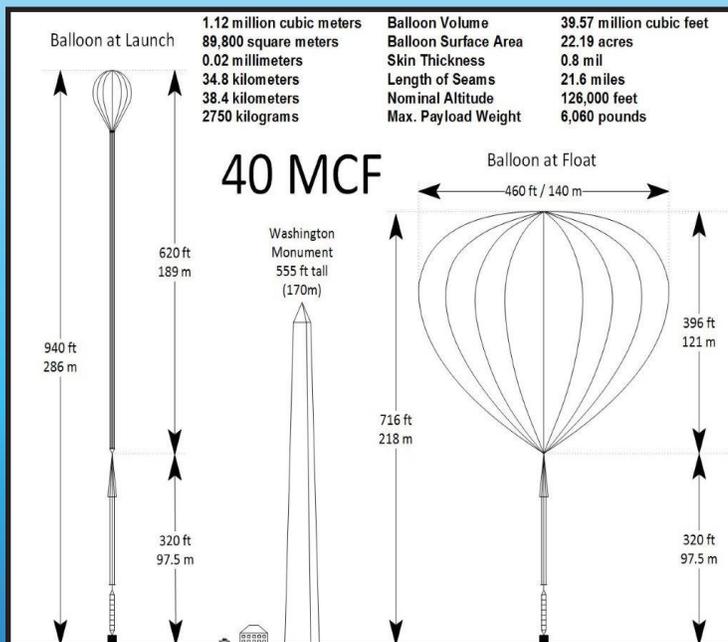




# Scientific Balloons

The National Aeronautics and Space Administration (NASA) Scientific Balloon Program Office (BPO) is a sub-orbital space flight program utilized primarily in support of space and earth sciences research activities sponsored by NASA. A balloon serves as a carrier for science instruments in a similar manner as an orbiting satellite or the Space Shuttle would, but at much lower costs. Added benefits of balloons compared to other carriers are that balloons can fly larger and heavier payloads in as little as six months time once being approved for mission support. Balloon instruments can also be recovered and flown again.



