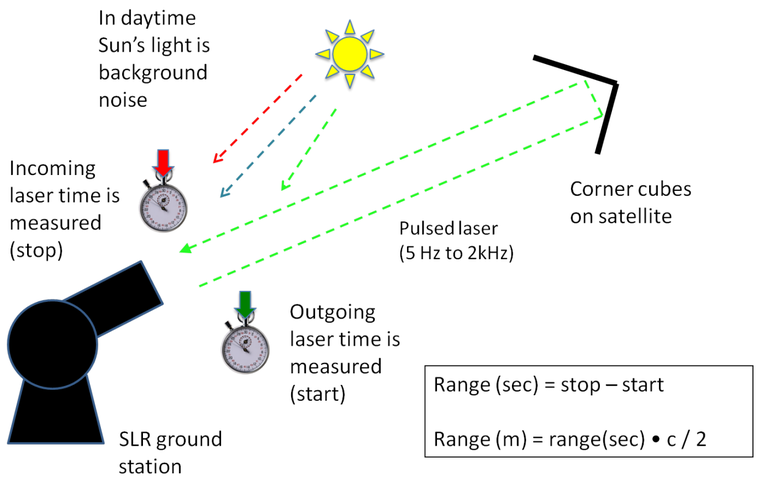
NASA's Satellite Laser Ranging

The Goddard Space Flight Center is the birthplace of Satellite Laser Ranging. On October 31, 1964 the world's first satellite laser ranging measurements were made at the Goddard Geophysical & Astronomical Observatory (GGAO).

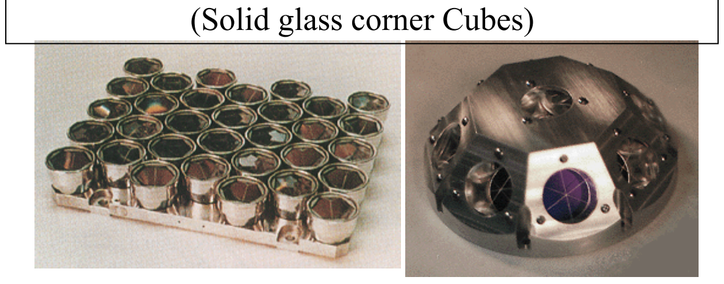
THE SLR TECHNIQUE



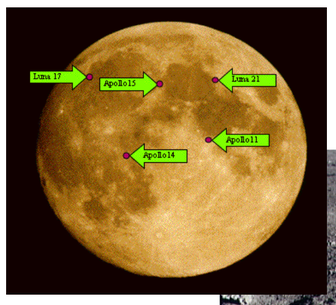
Range (sec) = stop – start

Range (m) = range(sec) • c / 2

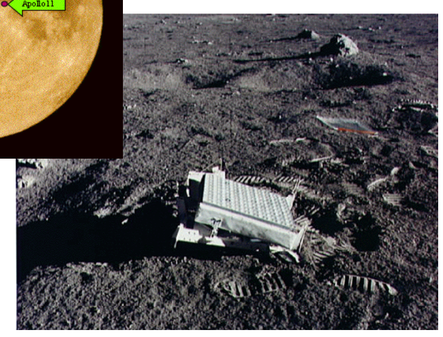
CURRENT SATELLITE RETRO-REFLECTOR ARRAYS (Solid glass corner Cubes)



