

Mars for Earthlings

LESSON 1: Introduction

Homework 3

Intro to Mars_MFE

JMARS- Mawrth Vallis "Potential landing site"

Objective: To navigate, learn and utilize the tools offered within the software JMARS.

Introduction: In order to complete this lab you need to register and download JMARS:

1. Go to webpage: <http://jmars.asu.edu/>
2. Click: Create New Account
3. Enter desired account information
4. Click: Request New Account (page should prompt you to check your email for password and further instructions)
5. Check email and click on link (or enter the link into your browser)
6. Click login and change password. The account should last 6 months.
7. Click on "Download JMARS" tab
8. Under section "JMARS Public Downloads" click "Cross-platform Java Webstart Installer"
9. Open installer: When JMARS opens you will need to enter username and password.

For information about the software and great tutorial videos, go to <https://jmars.mars.asu.edu/videotutorials>. Make sure to watch Tutorial 1 to gain a brief introduction to the layout and use of the JMARS software. Alternatively, go to the JMARS homepage and explore the options under the "Tour of the JMARS user interface" and "Tour of the JMARS Layers" panels. Have fun exploring Mars and other planetary bodies.

Intro to JMARS

Open JMARS using your email/password. JMARS functions very much like the layers in Photoshop or GIS in order to view different image sets.

1. In the Layer Window, choose and press the button "Add New Layer" in the Main tab (other tabs at this point are: MOLA Shaded Relief NE, Lat/Lon Grid).
 - a. Add the layer Nomenclature. With this layer open, you can navigate to any feature on Mars by name.
 - b. Activate/Open the Nomenclature tab. Keep all default boxes checked. Select Vallis in the *Selected Landmarks Types* menu.



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3. Exploring the mineralogy of Mawrth Vallis.

There are several methods to explore the mineralogy of the Martian surface in JMARS. We will only explore one. *Note: Make sure you can see the Mawrth Vallis label. If not, drag your Nomenclature layer to the top of the Layer Window.

Using TES Mineral Maps: Add New Layer → Maps by Instrument → TES Mineral Map → Now select the following maps separately and explain their: spatial coverage, resolution and abundance of that mineral.

a. TES Hematite

b. TES Basalt Abundance

c. TES Carbonate Abundance (Bandfield 2002*)

** tes.asu.edu/mineral_map/bandfield_minmap.pdf*

