

(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)

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