



## Levels of *Data Preprocessing* For Land Remote Sensing Data included in the Definition of *Unenhanced Data*

### Basic philosophy about data levels:

Unenhanced data are numbers proportional in a defined way to the radiance measured by a sensor viewing a specific surface area. A measure of what existed on the Earth system at a point in time, placed geographically and calibrated radiometrically.

### Raw

Unprocessed, raw data acquired by a land remote sensing system as it views the Earth. Data are stored in the original telemetry format as transmitted from the satellite to the ground station.

### Level 0R

Reformatted, raw data acquired by the satellite as it views the Earth. Reformatting includes: 1) reordering of the scan data, 2) aligning detectors, etc., and includes data files of ancillary data necessary for processing to higher levels. The data are not radiometrically corrected, the pixels are not resampled, and the pixels are not registered to an earth location.

### Level 1R

A radiometrically corrected digital data along with the files containing metadata, calibration parameters, payload correction data, and other sensor information such as mirror scan correction data, a geolocation table, and internal calibration data. The digital image pixels are not resampled or geometrically corrected.

### Level 1 Systematically Corrected

A radiometrically corrected and geometrically corrected digital data along with metadata, calibration parameters, and a geolocation table. The radiometrically corrected pixels are resampled for geometric correction and registration to an earth location with a geodetic accuracy of 5 to 25 times the sensor ground instantaneous field of view (GIFOV).

### Level 1 Precision Corrected

Geometric precision correction of the satellite data using ground control points to correlate the spacecraft's predicted position with its actual geodetic position. Geometric precision correction provides an accuracy of +/- one half of the sensor GIFOV, where terrain variation is low.

### Level 1 Terrain Corrected

Terrain correction includes geometric precision correction using ground control points and are corrected pixel-by-pixel for local terrain displacement errors by utilizing a Digital Terrain Model. The location accuracy is +/- one half of the sensor GIFOV, regardless of terrain variation. The terrain adjustment removes distortion that can result in high relief areas. Provides the highest level of geodetic accuracy.

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