N92-10915

NAMING THE NEWLY FOUND LANDFORMS ON VENUS; R.M. Batson and J.F. Russell, U.S. Geological Survey, Flagstaff, Arizona 86001

The mapping of Venus is unique in the history of cartography; never has so much territory been discovered and mapped in so short a period of time. Therefore, in the interest of international scientific communication, there is a unique urgency to the development of a system of names for surface features on Venus. The process began with the naming of features seen on radar images taken from Earth (Goldstein, et al, 1978) and continued through mapping expeditions of the U.S. (Pettengill et al., 1980) and the U.S.S.R. (Basilevsky et al, 1990). However, the Magellan mission (Saunders et al., 1990) resolves features twenty-five times smaller than those mapped previously, and its radar data will cover an area nearly equivalent to that of the continents and the sea-floors of the Earth combined.

The International Astronomical Union (IAU) has been charged with the formal endorsement of names of features on the planets. Proposed names are collected, approved, and applied through the IAU Working Group for Planetary System Nomenclature (WGPSN) and its task groups, prior to final approval by the IAU General Assembly. Names approved by the WGPSN prior to IAU approval may be used on published maps and articles, provided that their provisional nature is stipulated.

Compilation of a regional network of names has been given the first priority; a more localized nomenclature will be developed as scientific studies become increasingly topical. To date, names have been proposed for more than 200 craters with diameters greater than 20 km; when the Magellan mission is complete, it is likely that about 900 such craters will have been discovered. We have proposed similar, but necessarily less explicit size criteria for other kinds of landforms. We also proposed that the topographic nature of features be unambiguous prior to naming, so that a ridge, for example, is not given a name appropriate for a valley before its true configuration is discovered.

A total of 382 names have been approved and applied to features on maps of Venus compiled from earlier explorations. A database containing 600 new names has been collected and proposed to the WGPSN for use on Venus. Upon approval, these will be applied to features suggested by map users. Experience with other planets indicates that names for 4000 or more features on Venus are likely to be required in the coming decade.

The IAU has established themes for the names to be used on each of the planets; names of historical and mythological women are used on Venus. Names of political entities and those identified with active religions are not acceptable, and a person must have been deceased for three years or more to be considered. Any interested person may propose a name for consideration by the IAU. Suggestions may be made to the authors of this paper or to the WGPSN directly. The suggestion must include a brief reference to the identity of the person, along with a brief written justification for the honor. A complete description of the naming process is given by Strobell and Masursky (1990).

REFERENCES

- Basilevsky, A.T., Batson, R.M., and Burba, G.A., 1990, Pre-Magellan mapping of northern Venus: Completion of a joint U.S./U.S.S.R. mapping project, <u>in</u> Abstracts of Papers Submitted to the Twenty-first Lunar and Planetary Science Conference, Houston, March 12-16, 1990, Lunar and Planetary Institute, Part 1, pp 50-51.
- Goldstein, R.M., Green, R.R., and Rumsey, H.C., 1978, Venus radar brightness and altitude images: Icarus, vol. 36, pp 334-352.
- Pettengill, Gordon H., Eliason, Eric, Ford, Peter G., Loriot, George B, Masursky, Harold, and McGill, George E., 1980, Pioneer Venus radar results: altimetry and surface properties: Journal of Geophysical Research, vol. 85, no. A13, pp 8261-8270.
- Saunders, R.S., Pettengill, G.H., Arvidson, R.E., Sjogren, W.L., Johnson, W.T.K., and Pieri, L., 1990, The Magellan Venus radar mapping mission: Journal of Geophysical Research, v. 95, no. B6, pp 8339-8355.
- Strobell, M.E., and Masursky, Harold, 1990, Nomenclature, <u>in</u> Greeley, Ronald, and Batson, R.M., eds., Planetary mapping: New York, Cambridge University Press, pp 96-140.