

Calibrated EPIC L1B digital count
443, 551, 680, 688, 764, 780 nm
@ SZA, VZA < 70°

TOA reflectance
- Radiometric calibration
- Geo-registration

Water Land or water? Land

Ancillary data
- Surface pressure (MERRA-2)
- Surface refl. (GOME-2)

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- Surface pressure (MERRA-2)
- Surface refl. (MOD43C3)

Cloud & sun-glint mask
- Uniformity @443,551 nm
- Brightness @443,680,780 nm
- Glint angle < 30°

Cloud & NDVI mask
- Uniformity @443,551 nm
- Brightness @443,680 nm
- NDVI < 0.2 or As > 0.1 @ 680 nm

3x3 pixel aggregation

Available 3x3 pixels ≥ 4

No → **No retrieval**

Averaging over 3x3 pixels
- Mean EPIC TOA refl. & geometry
- Mean surface refl.

UNL-VRM hyperspectral simulations
(Table 1)

Lookup table

Flexible spectral fitting

Retrievals @ 24 km resolution
- AOD at 680 nm
- ALH (when AOD > 0.2)