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Explanation of MISR Coverage Maps

1. The way we do satellite target prediction and MISR Local Mode planning, we designate specific locations on the surface (Lat, Lon), and find all paths that view the site.

1.1. A "Path" is a strip, running roughly pole-to-pole, fixed geographically to Earth's surface. There are 233 Paths covering the planet. Each Path is divided into 180 MISR "Blocks," which are numbered consecutively from north to south (since MISR orbits north-to-south on the day side of the planet). Block 90 is near the Equator. Generally, about 142 Blocks are in daylight. Path and Block constrain the general location of a MISR observation. (There is a hierarchy of finer grids to specify location within a Block.)

1.2. The timing of an observation is constrained roughly by the "Orbit Number." These run in consecutive order from the beginning of the Terra mission. Each Orbit occurs along one Path, though the paths are not flown in consecutive order. The Terra spacecraft flies one orbit along a given path every 16 days. But since paths overlap, especially nearer the poles, Earth is imaged about once per week overall by MISR, and for a given surface location, there may be three or more Paths for which MISR will actually observe the site. Also, several sites may be imaged by MISR from the same path.

1.3. MISR generally takes data in "Global Mode," but can take "Local Mode" data for specific sites if requests are made *about a month in advance of the observation*. In Global Mode, which is "on" all the time when MISR is on the day side of the planet, the four nadir-view wavelengths plus the Red channel in the eight off-nadir cameras (12 channels in all) are obtained at full (275 m) resolution, whereas the 24 blue, green, and near-ir channels for the off-nadir cameras are acquired at 1.1 km resolution. All MISR standard products are generated from Global Mode data, so even if a site does not fall into a Local Mode box, we should have all the standard products. We can request "Local Mode" data for specific sties. In Local Mode, all 36 MISR channels (nine cameras x four wavelengths) are acquired at full resolution (275 m), for a strip 300 km along-track, and for roughly the swath width (360-400 km) across-track.

2. The MISR coverage Table (Overview slide) gives overpass information for four unique targets: Mexico City, Veracruz, Gulf_2, and Gulf_1 (gong west to east), plus Houston, which is covered by two of the same paths as Mexico City. These capture the area where most of the forward trajectories in the INTEX report occur. We can provide MISR Coverage Table data for any other sites of interest.

3. The MISR maps (PDF) show MISR coverage for nine paths that observe the experiment region (a separate map for each path). In the maps, the path, and all the blocks within that path, are drawn in yellow. The extent of an example Local Mode coverage region is given in purple. In the upper left is a table giving MISR orbit, cross-track distance of the target from the sub- spacecraft line, overpass time, and date, for each overpass along that path during the Campaign. We can request Local Mode for any site of interest, provided no two sites are on the same path or are otherwise too close together in time.

MISR Web Site: http://www-misr.jpl.nasa.gov
MISR Data Archive: http://eosweb.larc.nasa.gov/project/misr/misr_table