Construction of the Paleontologic-Biostratigraphic Cretaceous File in the Federal Institute for Geosciences and Natural Resources, Hannover

P. ČEPEK, K. KÜHNE, R. WOLFART, M. ZÍKA

The large volume of fossiliferous core material of the Cretaceous System being accumulated by the Deep Sea Drilling Project and the great amount of information compiled by many different authors in the Initial Reports made it highly desirable to prepare a summary of the paleontological and biostratigraphical data in order to improve its accessibility for research and to allow the computer processing of the data. The data presented in the Cretaceous data file in Hannover covers all of the Cretaceous cores gathered in the oceans of the world from the DSDP-IPOD Project. It proved to be necessary to standardize the paleontological data from numerous authors. This difficult work has been done for calcareous nannoplankton, dinoflagellates (partly), radiolarians and diatoms. We are working on the foraminifera data. It is planned to enter Cretaceous continental data into the file, too; it then will be possible to correlate continental and oceanic data.

The information can be collected on so-called "OPSCAN sheets" (= form sheets for an OPSCAN reader) or on punch cards. This data is stored in the file PALBASE, generated and maintained by the data maintenance programs, is the starting point for a packet of evaluating and editing programs:

HISEXT prints sample data (specified by punch cards) in word form, as many as necessary.

H10UTP is the standard output program for PALBASE: it extracts all data for a site or fossil group in diagram form which makes it easy to recognize changes of biostratigraphical zones. It is possible to generate large diagrams by connecting several parts. The desired sites can be specified on punch cards. It is also possible to choose all sites of a fossil group or those situated within a specified rectangular area. At the end of the print output H10UTP generates two line printer plots indicating the positions of all sites printed. The first plot represents the smallest rectangular area containing all printed sites. The second plot is a world map. This plot is then combined with a transparent foil showing the continental contours.

<u>H1PULL</u> can perform species retrievals from the data stored in PALBASE. It tests each sample for a specified species combination (logical term). Example: $16 \times 32 \times 101 \ V \ 17 \times -2$

Meaning: all samples containing species 16, 32 and 101 and/or species 17 and not 2 shall be printed.

The output of H1PULL is also in diagram form. As in H10UTP, geographical searching limits can be chosen. H1PULL produces two line printer plots, too. If a site contains a sample corresponding to the logical term, it will be represented by the character "+", otherwise "-".

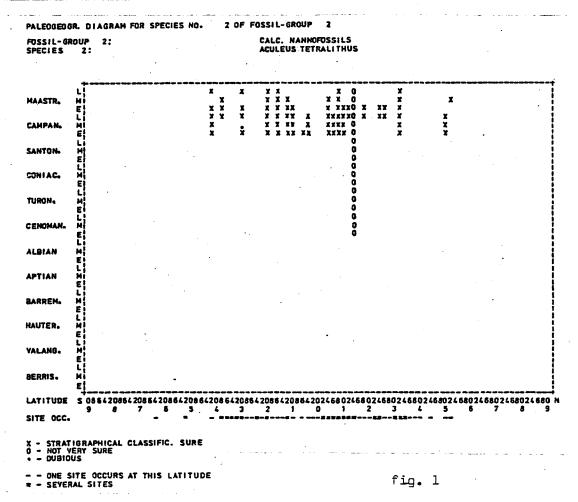
<u>H1BSTD</u> prints out the names, sites, and samples in the file. The lists to be printed out can be specified; you can also decide whether the corresponding list will be alphabetically or numerically arranged. There are 6 categories of names stored in the file: locality, fossil group, species, observer, stratigraphic stages, and references. Finally, H1BSTD prints out a list of all sites stored in PALBASE and of the fossil groups these were examined for.

<u>H1SED</u> generates a stratigraphic profile for each site. This diagram contains a computed sedimentation rate for all stratigraphical stages identified in this site. (Fig. 2).

H18GEO is a program for constructing diagrams of the stratigraphical and latitudinal distribution (including occurrence frequency) of a single species. (Fig. 1).

HIPUB provides the data stored in PALBASE in a form suitable for publication.

Any questions about the content of the Cretaceous data bank in Hannover or requests for data may be addressed to: Dr. Pavel ČEPEK, Federal Institute for Geosciences and Natural Resources, Postfach 510153, 3000 Hannover 51, F.R. Germany.



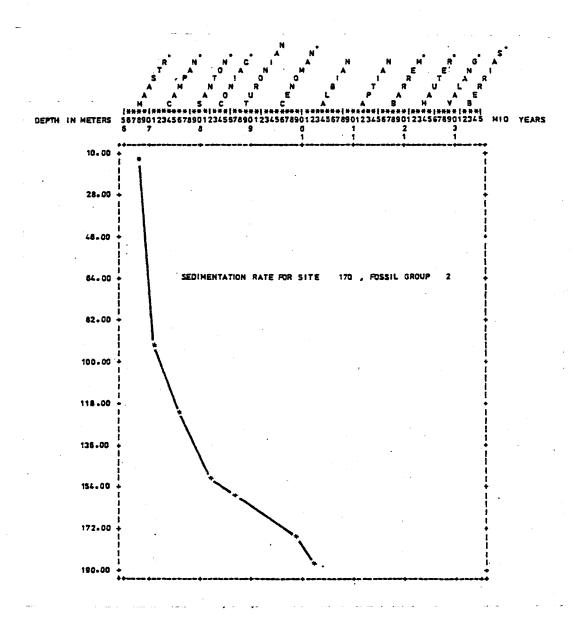


fig. 2