1. Phoenix Goals

Phoenix is NASA's selected 2007 Mars Scout Program mission, will send a lander and suite of instruments to study the north polar region on Mars. The Phoenix central goals are:

1) To study water in all its phases to understand the paleo-hydrology, geology, chemistry, and meteorology of the region.
2) To search for habitable sites by characterizing the subsurface environment in the permafrost region, by measuring the concentration of organic molecules, by performing water chemistry on wet soils (water provided), and by microscopic examination of soil grains.

2. Highlights

- Phoenix passes NASA's confirmation review
- Critical Design Review: July, 2005
- Select landing region (see below)
- Select landing site (see below)
- Launch from Kennedy Space Center, FL: August, 2007
- Land on Mars (corresponds to late spring in the northern hemisphere): May-June, 2008

The nominal mission length is 90 sols on the surface.

Phoenix team has studied each landing Region is some detail, as shown in the region insets. The shaded "bow-tie" features represent the landing ellipses under consideration. The "bow-tie" shape is a result of changes in the azimuth of landing. Which result from different launch dates.

Geomorphology maps have been produced, THEMIS, MOC and MOLA data have been examined, and other work, not shown, on craters, boulders, and thermal inertia have been done by the Phoenix team.

In addition, atmospheric characteristics have been examined and mesoscale Models have been run for the Phoenix landing season and locations to better understand the atmospheric conditions upon entry. This information will be used to select the best landing region and finally site, based on both science and engineering safety considerations.

The landing site selection process is different from the MER process. Because Phoenix is a PI-led mission, the site will be selected by the PI. The Phoenix team plans to have a series of papers presented on our landing site selection activities at the March, 2006 Lunar and Planetary Science Conference. We hope to gather community feedback at that time.