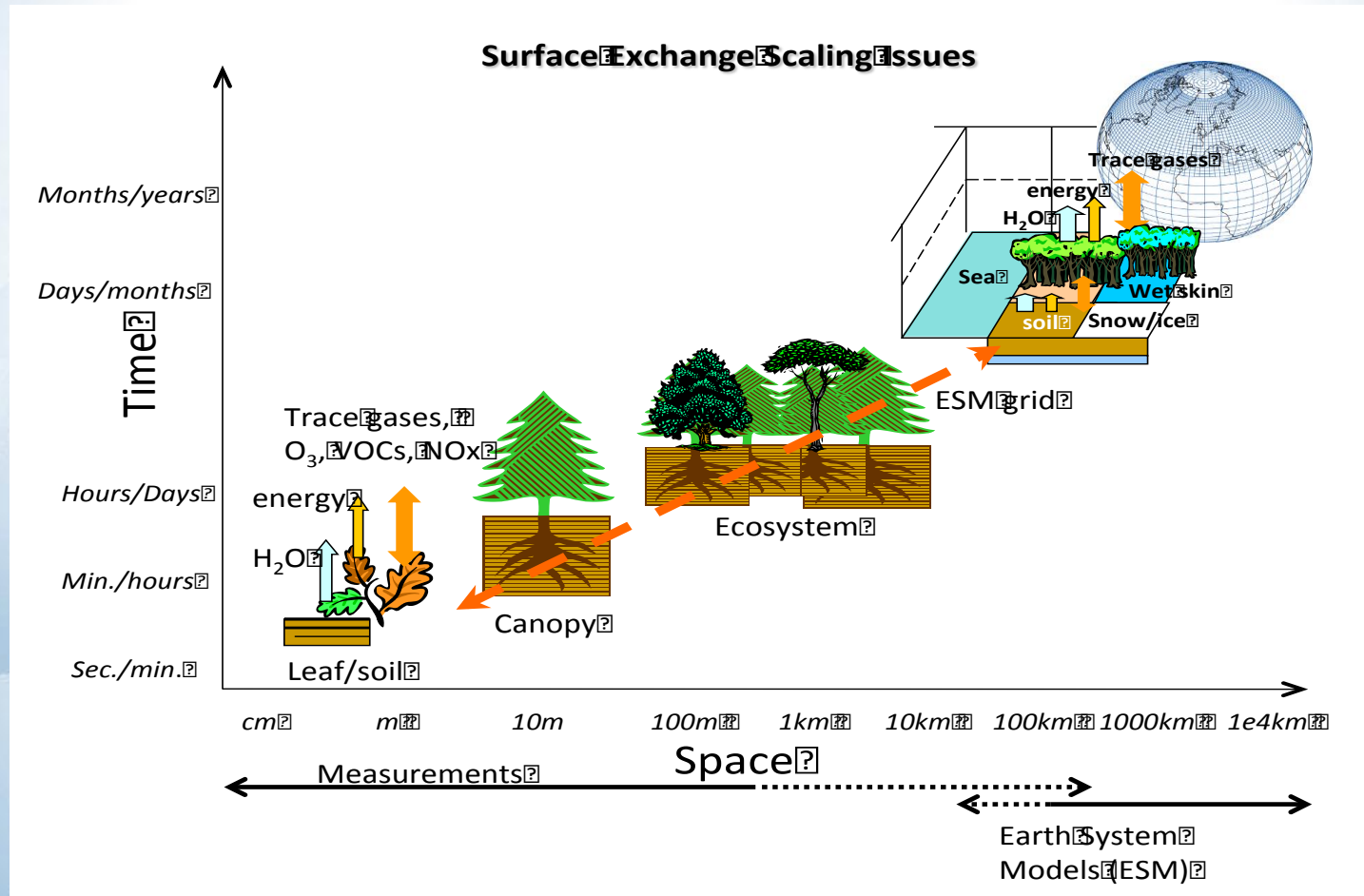
ILEAPS

GLP

W
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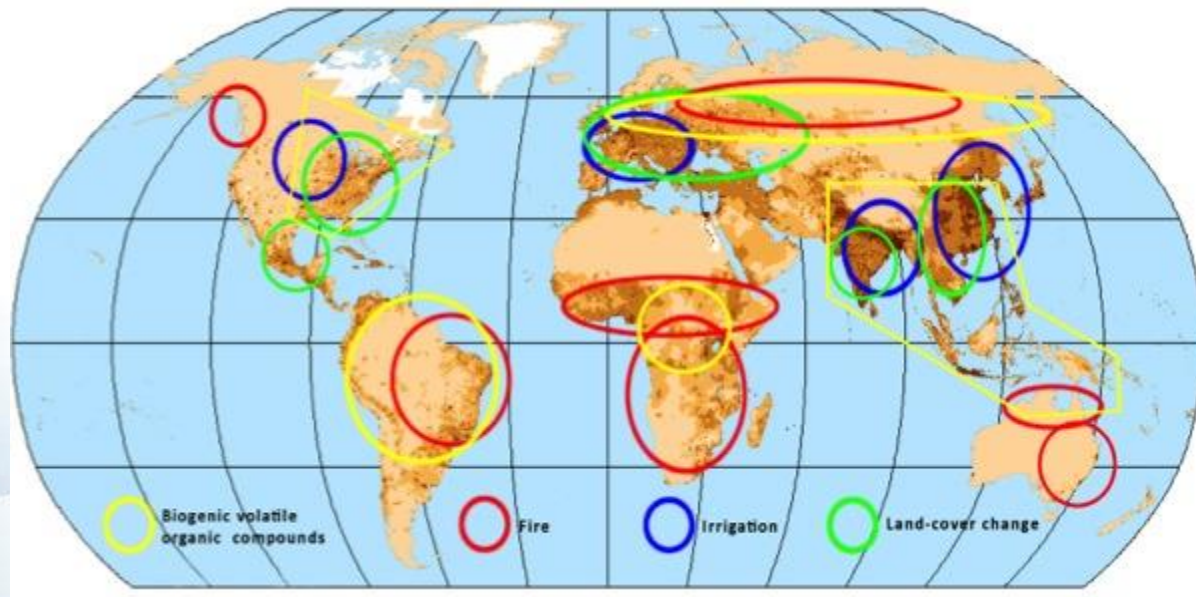
Schematic of land ecosystem – atmosphere interactions and hierarchical observational levels that include basic (1), advanced (2), and comprehensive measurements at flagship sites (3). Adopted from Guenther et al. (2011).

Challenge of scales



One of the largest challenges of land-atmosphere processes research is to cope with the multitude of temporal as well as spatial scales. Figure is courtesy of Laurens Ganzeveld.

Challenge of human intervention



Regions where emissions of reactive compounds, fire, irrigation, or land-cover change distort the predictions of global models. Adapted from Pitman et al. 2011b.

New regional nodes: strategic choices

