Final Report for

"Planetary Habitability"
Grant No. NAGW-1911

October 1, 1991 - June 30, 1997

Submitted by

James F. Kasting
Earth System Science Center/Dept. of Geosciences
Pennsylvania State University
211 Deike Building
University Park, PA 16802
814-865-3207
kasting@geosc.psu.edu
This grant was entitled “Planetary Habitability” and the work performed under it related to elucidating the conditions that lead to habitable, i.e. Earth-like, planets. Below are listed publications for the past two and a half years that came out of this work. The main thrusts of the research involved: 1) showing under what conditions atmospheric O\textsubscript{2} and O\textsubscript{3} can be considered as evidence for life on a planet’s surface, 2) determining whether CH\textsubscript{4} may have played a role in warming early Mars, 3) studying the effect of varying UV levels on Earth-like planets around different types of stars to see whether this would pose a threat to habitability, and 4) studying the effect of chaotic obliquity variations on planetary climates and determining whether planets that experienced such variations might still be habitable.

Several of these topics involve ongoing research that has been carried out under a new grant number, but which continues to be funded by NASA’s Exobiology program.

Publications resulting from Grant NAGW-1911


