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ON THE STANDARDIZATION OF
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TOPONYMIC DATA FILES:

AUTOMATED DATA PROCESSING (ADP) SYSTEMS

The Geographic Names Processing Systems at the Defense Mapping Agency

Submitted by the United States of America **/

With the delivery in January 1993 to the Defense Mapping Agency (DMA) of the Geographic Names Processing System (GNPS) the United States Board on Geographic Names (USBGN) will soon have a new tool for use in its work to standardize foreign geographic place names for application to maps and charts and to meet other requirements.

The GNPS will have a SYBASE database management system performing on a SUN Sparcserver computer networked to SUN workstations with input available from scanners and from digitizing tables which are to be used for capturing administrative area boundaries. Output will be sent to plotters and high-speed printers. The workstations will display the scanned images of maps and will have the ability to capture the coordinates of geographic features and transfer them directly into the Foreign Place Names File (FPNF). The name and other associated feature data will be keyed in using an on-screen keyboard guide displaying appropriate diacritic/keycap relationships.

One of the main obstacles in developing an automated FPNF was the need to preserve the diacritics and special letters present in many geographic place names. The present FPNF consists of 4.5 million Geographic Names Files Research Records which contain written evidence on cards, 4 inches by 6 inches, recording the place names as they appear on native sources. This evidence is in Roman-alphabet text, sometimes with diacritics and/or special letters, resulting from the romanization of foreign geographic names according to BGN/PCGN approved romanization systems.

To solve the problem of preserving diacritics, the GNPS will utilize 8-bit byte storage divided into six regional language groups and corresponding code sets and softcopy keyboards. This represents the total of 312 letter/diacritic combinations and special letters that are used in the FPNF and required by the various products issued by the BGN and DMA. These regional language groups will be accessed through font assignments to the workstation keyboard with a graphic keyboard guide appearing on the workstation monitor. The regional language groups are as follows:

Western Europe to include Catalan, Danish, Dutch, Faroese, Finnish, French, German, Icelandic, Italian, Lappish, Norwegian, Portuguese, Spanish and Swedish.

Eastern Europe to include Albanian, Bulgarian, Byelorussian, Czech, Estonian, Greek, Hungarian, Latvian, Lithuanian, Macedonian, Polish, Romanian, Serbocroatian, Slovak, and Slovene.

Africa and the Middle East to include Afar, Afrikaans, Amharic, Arabic, Chichewa, Hebrew, Malagasy, Maltese, and Tswana.

Central Asia to include Azerbaijani, Kazakh, Kirghiz, Pashto, Persian, Russian, Turkish, Turkmen, and Uzbek.

Asia and the Pacific to include Bengali, Bislama, Burmese, Chamorro, Chinese(Cantonese), Chinese(Mandarin), Hindi, Japanese, Khmer, Korean, Lao, Mongolian, Nepali, Pilipino, Tibetan, and Uighur.

Vietnam, which has only Vietnamese due to its extensive inventory of diacritical marks.

A future attribute of the GNPS will be to store, display and print native script evidence.

The GNPS will offer the opportunity to automate the manual procedures used in names applications across a wide range of products, from map and chart production, to gazetteers, and to the daily repetitious tasks associated with the maintenance of the FPNF. With this automated facility the staff of the Foreign Names Committee of the BGN will be able not only to increase the quantity of the FPNF but also, more significantly, to improve the quality of the names standardization process and of DMA/BGN products.