

DENVER MUSEUM OF NATURE AND SCIENCE
VENUS WINDS PROJECT
MINUTES OF MEETING

Date/Time/Location: 28 May 2015 6:00 PM Exploration Studio 102

ATTENDING

Art	Ashley	Cristy	Dave	Drew	Dylan	Emilie
John	Kevin	Nick H.	Nick Z.	Mark	Marta	Mica
Michael D.	Michael L.	Rachel	Ricardo	Terran	Yvonne	

Guests: None

The meeting opened at 6:00 PM at Exploration Studio 102 in the Morgridge Wing. Those **attending** are listed above. Mark joined the meeting via Webx conferencing application.

OLD BUSINESS

Your experience with DS9 and Gimp All

SAOImage DS9 is an analysis tool that is widely used by the astronomical community to extract the maximum usable information from astronomical images. In particular, **SAOImage DS9** allows precise determination of the minimum/maximum pixel values of cloud/gap features. The **DS9** website is located at <http://ds9.si.edu/>. The software is free and available for PCs, Macs, and Linux machines. Analysts are encouraged to download both **DS9** and its accompanying documentation to try it out.

Art continued experimentation with **DS9** for creating contour maps of the clouds/gaps, and for determination of the coordinates of maximal and minimal pixel values in clouds and gaps. He reported that it is relatively easy to accurately locate minima and maxima in contour maps to the *nearest pixel or two*. Such precision has not been achievable with **Adobe Photoshop**; therefore, **DS9** may be reasonably expected to replace Photoshop in such analyses.

There was discussion of the relative merits of **Gimp**, another open source suite of programs, for similar analysis of images. Several of our analysts have experimented with **Gimp** already. We will have a discussion of the comparative merits of **Gimp** and **DS9** at a later date.

Discussion also focused on the longevity of cloud and gap features found in Venus images acquired on 12 July 2004. Mark suggested that images from 13 July and 14 July should be examined for evidence of persistence of mid-latitude features as they move about 45° per day.

Wind Velocities to Date Mark

At a later date, Mark will summarize the results from analysts who have completed velocity spreadsheets for July 12, 2004. The purpose of this analysis is to show the strengths and weaknesses of the methods used so far, and to point to ways that might provide more

consistent results. At a later meeting, Christy will do a statistical analysis of the results to date.

Car-pool experiment All

Those present discussed an issue that has arisen for several of our junior analysts who may depend upon family or friends to attend the Venus Winds Project meetings. Transportation may be an issue if that driver is not available on meeting nights. Several suggestions were discussed, namely carpooling and single-ride RTD passes that are arranged by the Museum. Members will be asked to submit their general location and whether they would be willing to participate in a carpool.

July 12, 2004 Wind Velocities Mark

Mark discussed the consensus-derived starting points for the first image of the nine-image assignment on 12 July 2004. A revised spreadsheet for this exercise was distributed to all Project analysts following the meeting.

Mark has also added an additional task: Look for cloud features that persist after 24 hours in both the 11 July and 13 July series. It has been observed that mid-latitude cloud features move about 45° from East to West in 24 hours.

NEW BUSINESS

None

The next meeting on June 11 will be in Exploration Studio 106

Submitted by Arthur C. Tarr, Venus Winds Project Coordinator