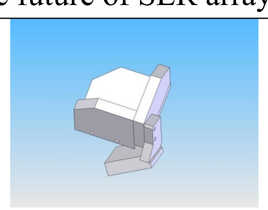
LUNAR LASER RANGING



APOLLO reflector arrays placed on surface by astronauts

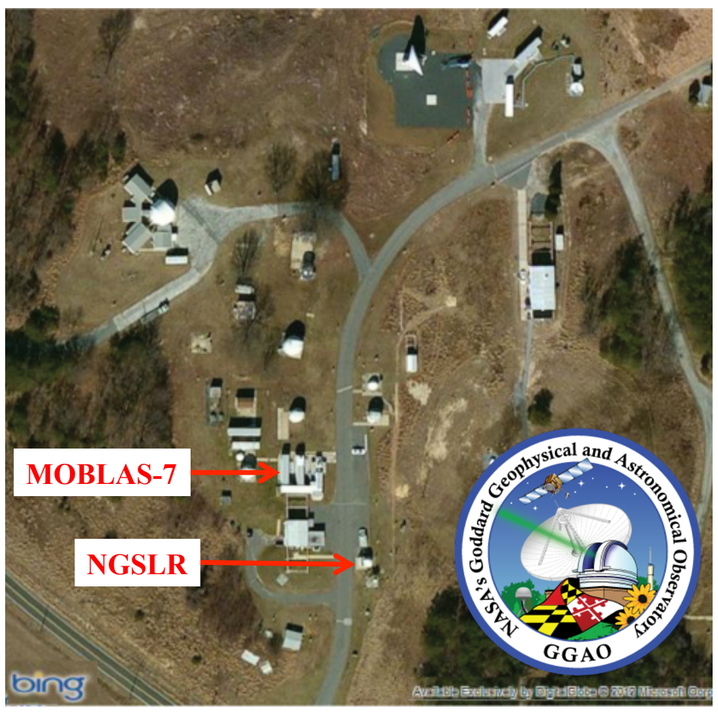


HOLLOW CORNER CUBES (the future of SLR arrays)?



LAGEOS SATELLITE

GGAO (area 200 at Goddard)



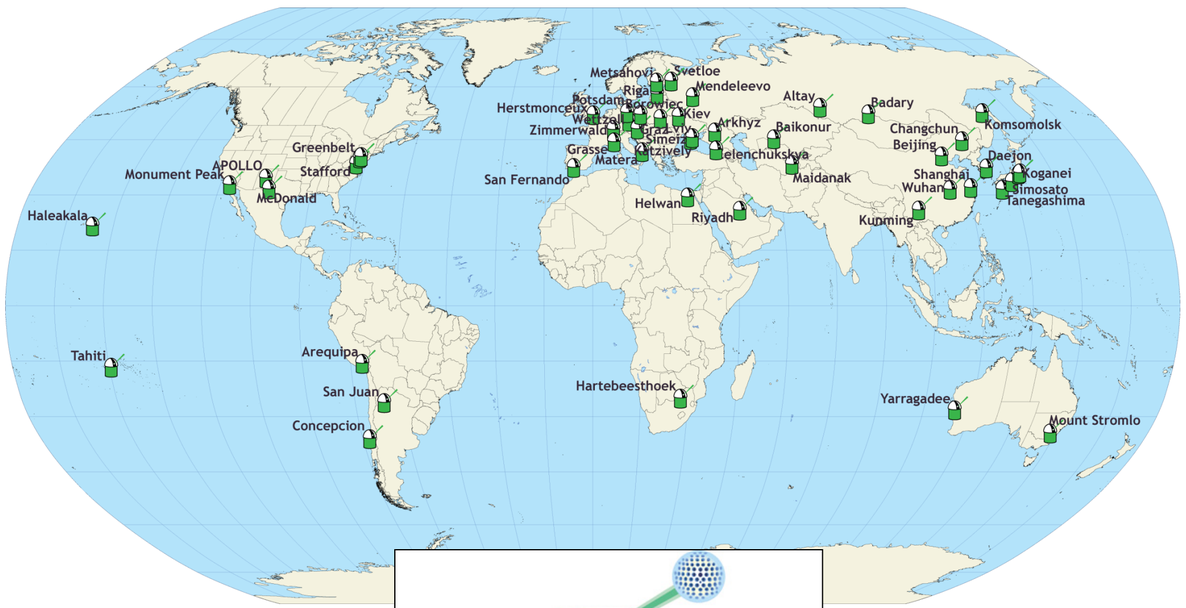
PAST, PRESENT & FUTURE OF NASA SLR SYSTEMS

