

The Antarctic Search for Meteorites 2012-2013 Field Season

Dr. Robert Coker/NASA Marshall Space Flight Center

Since 1976, ANSMET (the antarctic search for meteorites program) has recovered more than 12,000 meteorite specimens from locations along the Transantarctic Mountains.

Although meteorites fall at random all over the globe, the likelihood of finding a meteorite is enhanced if the background material is plain and the accumulation rate of terrestrial sediment is low; this makes the East Antarctic Ice Sheet the perfect medium. Also, along the margins of the sheet, ice flow is sometimes blocked by obstructions; this exposes stagnant ice to the fierce katabatic winds, which can deflate the ice surface and expose a lag deposit of meteorites. When such a process continues for millennia, a spectacular concentration of meteorites can be unveiled. The continued recovery of antarctic meteorites is of great value because they are the only available source of new, non-microscopic extraterrestrial material. As such, they provide essential “ground truth” about the composition of asteroids, planets, and other bodies of our solar system. ANSMET recovers samples from the asteroids, the Moon, and Mars for a tiny fraction of the cost of returning samples directly from these bodies. During the 2012–2013 field season, the ANSMET teams collected over 400 meteorites. MSFC's Dr. Coker was a member of the main field party.