#1 February 25, 2017

Welcome to our new "post MMM" publication! **OUTBOUND will be sent in pdf format to all Moon Society members, current or past, for whom we have a current email address on file.** It will also be sent to leaders of National Space Society chapters whose members had been getting MMM. We hope issues of OUTBOUND will also be available from the National Space Society website, and elsewhere.

OUTBOUND issues will be of **no set length**.

The plan is to publish an issue monthly through 2017, giving time for the Moon Society to come up with a replacement for Moon Miners' Manifesto.

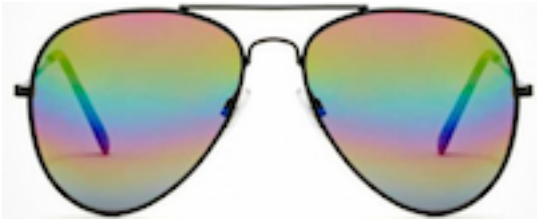
Starting in 2018, OUTBOUND will be published "**whenever"** we put an issue together.
(I hope to be preoccupied with the three books I want to write before it is too late.}

———————————————————————————————————————

Special Eyeglasses or "Visors" to be worn on the Moon and Mars to expand the range of colors "seen" in Moonscapes and Marsscapes

Moonscapes are monotonously "gray" and Marsscapes monotonously "salmon" colored (except for some rocks which appear blue. Are they? There seems to be some doubt.)

Could we make eye glasses that magnify the "color shift" to either side of the predominant gray tones on the Moon or basic salmon tones on Mars?



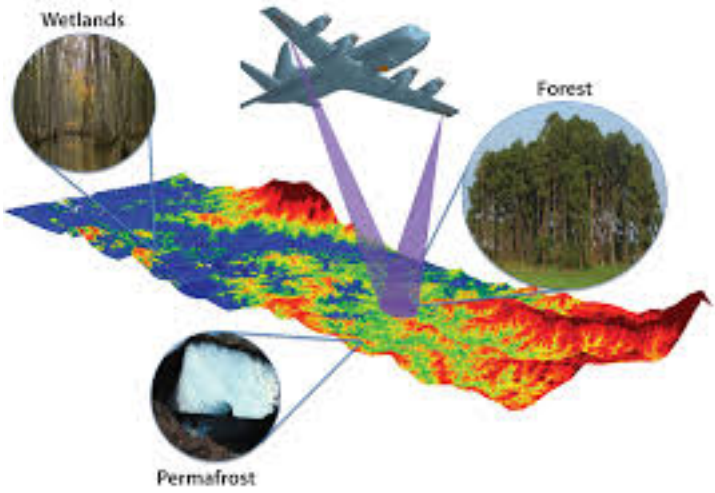
To be gained: happier settlers with less boring moonscapes or marsscapes to traverse, with a greater appreciation of the beauty of their adopted home world
This ia a challenge for those readers, or reader contacts in the optical field. ##

A Letter to Elon Musk about his Plans to Open Mars

Some unmanned missions are in order if Space-X is to pick a site or sites most appropriate for a successful first settlement.

1) Send an unmanned orbiter that can map subsurface permafrost – ample water supplies will be a big plus.

- On Earth, airplanes have successfully mapped sub-surface permafrost areas in the Northern hemisphere. So the needed instruments do not need to be reinvented.