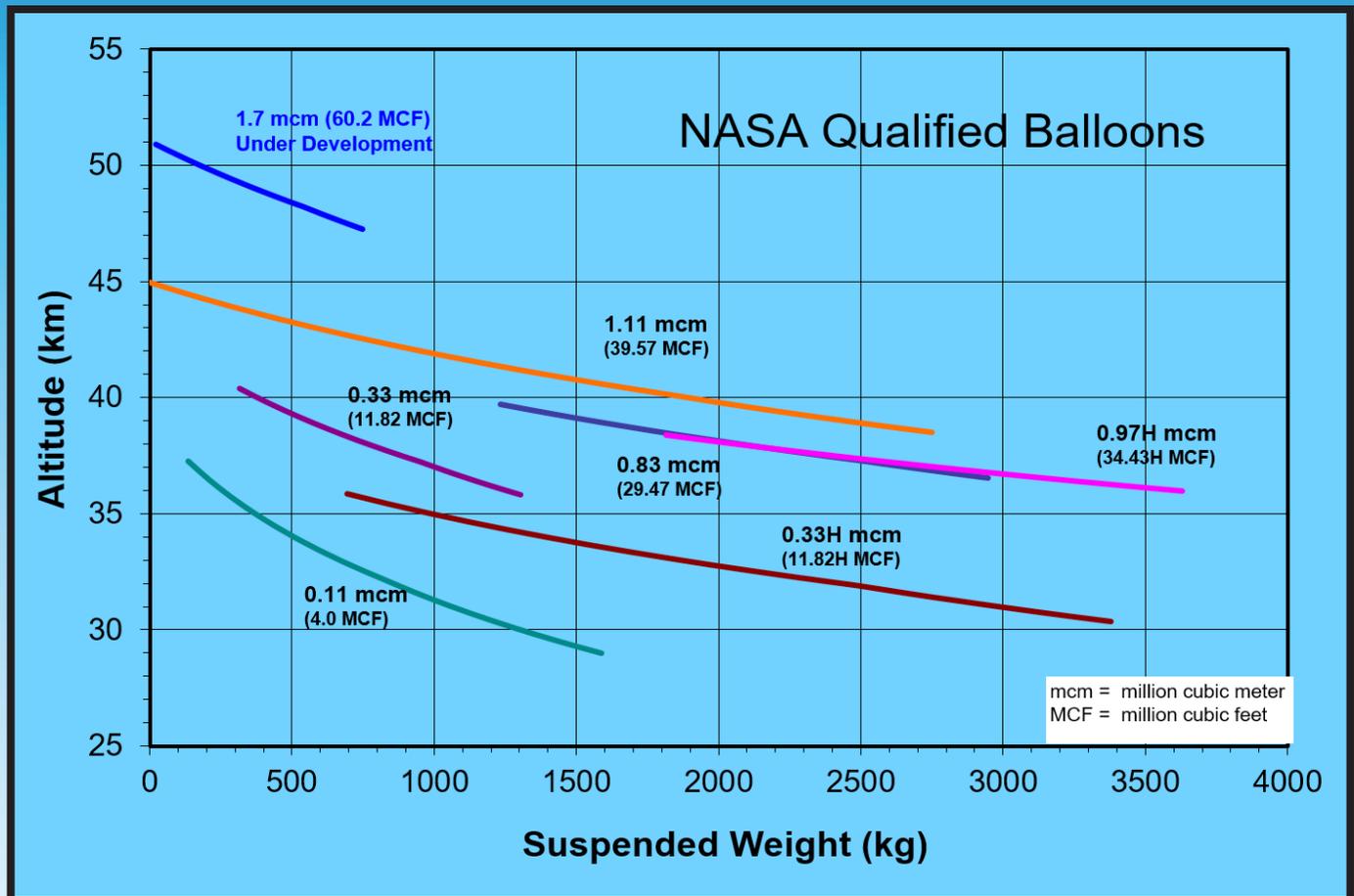
For several decades, **NASA's Scientific Balloon Program**, has expertly delivered low-cost, near space access for scientific experiments and technology tests that contribute to our understanding of the Earth, the solar system, and the universe. Scientific balloons are launched from several locations around the globe to meet the diverse needs of scientific investigations.



Balloon launch in Antarctica

# Scientific Balloons Support and Capabilities

Balloon Type	Zero Pressure (ZP)	ZP	Super Pressure (SP)
Mission Type	Conventional	LDB	ULDB (In development)
Duration	2 hours to 3 days	Typical 7-15 days Up to 55+ days	Up to 100 days 2016 Mid-Latitude Flight = 46 Days
Science Payload Weight	Up to 2,948 kg (Up to 6,500 lbs)	Up to 2,848 kg (Up to 6,500 lbs)	18.8 MCF* – 907 kg (2000 lbs)
Typical Float Altitude	29.2 to 38.7 km (96 to 127 kft)	36.5 to 38.7 km (120 to 127 kft)	18.8 MCF – up to 34 km (~110 kft)
Support Package	<p>Consolidated Instrumentation Package (CIP)</p> <ul style="list-style-type: none"> <li>● Line of Sight (LOS)</li> <li>● Up to 1 Mbps direct return</li> </ul> <p>Support Instrumentation Package (SIP)</p> <ul style="list-style-type: none"> <li>● Line of Sight (LOS)</li> <li>● Over The Horizon (OTH)</li> <li>● 6 kbps TDRSS downlink</li> <li>● 92 kbps TDRSS/ 80 kbps Iridium option</li> </ul> <p>Micro Instrumentation Package (MIP)</p> <ul style="list-style-type: none"> <li>● Stand alone package for small payload support</li> <li>● LOS and OTH TM &amp; Command (Iridium) 255 byte/min packets</li> <li>● Up to 1 Mbps LOS option</li> </ul> <p>System without batteries ~20 lbs (9 kg)</p> <p>* MCF – Million Cubic Feet</p>		



For more information, please contact the Balloon Program Office at (757) 824-1480 or visit [www.nasa.gov/balloons](http://www.nasa.gov/balloons)