SLR PAST:
First laser ranging measurement in 1964

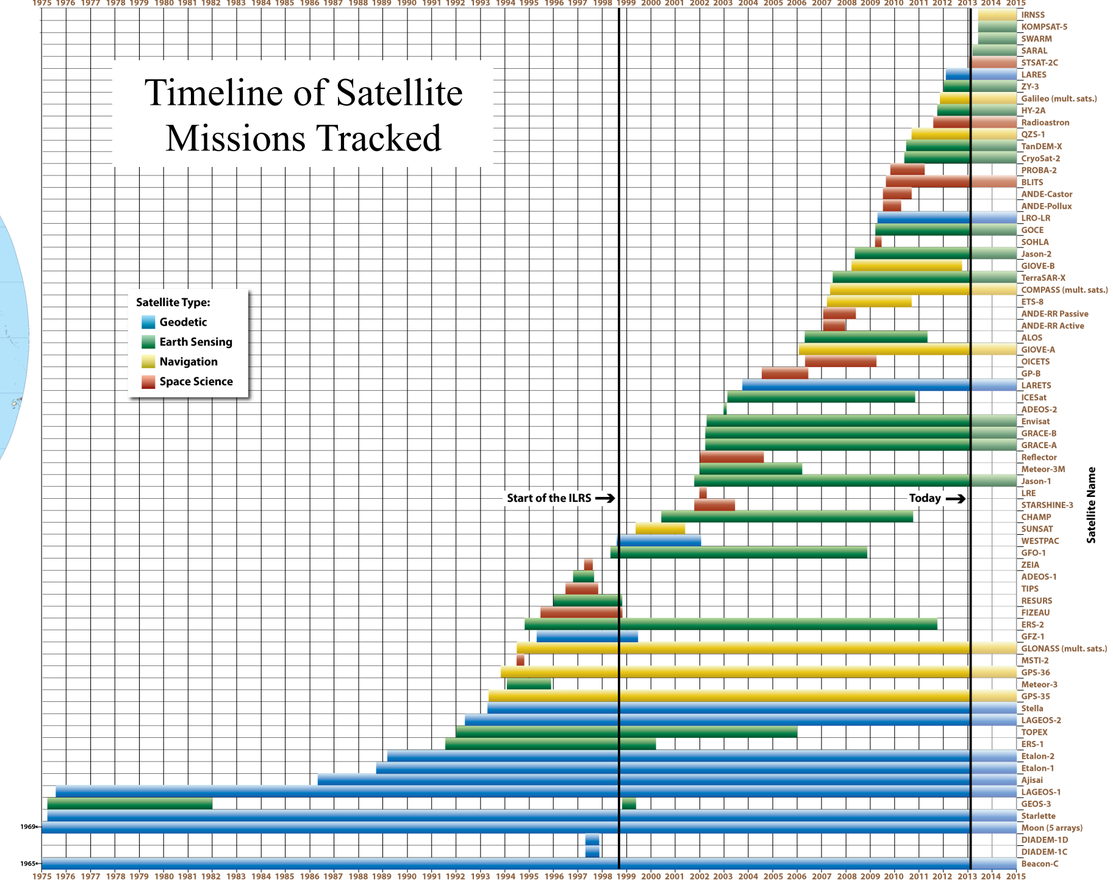
SLR PRESENT:
MOBLAS-7 built in 1978 and still operating

SLR FUTURE:
NGSLR - prototype in final development

NASA IS PART OF THE GLOBAL NETWORK OF SLR STATIONS WHICH CURRENTLY TRACKS ~ 30+ SATELLITES



International Laser Ranging Service



For more information on SLR and the ILRS, please go to:
http://space-geodesy.nasa.gov
http://ilrs.gsfc.nasa.gov

Space Geodesy Project's Satellite Laser Ranging contacts:
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