

(a) SDS name	Scale	Description
Optical_Depth_047	0.001	Blue-band aerosol optical depth
Optical_Depth_055	0.001	Green-band aerosol optical depth
AOD_Uncertainty	0.0001	AOD uncertainty
FineModeFraction	0.0001	Fine mode fraction over water
Column_WV	0.001	Column water vapor (cm)
Injection_Height	n/a	Smoke injection height (meters above ground)
AOD_QA	n/a	AOD QA
AOD_MODEL	0.001	Regional background model used

Sun-view geometry suite at 5 km

cosSZA	0.0001	Cosine of solar zenith angle (5 km)
cosVZA	0.0001	Cosine of view zenith angle (5 km)
RelAZ	0.01	Relative azimuth angle (5 km)
Scattering_Angle	0.01	Scattering angle (5 km)
Glint_Angle	0.01	Glint angle (5 km)

(b) Bits Definition

0-2 Cloud mask

- 000 – Undefined
 - 001 – Clear
 - 010 – Possibly cloudy (detected by AOD filter)
 - 011 – Cloudy (detected by cloud mask algorithm)
 - 101 – Cloud shadow
 - 110 – Hot spot of fire
 - 111 – Water Sediments
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3-4 Land-water snow/ice mask

- 00 – Land
 - 01 – Water
 - 10 – Snow
 - 11 – Ice
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5-7 Adjacency mask

- 000 – Clear
 - 001 – Adjacent to clouds
 - 010 – Surrounded by more than 8 cloudy pixels
 - 011 – Adjacent to a single cloudy pixel
 - 100 – Adjacent to snow
 - 101 – Snow was previously detected in this pixel
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8-11 QA for AOD over land and water

- 0000 – Best quality
 - 0001 – Water sediments are detected (water)
 - 0011 – There is one neighboring cloud
 - 0100 – There is > 1 neighboring clouds
 - 0101 – No retrieval (cloudy or other)
 - 0110 – No retrievals near detected or previously detected snow
 - 0111 – Climatology AOD (0.02): altitude above 4.2 km (Land)/3.5 km (water)
 - 1000 – No retrieval due to sun glint over water
 - 1001 – Retrieved AOD is very low (< 0.05) due to glint (water)
 - 1010 – AOD within ± 2 km from the coastline (may be unreliable)
 - 1011 – Land, research quality: AOD retrieved but CM is possibly cloudy
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12 Glint mask

- 0 – No glint
 - 1 – Glint (glint angle < 40°)
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13-14 Aerosol model

- 00 – Background model (regional)
 - 01 – Smoke detected
 - 10 – Dust model (dust detected)
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