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THIRD UNITED NATIONS CONFERENCE ON THE  
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Item 14 of the provisional agenda.

Policies, procedures and co-operative  
arrangements for the naming of features  
beyond a single sovereignty:  
(d) Extraterrestrial features

REPORT OF THE UNITED STATES OF AMERICA ON PROGRAMMES FOR  
NAMING EXTRATERRESTRIAL FEATURES\*

Paper presented by the United States of America

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\* Prepared by Richard R. Randall, Executive Secretary of the United States  
Board on Geographic Names, June 1977.

SUBJECT: Report of the United States of America on Programs for Naming Extraterrestrial Features.

In 1974 the United States Board on Geographic Names (BGN) added to its responsibilities that of standardizing names of extraterrestrial features. This new responsibility will be carried out by the Advisory Committee on Extraterrestrial Feature Names (ACEF). It is one of three BGN advisory committees, and has a membership of persons from various U.S. agencies who have expert knowledge about national and international programs to explore and to map surfaces of extraterrestrial bodies.

The standardizing function of ACEF, in contrast to that of other BGN advisory committees, does not include the independent selection of new names for features, for the committee recognizes the role of the International Astronomical Union (IAU) for assigning names. Instead ACEF was established as a vehicle to expedite the process of IAU action in selecting names on the one hand, and the acquisition of names information by U.S. mapping agencies on the other. In addition, there was a general feeling among BGN authorities that names appearing on U.S. maps of planets should be approved by the duly constituted agency for geographic names in the U.S. This opinion was based on the experience that the internal IAU mechanism to select names was not fast enough to satisfy requirements for names on maps being produced in response to new space programs.

As a result of initial meetings of the committee, which were dedicated to setting forth principles, policies, and procedures for processing names and to establishing relationships with IAU, the committee approved a set of guidelines describing its name, purpose, scope, principles, and policy. These guidelines are shown as Attachment 1. With time, the committee may change certain elements of the guidelines to meet developing conditions.

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As a preface to describing the functions of BGN in regard to extraterrestrial names, the IAU mechanism should be defined briefly. In an attempt to normalize naming procedures, IAU developed a system for selecting names for the planets. (It should be stated that IAU and BGN are concerned only with names of features on the surfaces of the planets of the Solar System. Stars, comets, asteroids, and other celestial phenomena are excluded from their purview.) This system, which is described in detail in the literature elsewhere, sets up categories of names for the individual planets. Within each planet, distinctions are made between major and minor features. As currently established, the naming of features comes under the responsibility of the IAU Working Group on Planetary Systems Nomenclature, chaired by Dr. Peter Millman of Canada. Within the working group is a task force for the Moon, Mars, Venus, Mercury and the "outer planetary system." Each task force has responsibility for creating a bank of names, according to the principles approved by IAU, and for selecting names from the bank for application to a feature as required. The internal process for IAU to approve such names has often taken considerable time, since each name had to be endorsed by the Working Group on Planetary Systems Nomenclature, and later by the IAU Executive Committee. Currently, the procedure is being streamlined. Names selected by the task forces can be applied provisionally, with full approval being virtually guaranteed.

Since ACEF has members representing the U.S. agencies engaged in planetary programs, it is in a good position to know first-hand the requirements for names. When it sees a need to name a feature, it can communicate with the appropriate task force to request a name, or it can independently select a name from the IAU bank of names. Under certain circumstances, it is possible for ACEF to choose a non-IAU name, but regardless of the method of selection, IAU approval would be anticipated. In the meantime, such names would be designated as provisional.

In addition to acting as a channel to expedite IAU decisions about names, ACEF has retained certain independent functions. Although IAU calls for the use of only Latin terminology in nomenclature, ACEF approves English-language

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equivalents as well as Latin. The committee foresees that most names used on U.S. maps will carry Latin terms, but it believes it should also provide English translations for those cases where map users may require them. The committee reasoned that few people outside the scientific community, which IAU publicly states it serves, would understand Latin, a situation that would lead to the use of English (in the United States). A review of literature published by both official and non-official agencies in the U.S. shows that English terms are commonly employed. Further, English terms for given Latin terms often differ from publication to publication. In order to provide a standard set of English-language terms for users, the committee agreed to produce a list of Latin-English terminology, with definitions to clarify why certain terms, e.g. Lacus, can be translated as "lake" even though no body of water is involved.

Another committee service is to provide information about extraterrestrial nomenclature to official U.S. agencies and to the general public, a practice followed by other BGN committees. This service anticipates inquiries from various sources for background information about names, for verification of names, and so on. Furnishing appropriate information to persons who may wish to name a feature also is anticipated. Although the system established by IAU largely precludes naming by individuals, with time the committee sees growing public interest in wanting to name features. In such instances, the ACEF could take action as appropriate; where name proposals seemed valid, they would be forwarded to IAU for further action.

