THE FUTURE OF ANSMET: SUPPORT, FUNDING, AND FIELDWORK SITES, STRUCTURE, LOGISTICS AND METHODS FOR THE COMING YEARS. J. M. Karner[1], R. P. Harvey[1] and J. Schutt[1], [1]Dept. of Earth, Environmental and Planetary Sciences, Case Western Reserve University, Cleveland OH 44106.

Introduction: The US Antarctic Search for Meteorites (ANSMET) program has just completed its 40th field season and has now recovered ~22,000 meteorites. What is the future of ANSMET, and how do we support and implement the fieldwork in order to ensure the recovery of a complete and representative sample of the extraterrestrial material falling to Earth?

Support and funding: Since 1980, the National Science Foundation (NSF), the Smithsonian Institution (SI), and NASA have cooperatively supported a program to collect, curate, and classify Antarctic meteorites and make them available for scientific research and education [1]. This pact (the "3 Agency Agreement") tasked NASA JSC and the SI with curation and classification of Antarctic meteorites while the field activities (ANSMET) were to be funded and logistically supported by NSF. In 2001, NASA started funding an expansion of ANSMET activities to include more reconnaissance work. There was a separate "Recon team" in 2002-03 and a few others in the following years. In the years that a Recon team was funded, a "Systematic team" would also deploy and was still funded by NSF. In early 2013, NSF informed ANSMET that meteorite collection was not appropriate for funding under the Antarctic Earth Sciences program; the upshot of this was that NSF would no longer fund ANSMET field activities. Thus, 2013-14 marked the first season NASA was the sole funding support for ANSMET. In 2016, a new 3 Agency Agreement was signed, which basically stated that NSF would logistically support the field activities of ANSMET but no longer fund the program. Currently, ANSMET field activities are funded by the Near Earth Object Observation program under the direction of the NASA Planetary Defense Coordination Office. A five-year proposal of field activities was recently awarded and will support ANSMET for the 2017-18 through the 2021-22 seasons.

Fieldwork sites, structure, logistics, and methods: ANSMET's five year plan starts with the 2017-18 field season and will use the Shackleton Glacier Camp (SHG) as a logistics hub to recover meteorites from several icefields in the southern Transantarctic Mountains. The SHG will provide handy access (within 125 NM) to a mix of known, lightly searched, or never visited sites from the Amundsen Glacier region to the headwaters of the Beardmore Glacier to the north. A team of eight will deploy to SHG and then split into two teams of four each. Team A will work the whole season at the Mt. Cecily/Mt. Raymond area, systematically searching this icefield and its adjacent moraines. Team B will do mainly recon work- exploring and recovering meteorites from the Amundsen Glacier, Nodvedt Nunatak, and Mt. Wisting/Mt. Prestrud icefields for two weeks each.

In 2018-19, ANSMET will return to the Davis-Ward (DW) icefields. Three systematic searching seasons and two recon visits have recovered over 2500 meteorite specimens from DW. A large region of blue ice remains unsearched, and the 2018-19 team will attempt to cover unsearched areas through overlapping systematic transects. Many of the meteorites from DW have been found in moraines, including 340 of 569 (i.e., 60%) recovered in 2014-15. There are also large amounts of terrestrial rocks scattered on the DW icefields; this, along with moraine hunting makes for slow searching, which suggests a full season is needed to complete work at DW.

ANSMET will return to the Miller Range icefields in 2019-20. The Miller Range icefields have been visited nine times previously, including six systematic searching efforts, yielding over 3500 specimens. About half of one of the three largest blue ice areas in the Miller Range (i.e., the "South" icefield) remains to be searched as well as many smaller peripheral icefields. The dense concentration of meteorites encountered suggests that a full season with a team of eight is justified. If the Miller Range work is completed in a timely fashion we would dedicate the remainder of the season to searching at the Sanford Cliffs icefield, which was visited briefly by a recon team in 2003.

For the 2020-21 and possibly the 2021-22 field season, we propose a departure from our normal low-impact style of fieldwork [2, 3] with a larger scale effort. The LaPaz icefields have been visited four times previously and have yielded many unique meteorites and many areas of exposed blue ice remain unsearched. Lapaz is remote, commutes during search days are long and hard on snowmobiles (across bare, rough ice), and the climate is persistently windy and cold. This combination of high workloads and harsh environmental conditions makes maintaining personal safety and comfort difficult, and results in severley limited time for meteorite searching. To counter this we propose to greatly reduce the camp management burden of ANSMET personnel by incorporating a large, heated communal shelter to serve as an indoor workspace and location for shared meals. The camp will also include a camp manager who will also serve as snowmobile mechanic and cook. The result should be longer and more efficient search days, a longer period of operation (up to 8 weeks), and a significant increase in the potential recovery rate of meteorites from LaPaz.

References: [1] Cassidy, W. A. (2003) Meteorites, Ice and Antarctica. Cambridge University Press, Cambridge, UK. [2] Harvey R. P. 2003. *Chemie der Erde*, 63, 93-147. [3] Harvey R. P. et al. 2014. *In 35 Seasons of U.S. Antarctic Meteorites*; ed. K. Righter et al. AGU/J. Wiley and Sons, Washington D.C., pp. 23-41.