

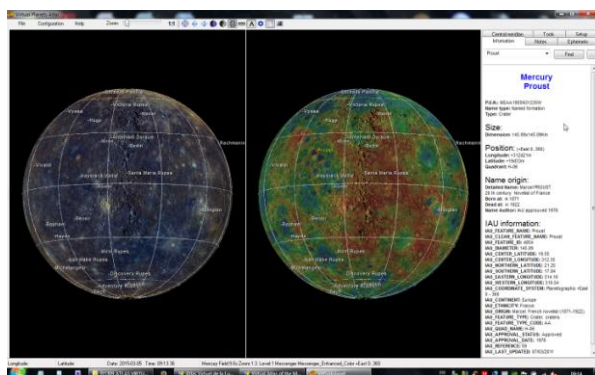
Virtual planets atlas 1.0 freeware

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1. Introduction

Since 2002, we develop the “Virtual Moon Atlas - <http://www.ap-i.net/avl/en/start>” a freeware to help Moon observing and to improve interest for Moon in general public. VMA freeware has been downloaded near 900 000 times all over the world and is or has been used by several professional organizations such as Kitt Peak Observatory, National Japan Observatory, Birkbeck College / University College London (K. Joy), BBC Sky at night, several French astronomy magazines and astronomy writers (P. Harrington, S. French...) . Recommended by ESA, registered as educational software by French ministry for education, it has also yet been presented at 2006 & 2007 LPSC and PCC2 in 2011

We have declined this freeware in a new tool with the same goals, but for the telluric planets and satellites, the “Virtual Planets Atlas (VPA / <http://www.ap-i.net/avp/en/start>)” now in version 1.0.



Picture 1 : VPA 1.0 main screen : Mercury with Messenger enhanced colors overlay (left) and Messenger altitude overlay (left) and selected feature information thumbnail.

2. Presentation

VPA uses datas coming from IAU nomenclatures, NASA & ESA planetary missions, USGS & JPL mapping works and from Dr Stooke personal work. First version is about Mercury, Venus & Mars.

The software includes, for each planet, the management of a complete database (Derived from official IAU nomenclatures) of named features of these Solar System bodies.

VPA 1 is presently available for Windows, Linux and Mac OS. Two languages are now used (EN & FR), but we plan to translate software interface in all major other languages (GE / SP / IT / CN...) .

2.1 Software features :

- « Map » window with various functions thumbnails as « Information », « Ephemeris », « Notes », « Tools », « Setup », ...
- Full rotating planets globe with coordinates grid
- Second window ability permitting comparisons between different textures and overlays.
- Real time or chosen phases seen from Earth display
- Orientation of the planet disk with powerful zoom
- Formations search function starting from name
- Formations names display related to zoom power
- Integrated notepad for your own notes on formations
- Size and distance measurement tool on maps
- Context menu on right mouse click
- Maps and databases printing with captions setup
- Full screen display for public videoprojections

2.2 Databases :

Included databases contains presently more than 4 000 formations:

- 401 formations nommées pour Mercure
- 2033 formations nommées pour Vénus
- 1797 formations nommées pour

For each formation, IAU official datas are translated. All these databases include the “PUN / Planetary Universal Number” conceived by ourselves and permitting to “name” and localize any formation more than 1 arc minute wide.

2.3 Mapping textures :

Mercury : B&W Messenger (0.5 km / Pix)

Venus : B&W Magellan (1 km / Pix)

Mars : Color Viking (0.8 km / Pix)

Others new planets and satellites textures planned for the end of 2015.

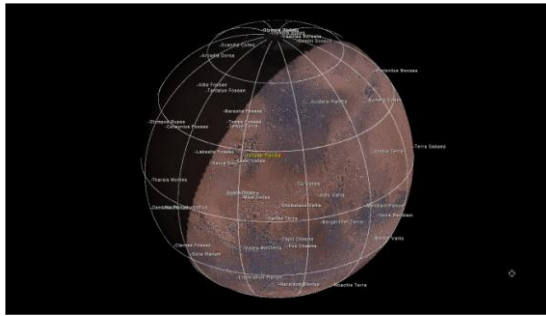
2.4 Historical textures : Permitting easy comparison of these pioneer works with present datas : > Lowell / Schiaparelli / Dolfuss / Arecibo / Mariners / Hubble ST...

