Lamont-Doherty Hudson River Field Station Study Areas

- Microbial ecology and its role in ecosystem function and human health;
- biogeochemistry, nutrient and greenhouse gas cycling;
- pathogen persistence and transport in the estuary;
- airborne hazards, aerosols, and gas transfer studies of the air/water interface;
- hypoxia in the benthic environment and its ecological and economic impact;
- benthic mapping and sediment transport as they connect to habitats, human planning and impacts, and contaminant movement;
- anthropogenic contaminant quantification and planning for remediation;
- watershed and tributary influences and the effect on the river processes;
- marshes and their connection and contribution to the estuary ecosystem;
- nutrient processing in the wetland/riverine system;
- carbon sequestration in Hudson Valley wetlands and soils;
- sediment transport and accumulation;
- integrated observing systems, such as the Hudson River Environmental Conditions Observing System (HRECOS), providing automated spatial and temporal scale data collection that captures both long-term trends and single event impacts;
- modeling and prediction of riverine processes from data collected from automated systems;
- habitat restoration aimed at returning to a fishable and swimmable estuary;
- monitoring and remediation of hardened shorelines for biological diversity.

The installation of a newly awarded RAMAN spectrometer imaging system with video display will allow Lamont to expand monitoring of river micro-plastic concentrations as well as local plankton assemblages while, at the same time, streaming local environmental information in a highly visual user-friendly format.