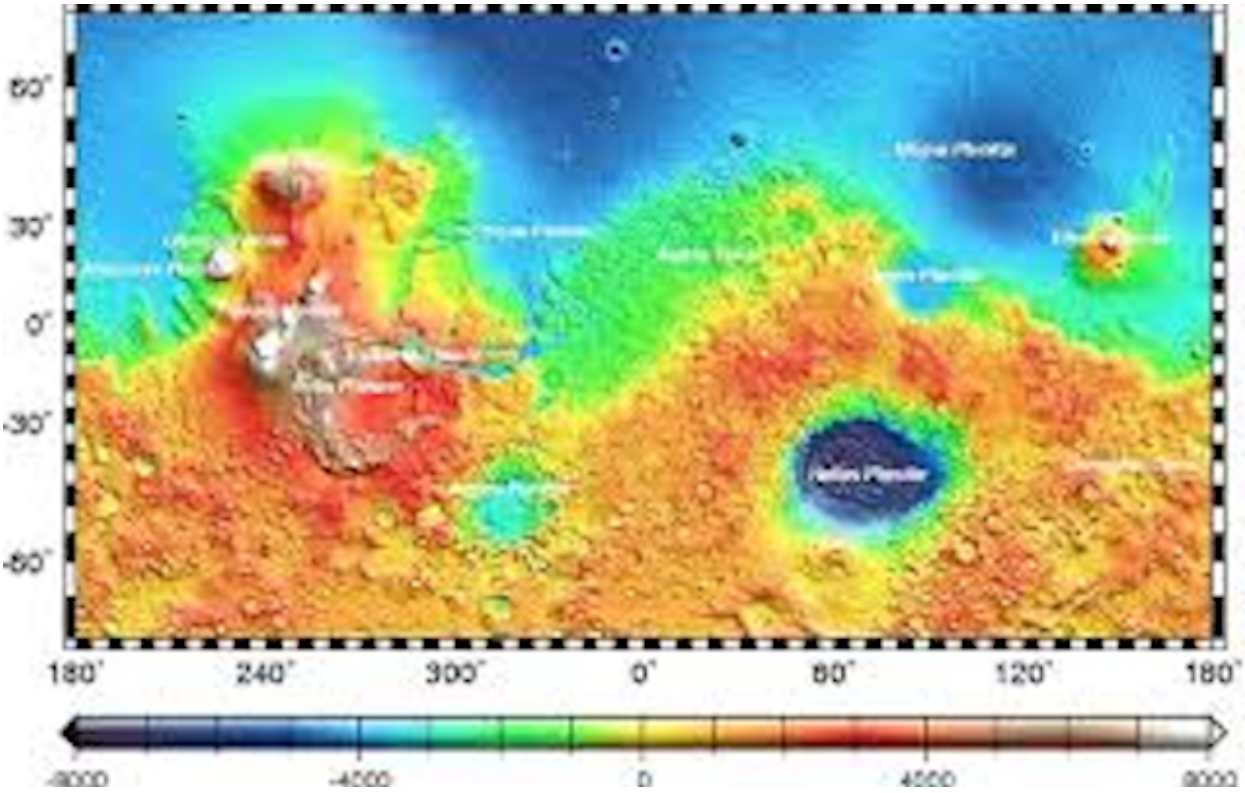


In Mars' northern and southern hemisphere summers respectively, the carbon dioxide ices that cover the poles evaporate, exposing the smaller water ice caps below. Various routes can be explored to pipe this water to temperate settlement areas.

2) Demonstrate drone airflight in the Hellas Basin,

where the elevations are the lowest anywhere on Mars and where air pressures are the highest.

NASA hoped to do this in 2003 on the 100th anniversary of the Wrigth Brothers first flight but fell behind and cancelled this venture.



MARS' UNEVEN SEASONS: Mars' orbit is very eccentric, swinging out further from the Sun (traveling slower) during Northern Spring & Summer (Southern Fall & Winter) and in closer to the Sun (traveling faster) in Northern Fall and Winter (Southern Spring and Summer). The results are a TRADEOFF.

√ There's more time (13.25 months) to enjoy a cooler Spring and Summer north of the equator, but less time to suffer through a less cold Fall and Winter.

√ There's less time (10.64 months) to enjoy a warmer Spring and Summer in the southern hemisphere, but more time to suffer through a harsher Fall and Winter.

If it were just the opposite, the portion of the deep Hellas basin closest to the equator would be the best place to start settlement.

Comments: The best combination of **higher atmospheric pressure**, **longer summers, shorter winters,** may be in the dark blue basins (once upon a time holding water, that is, seas, in the northern hemisphere. Followed by the Hellas Basin.