To carry out its assignments, ACEF is creating procedures to manage names information. Working in cooperation with agencies producing maps of the planets (National Aeronautics and Space Administration, the U.S. Geological Survey, and the Defense Mapping Agency), ACEF is building a file of names information that is designed for use in conjunction with automatic data processing equipment. Attachment 2 shows a prototype sheet that would carry appropriate data, Attachment 3 explains the kinds of data to be entered, and Attachment 4 summarizes IAU rules governing the selection of names for extraterrestrial features. Attachment 4 might be particularly useful for persons wanting to propose names.

Membership in ACEF is comprised of persons from U.S. agencies who are appointed by the Secretary of the U.S. Department of the Interior because of their individual expertise in space science or cartography. As of June 1, 1977, the committee members were:

Dr. William E. Brunk, NASA, Chairman  
Mr. Cyril Barsky, Defense Mapping Agency Topographic Center  
Mr. Stephen Dwornik, NASA  
Dr. Farouk El-Baz, Smithsonian Institution  
Dr. Harold Masursky, U.S. Geological Survey

Action by ACEF to sanction names for official U.S. use thus far has included approximately 1400 names that were approved by IAU and published in various documents. The ACEF research staff, located at the Defense Mapping Agency Topographic Center in Washington, D.C., made necessary revisions to the names to correct typographical errors or other mistakes, such as inconsistent spelling. To ensure accuracy, the staff consulted other sources and the members of ACEF. These names will appear on a new map of the moon at 1:5,000,000 scale, called the Lunar Pictorial Map. This product shows the two "sides" of the moon, plus north and south polar projections. An English-language glossary of Latin terms will accompany the map. It is scheduled for release in 1978.

Although ACEF has been developed to meet U.S. program requirements, members believe that procedures developed by the committee can be helpful to other countries active in mapping planetary bodies and to IAU as well. The U.S. would be pleased to share its experiences with other nations so that methods of processing extra-terrestrial names can be made as uniform as possible and so that the informational needs of users can be served as fully as possible.

- 4 Enclosures  
(1) Guidelines  
(2) Data sheet  
(3) Info. about ENDS  
(4) Summary IAU rules

BGN ADVISORY COMMITTEE ON EXTRATERRESTRIAL FEATURE NAMES

NAME, PURPOSE, SCOPE, PRINCIPLES, AND POLICY

The United States Board on Geographic Names (BGN), conjointly with the Secretary of the Interior, created the Advisory Committee on Extraterrestrial Feature Names in December 1974.

1. Name. The name of this body is the BGN Advisory Committee on Extraterrestrial Feature Names. It can be referred to as ACEF.
2. Purpose. The committee shall operate as the vehicle to submit names of features on the surfaces of extraterrestrial bodies for approval by BGN.
3. Scope. The work of the Committee shall be restricted to nomenclature of surface features that require specific identification on solid bodies of the solar system.
4. Principles.
  - a. Names approved by the International Astronomical Union shall constitute the primary source of nomenclature for BGN purposes.
  - b. The committee shall work closely and exchange information with international, governmental, or private groups that have responsibility for or hold an interest in extraterrestrial nomenclature.
  - c. A card file of toponymic information shall be created and maintained for each extraterrestrial body.
  - d. Information from the card files shall be made available to United States Government agencies and other users on a continuing basis.
  - e. Lists of extraterrestrial feature names may be prepared for distribution at intervals specified by the committee.
5. Policies.
  - a. Names and designations shall be as concise and unambiguous as possible.
  - b. Duplication of names on a given extraterrestrial body shall be avoided.

- c. Roman script only shall be used, including all appropriate diacritical marks.
- d. In addition to approving the IAU assigned name, the committee may approve an English name when there is a Latin generic term.
- e. In addition to the approved IAU name, a name or name element derived from non-Roman script may be romanized by an approved BGN romanization system.
- f. The number of names selected shall be in accord with anticipated requirements.





## Information About the BGN Extraterrestrial Names Data Sheets

### General

The Advisory Committee on Extraterrestrial Feature Names (ACEF) of the U.S. Board on Geographic Names (BGN) has developed the Extraterrestrial Names Data Sheet (ENDS) for various uses related to the processing of names information. Intended for staff use, it is designed principally for recording official BGN information about extraterrestrial names, and can be employed in systems automatically processing data for reference or publishing purposes.

