

OUTREACH ACTIVITY OF THE PLANETOLOGY GROUP OF EÖTVÖS UNIVERSITY, HUNGARY: EXPERIMENTAL PROGRAMS AND EXPERIENCES

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OUR GROUP

The task of the Planetology Group of the Eötvös Loránd University, Budapest is to teach and research on planetology at the university. These activities are made mainly by the voluntary work of the members, because the University does not have department for this scientific area. We teach planetology in the frame of the activity of the Cosmic Material Research Group and as part of the Physical Geography Curriculum. Our formal teaching activity consists of two elective courses on Planetary Science: 1, Regional and thematic planetology (two semesters) and 2, Cosmic materials and Lunar Rock petrography.

OUTREACH ACTIVITIES

Atlas of Planetary Atmospheres: In this atlas [1] we collected the most characteristic features of the atmospheric phenomena on planets (fig. 2.). Both the atmospheres of the rocky planets and Jovian planets and some outer moons as Titan and Triton are shown.

Both the internal and external heat sources, the role of volcanism, the magnetic field are discussed on atmos-



Fig. 1. Cover of the "Atlas of Planetary Atmospheres"

pheres. Special role has the terrestrial system: together with the hydrosphere, winds, weathering, ice, water circulation. Like in the case of the planetary surfaces atmospheres of the taken one by one and also from a comparative point of view (fig. 1., fig. 2.). The global evolutionary picture of planetary atmospheres is also discussed.

Radio. We continued our biweekly community radio talkshow „Radio Telescope” which we made available for download from the host radios website (www.fikszradio.hu). It became one of the most popular subsite of this radio station. The most popular program of the season was recorded on the spot of the 2002. Leonide meteor shower observation of the Hungarian Astronomical Association in the Matra Mts. The unexpected success of the astronomy-related lectures of the „All-Knowledge University” TV series shown on Hungarian Public TV

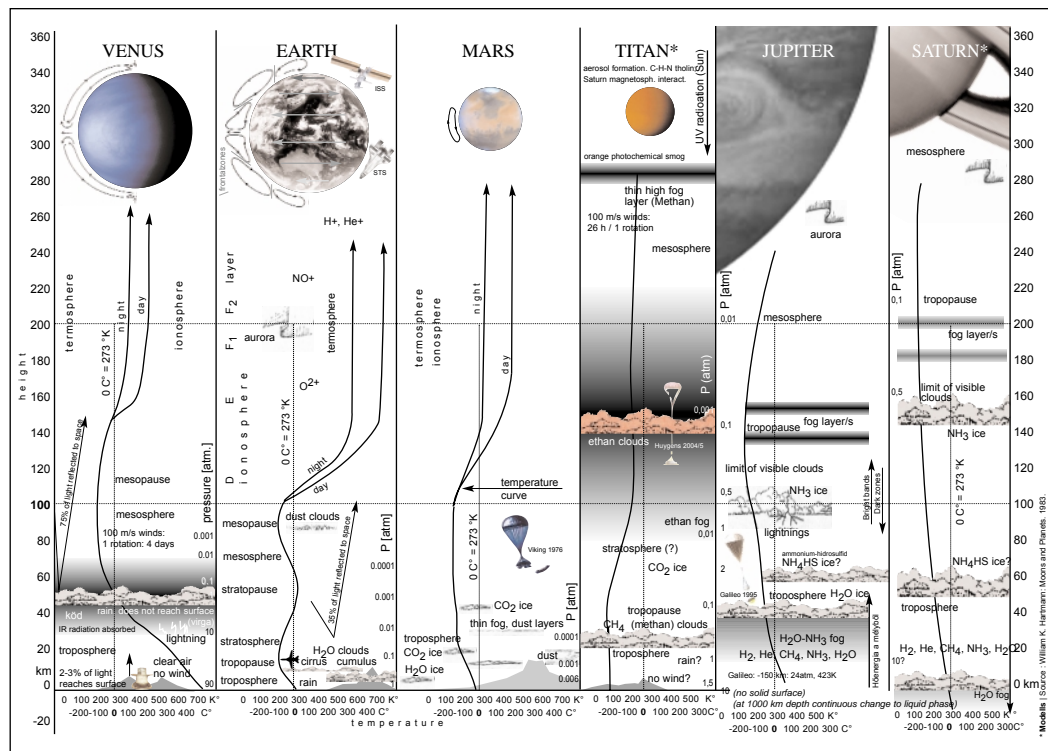


Fig. 2. Comparative chart of planetary atmospheres. Taken from the Atlas of Planetary Atmospheres, translated.

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and radio showed that there is a need for such popular science programs in the electronic media.