If a lavatube location, being well shielded, is preferred, then the flanks of Pavonis Mons , smack ion the equator, will be the place to go. It is laced with perhaps thousands of miles of intact lava tubes and its western slope is the perfect place for a launch track.

Note that the great Valles Marineris is relatively deep as well.

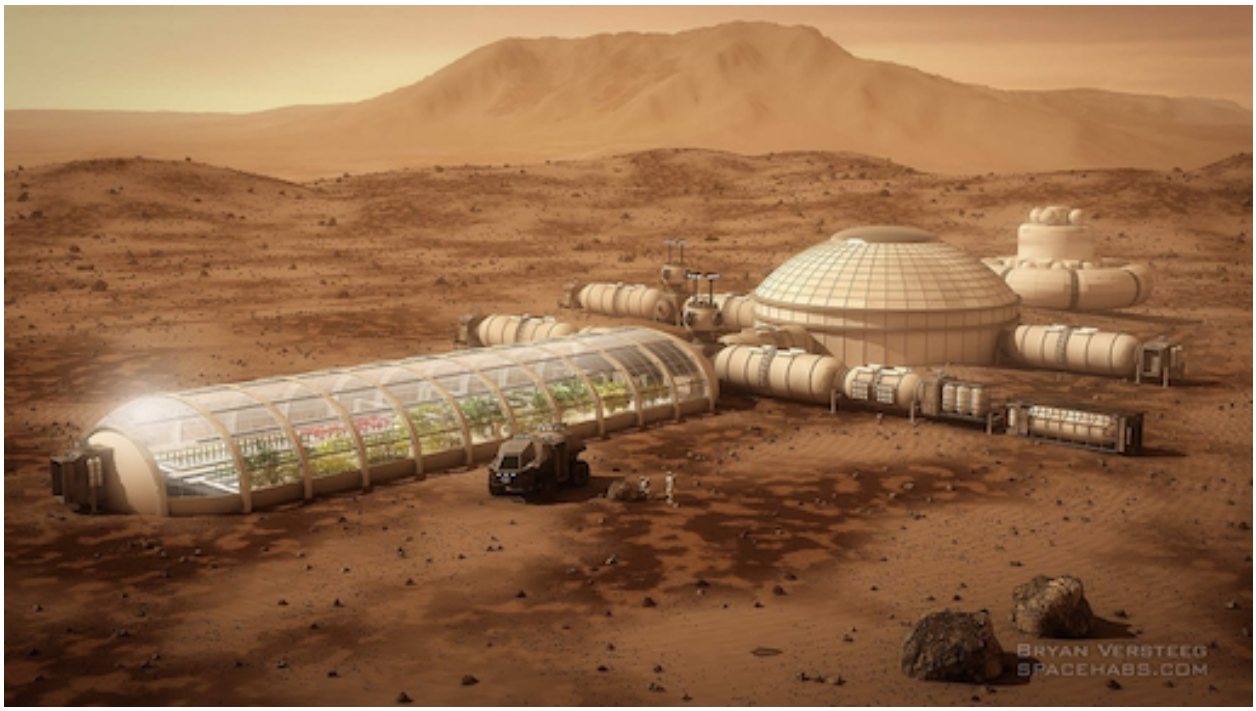
4) Begin "Redhouse" experiments here on Earth

"Breeding "Mars Hardy" Plants in Compressed Mars Air" - with the long term goal of breeding plants that could someday take hold on Mars surface as the carbon dioxide atmosphere thickens and warms. -

5) Design settler habitats in which settlers can thrive downwind and downstream of themselves - water refreshing loops, ample vegetation planters throughout - so that the settlers can thrive - the result is fresh air, food, recycling of wastes

6) Drop small probes on Mars two mini-Moons, Phobos and Deimos, t o sample their makeup so that we csn prioritize their use, if their makeup warrants.

Above: The plane NASA hoped to fly on Mars in 2003 for the 100th anniversary of the Wright Brothers first flight at KittyHawk, NC. **Below**: an interesting design for an outpost on Mars



xs