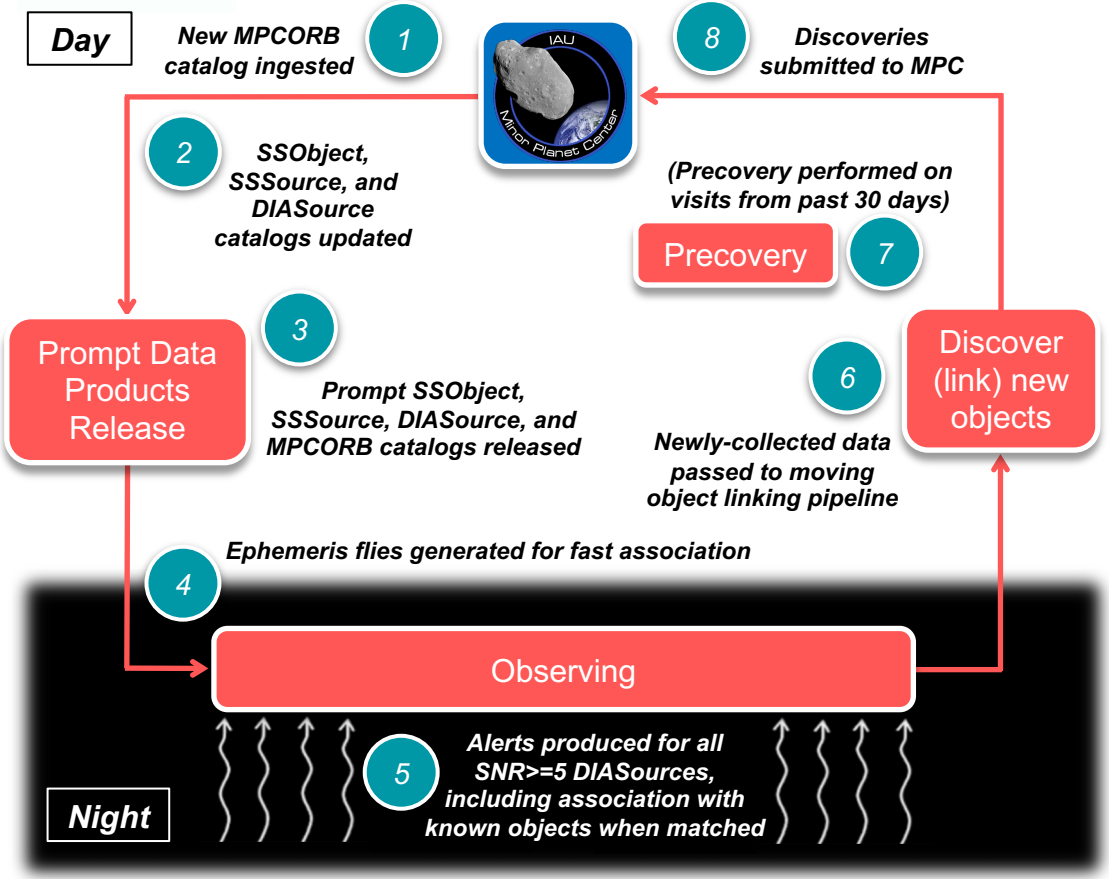
Data Products and Processing for Solar System Science



Solar System Processing Pipeline Elements

1. *Ingest Minor Planet Center orbit database to obtain new discoveries & detections*
2. *Update Prompt Data Product catalogs with new discoveries & detections from MPCORB*
3. *Release Solar System Prompt Data Products*
4. *Precompute ephemerides of known objects for fast association during nightly observing*
5. *Issue real-time alerts of all detections of known (associated) & unknown moving & variable sources*
6. *Run HelioLinC3D for tracklet linkage (objects need three tracklets within 15 days and SNR>=5)*
7. *(Precovery forced PSF photometry; run monthly)*
8. *Submit discoveries and measurements of known objects to Minor Planet Center*

Acronym Definitions: MPC = Minor Planet Center; SS = Solar System; DIA = difference image analysis; SNR = signal-to-noise ratio

Resources: Data Products Definition Document: http://ls.st/dpdd; Data Preview 0.3 (DP0.3) of simulated Solar System catalogs: http://dp0-3.lsst.io