Bioaerosols can affect the environment through spreading of species, transmission of diseases to flora and fauna (not discussed here) and effects on clouds, rainfall and climate. Of the latter, the one most likely to be important is the ability of some bioaerosols to initiate the ice phase in clouds warmer than about -20°C. Assessment of its importance requires knowledge of regional and seasonal concentrations of ice nuclei (IN) over land and ocean, their activity as a function of temperature and mode of nucleation and the proportion that is of biological origin. Unfortunately our knowledge of any of these factors is very incomplete and improving it will be very difficult.

Suggested priorities are:
1: Widespread continuous measurements of IN as a function of temperature and mode of nucleation that will operate in natural clouds.
2: Identification of IN that are of biological origin, which must include fragments rafted on mineral particles.

Even if all these measurements or observations could be made we are left with the question of whether an increase in IN concentrations will lead to more or less precipitation or cloud cover and answering that must be a high priority.

Methods that might be used to start improving present knowledge will be discussed.