Step	Conditions	Classification	References
Masking at $0.5\,km \times 0.5\,km$ resolution			
1	SD of TOA reflectance at 555 nm in 3 pixel $\times$ 3 pixel blocks > 0.0025	Cloud over ocean (whole 9 pixels)	Remer et al. (2005) Choi et al. (2016)
2	Ratio of maximum to minimum TOA reflectance at 412 nm in 3 pixel $\times$ 3 pixel blocks > 1.1	Cloud over land (whole 9 pixels)	Hsu et al. (2013)
3	SD of TOA reflectance at 490 nm in 3 pixel $\times$ 3 pixels block > 0.015	Cloud over land (whole 9 pixels)	Wang et al. (2017)
4	Mean-weighted SD of TOA reflectance at 490 nm in 3 pixel $\times$ 3 pixel blocks > 0.0025	Cloud over land (whole 9 pixels)	Wang et al. (2017)
5	TOA reflectance at 490 nm > 0.4	Cloud over ocean and land	Remer et al. (2005) Choi et al. (2016)
6	Pseudo GEMI index < 1.87	Cloud over land	Pinty and Verstraete (1992), Kopp et al. (2014)
7	NDVI using TOA reflectance at 660 and 865 nm < -0.01	Inland water over land	Hsu et al. (2013)
8	Ratio of TOA reflectance at 490 to 660 nm < 0.75, and SD of TOA reflectance at 490 nm < 0.015 (or mean-weighted SD of TOA reflectance at 490 nm < 0.0025)	Homogenous dust call-back over land and ocean	Remer et al. (2005)
Aggregation to $6\,km \times 6\,km$ resolution			
9	Number of available pixels after masking among 12 pixel $\times$ 12 pixel blocks > 72	Discard darkest 20 % and brightest 40 % of pixels referred to TOA reflectance at 490 nm, and average remaining pixels	Remer et al. (2005) Levy et al. (2007) Choi et al. (2016)
Additional masking in $6\,km \times 6\,km$ resolution			
10	SD of TOA reflectance at 412 nm > 0.003 and mean TOA reflectance at 412 nm in 12 pixel $\times$ 12 pixel blocks > 0.22	Cloud over land and ocean	
11	Mean TOA reflectance at 412 nm > 0.33 and mean TOA reflectance at 555 nm > 0.33	Cloud over land and ocean	
12	Mean TOA reflectance at 412 nm < 0.30 and mean TOA reflectance at 660 nm > 0.2	Low aerosol signals and arid area masking	
13	Difference in TOA reflectance at 660 nm between direct-measured value and linear-interpolated value from 412 and 865 nm < -0.01	Highly turbid pixel masking over ocean	Li et al. (2003) Choi et al. (2016)