2.5 Scientific overlays : More than 30 different: (Gravity, temperature, altimetric, geologic, various chemical elements ...) overlays that can be applied on or without each texture.

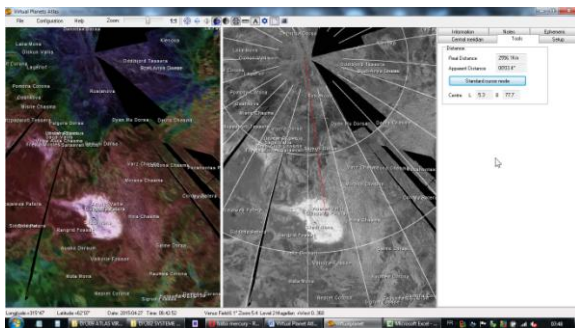
2.6 Delivery : VMA Pro 6 version and all add-ons collection are freeware and downloadable free from our Web site <http://www.ap-i.net/avl/en/start>
We maintain a discussion forum and encourage other languages translations. We also listen continuously to our users requests, (including professionals), to update new useful functionalities.

Acknowledgements

Sincere thanks to Dr Phil Stooke of the Western University of Canada for authorizing us to use his work and to Emily Lakdawalla of the Planetary Society for her support to our project. We also thank IAU, LPI, LPL, NASA and ESA for releasing useful planetary datas to public domain.



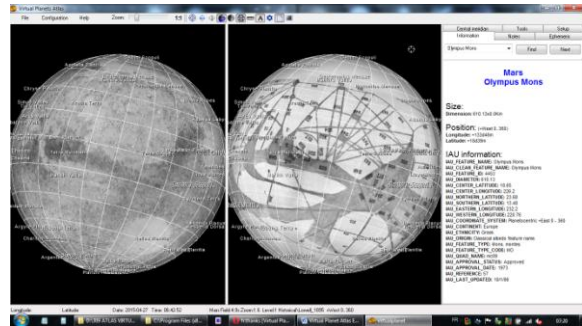
Picture 4 : Full screen for public education events



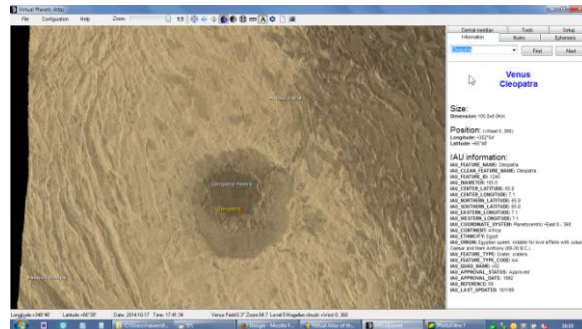
Picture 5 : Venus Maxwell Montes with altitude and distance to North Pole measurement



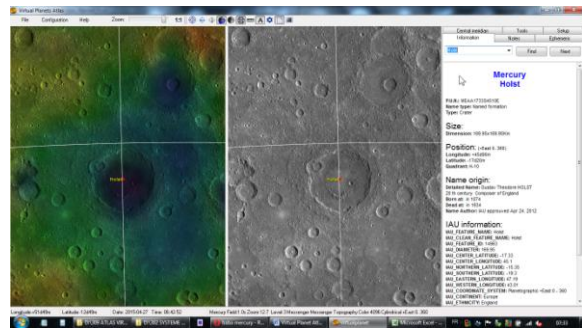
Picture 6 : Mars revised geological overlay.



Picture 7 : MRO vs Lowell 1895 textures



Picture 8 : Venus MRO colored Cleopatra crater



Picture 7 : Mercury Holst Topography & MRO