

LAND - AIR – SEA INTERACTIONS

- Static and dynamic of soil water. Water infiltration in soil mass. Water and salt balance in soil.
- Energy balance in soil surface. Heat flow in soil. Diffusion of gases in soil. Movement of solutes in soil.
- Marine boundary layer and ocean mixing layer (the role of turbulence in the mixing layer, entrainment mechanism, interaction of the mixing layers, modification of Monin-Obukhov theory).
- Transfer of heat, mass and momentum in the air-ocean interface (parameterization of sea-atmosphere exchange, the role of waves and the determination of resistance coefficient).
- The role of wind waves in the sea-atmosphere interaction
- Experimental method for the study of atmosphere-ocean interaction.
- Deep convection. Tropical thunderstorms in the atmosphere. The creation of deep waters in the ocean.
- The role of atmosphere-ocean interaction in the carbon cycle.
- Coupled models and climate forecast.