

| (a) SDS name | Scale | Description |
|--------------------|--------|---|
| Sur_refl[1–12] | 0.0001 | Surface reflectance, bands 1–12 |
| Sigma_BRFn[1–2] | 0.0001 | BRFn uncertainty, bands 1–2 |
| Snow_Fraction | 0.0001 | Snow fraction |
| Snow_Grain_Size | 0.001 | Snow grain diameter (mm) |
| Snow_Fit | 0.0001 | Land–snow mixture model RMSE in bands 1, 5, 7 |
| Status_QA | n/a | QA bits |
| Sur_refl_500m[1–7] | 0.0001 | Surface reflectance at 500 m, bands 1–7 |

Sun–view geometry suite (5 km)

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|-------|-----|-------------------------------|
| F_v | n/a | RTLS volumetric kernel (5 km) |
| F_g | n/a | RTLS geometric kernel (5 km) |

| (b) Bits | Definition |
|----------|---|
| 0–2 | Cloud mask |
| 3–4 | Land water snow/ice mask |
| 5–7 | Adjacency mask |
| 8 | AOD level |
| | 0 – AOD is low (≤ 0.6) 1 – AOD is high (> 0.6) or undefined |
| 9 | Algorithm initialization status |
| | 0 – Algorithm is initialized 1 – Algorithm is not initialized |
| 10 | BRF retrieved over snow assuming AOD = 0.05 |
| | 0 – no 1 – yes |
| 11 | Altitude > 4.2 km (land)/ 3.5 km (water), BRF is retrieved using climatology AOD = 0.02 |
| | 0 – No 1 – Yes |
| 12–14 | Surface change mask |
| | 000 – No change 001 – Regular change: greenup 010 – Big change: greenup 011 – Regular change: senescence 100 – Big change: senescence |