Site Selection Considerations

- **Science Value**
- **Landing Safety**
  - EDL system margins
  - Terrain induced failure rates
- **Surface Productivity**
  - Required traverse distances and traversability
  - Thermal/energy impacts
  - Instrument considerations
- **Planetary Protection**
  - Special regions
  - Subsurface water
- **Program Considerations**
  - SRL constraints
Assessment Progress Since LSW #1

• Because of limited throughput, we focused on the top 9 ranked sites from the 1st workshop

• Completed first pass landing safety assessments
  – Built and used site-specific atmosphere and terrain products
  – Quantified impact of TRN

• Completed first pass surface scenario assessments
  – Gathered ROI information (location and prioritization) and estimated required traverse distances
  – Quantified thermal/energy impact of site latitude
  – Identified instrument considerations

• Identified landing site planetary protection constraints

• Assessed program landing site selection implications
Landing Site Selection Schedule

1st Workshop
- May 2015
- 27 sites, ranked by science merit
- Allows assessment of need for EDL and/or surface operability enhancements
- Allow early characterization of candidate sites

2nd Workshop
- Initial EDL and surface assessments for top sites
- Supports TRN decision by PDR
- Down-select to ~8 sites

3rd Workshop
- January 2017
- Mature EDL and surface assessments
- Down-select to ~4 sites

4th Workshop/Site Selection
- June/July 2018
- L-2 years
- 1 site (+ backup)
- Full EDL safety and surface productivity assessments
Summary

• The next set of presentations go through the engineering assessments and results at a high level
  – The goal is to inform the community of the non-science site selection considerations in play
  – Last opportunity to inform the TRN decision

• For throughput reasons, work to date has focused on the top 9 sites

• The results are preliminary, but much more mature than they were on MSL at the PDR timeframe