Planetary Maps. We published the Map of Mars in early 2002; the Map of Venus is now in print (fig. 3.). Both maps are made in cooperation with Russian, Bulgarian, Croatian, Czech, and Polish institutions [2] and were published in Bulgarian, Croatian, Czech, Hungarian and Polish languages. The maps are parts of the Multilingual Planetary Maps series supported by International Cartographic Association (ICA). We also published planetary maps in Hungarian. Doing this we tried to use the nomenclature system as we use it in Hungarian language geographic atlases. We faced several problems with transcribing the nomenclature and finding appropriate Hungarian words for latin terms. We still do not have a rule for the Hungarian use of planetary names. We collected the image and data of features bearing Hungarian related names in the Planetary nomenclature to use them as examples for the presentation of various landforms and processes. This kind of „patriotic, non-scientific” selection for presenting planetary features has an attractive force (such selection was also used in the large Hungarian „Millenary” Science Exhibition).

We found that there are linguistic errors in the nomenclature or at least in many cases the used forms are questionable (Sel-Anya Dorsa, Venus: should be Szélanya Dorsa; the term „Czechslovak” in the nomenclature explanations is used anacronistically etc.).

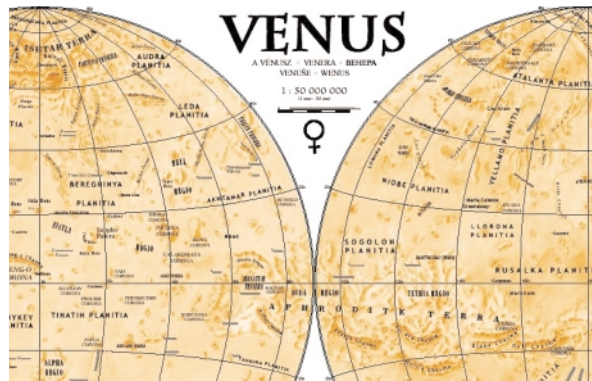


Fig. 3: Map of Venus, detail

Star Map Last year we have started a monthly star map publication, but because we could not find sponsors for printing it, we stopped this project. However, it became evident that there is a need for such planetology and astronomy related materials in middle/high schools and astronomy circles at the most diverse institutions (e.g. scouts). Interestingly, most subscription to this free publication was coming from the country, from smaller towns and even from the neighbouring coun-

tries. The star map was also downloadable from the internet - one request was not to include black backgrounds because of printing problems.

Internet. We are in the preparing phase of the project in which we make planetary science computer screen-savers using Flash animations: these are more than just a slideshow: we present selected planetary bodies with images, animations and text in a movie-like manner. These will be downloadable for free from our website.

Teacher Training. We have worked out a training program for teachers of Geography. Here we use **comparative planetology** as a tool for better understanding Earth (and planets and surface processes generally). Here we can highlight the unique features of the Earth, show the universally (“solar system-wide”) occurring processes and features, and also those that can only be found in some planetary bodies or in the past of them. We use the standard 1-year Physical Geography curriculum and add very short planetary science related information (in some cases Earth-related ones) or/and activity to each lesson. Few examples:

Geography	Planetology
Inner structure of Earth	Materials of icy bodies
Mountain formation	Mountains and the lack moving plates
Weathering	Why craters are visible elsewhere
Greenhouse	Climate of Venus
Geologic history, Earth	Geologic History of the Moon; Snowball Earth
Oceans and rivers	Liquids and water in the Solar System; search for Life
Tides	Tides of Jupiter-Io
Ice, glaciers	Polar caps, incl. Earth
“Highest, lowest”, Earth	“Highest, lowest”, other planets (volcano, canyon...)
Atmosph. circulation, Hadley cells.	Number of cells in other planets (Venus, Jupiter)
Aeolic processes	Dunes of Mars
Rock types	Rocks of other planetary surfaces
Topography of Earth	Resurfacing on various planetary bodies

REFERENCES [1] Bérczi Sz. Hargitai H., Illés E., Kereszturi Á., Opitz A., Sik A., Weidinger T. (2002): *Kis Atlasz a Naprendserről (4): Bolygó légkörök atlasza*. (Little Atlas of the Solar System Series (4): *Atlas of Planetary Atmospheres*). (In Hungarian) UNICONSANT, Püspökladány; [2] Map of Venus (2003). A cooperation of the Moscow State University for Geodesy and Cartography (MIIGAiK); Observatory and Planetarium Prague; Zagreb Astronomical Observatory; Jagiellonian University Observatory, Krakow; Tectonics and Geological Cartography Section, Faculty of Geology, Warsaw; University of Architecture, Civil Engineering and Geodesy, Faculty of Geodesy, Sofia