### Definitions

ENDS provides space for 24 categories of information. Each category has a heading preceded by the symbol "H" and a two-digit number designed for reading by an Optical Character Reader. Definitions of the headings are given below. Note that the name on line 18 is the designated name for the feature described in the ENDS unless another name is entered under line 16. In all cases the name on line 18 is the first name to be entered on the ENDS by the researchers.

01. EX. BODY - The extraterrestrial body on which the feature named in item 18 is located.
02. IAU ACCEPTED - No name is entered here unless it has been included in an IAU bank of names which may be drawn upon for assignment to a feature.
03. BGN APPROVED - The name in item 18 has been approved by the U.S. Board on Geographic Names. Such names may be "IAU Accepted" or "IAU Approved;" an English-language form also may be approved and shown on the second line.
04. IAU APPROVED - A name from IAU bank of names that is approved by IAU for application to a specific feature.
05. DATE APPROVED BY BGN - Date when BGN approved the name shown in line 03. If a second date is shown, it is the date when an English equivalent was approved.
06. DATE APPROVED BY IAU - Date when IAU approved the name shown in line 04.
07. DESIGNATION - Type of feature to which name is applied. (The designation is in English and approved by BGN.)
08. DIMENSION - Indicates size of feature by kilometers (length and breadth or diameter) or meters (height/depth). Dimensions are given when feasible to determine.
09. REGION NO. - The region number as approved by the IAU and as appropriate to a particular extraterrestrial body. Feature named in item 18 is located in this area.

10. REGION NAME - Region name as approved by the IAU and as appropriate to a particular extraterrestrial body. Feature named in 18 is located in this region.
11. PROVINCE NO. - The IAU-approved province number, as applicable to the particular extraterrestrial body. Feature named in 18 is located in this region.
12. PROVINCE NAME - The IAU-approved province name, as applicable to the particular body. Feature named in 18 is located in this region.
13. COORDINATES - Coordinates of feature given for North/South and East/West systems or for 360° system.
14. NASA PHOTO NO. - Number of best NASA photograph for feature identification purposes.
15. CONTROL NO. - Number assigned by ACEF for ENDS control purposes. (Numbering system not yet developed.)
16. SEE REFERENCE - If a name is entered here, the reader should refer to the ENDS carrying that name under line 02 or 03. A name is entered under line 16 only if the name listed under line 18 is "incorrect" or is not approved by IAU or BGN, or if another name has been approved by IAU and/or BGN for the feature named under line 18.
17. PREPARED BY - Initials of person entering information on ENDS.
18. PROPOSED NAME - The name that was originally proposed is entered here, regardless of whether it has been accepted by IAU, or approved by IAU or BGN. The "proposed name" is the first item entered on the ENDS; it will be retained in this line even if it is an "incorrect" name that has been superseded.
19. NATIONALITY OF PROPOSED NAME - If the name commemorates a person, his or her nationality is entered here. A two-letter country code is used from U.S. Department of Commerce FIPS 10-2, Countries, Dependencies, and Areas of Special Sovereignty.
20. BIO. OF PERSON NAMED - Brief biographic information of person commemorated.
21. SOURCE - The person or organization proposing the name in line 18.
22. ADDRESS - Address of line 21, if known.
23. NATIONALITY OF SOURCE - Nationality of proposer (if a person). National coding cited in line 19 is used.
24. REMARKS - Additional data considered valuable to users of the file concerning the proposed name in 18. These may include: charts which show feature named; documentary sources of IAU approval, such as IAU Transaction Numbers; full name of the person for whom feature is named, including his dates of birth and death.

SUMMARY OF CRITERIA FOR NAMING EXTRATERRESTRIAL FEATURES

EXTRA- TERRESTRIAL BODY	TYPE OF FEATURE		
	CRATERS		RANGES, CHAINS OF CRATERS, MOUNTAINS, VALLEYS, TRENCHES, PLAINS, ETC.
	MAJOR	MINOR	
Moon*	Commemorative names for distinguished astronomers, mathematicians, physicists, biologists, etc.	First names, male and female, of one or two syllables.	Names borrowed from terrestrial orographic features.
Mars*	Commemorative names for distinguished scientists, astronomers, mathematicians, physicists, etc.	Named for small towns and villages around the world	Names borrowed from terrestrial orographic features throughout the world.
Mercury*	Commemorative names for composers, poets, authors, and artists.		Albedo features named for ships of discovery and observatories.  Other features named for birds and large cities.
Venus*	Named for feminine mythological figures.	Named for feminine first names	Basins and plains to be given names of goddesses of ancient cultures.  Other features named for specialists in radio, electronics and automation

\* Names of living persons; political, religious or military figures; and modern philosophers will not be used. The above rules have been adopted by the International Astronomical Union.