

Prior information	Origin of dataset	Resolution	Symbol
Surface albedo	OMI-based monthly minimum LER update of Kleipool et al. (2008) When available, the TROPOMI-based LER product will be used.	Month $0.5^\circ \times 0.5^\circ$ (lat $\times$ long) 342 nm	$A_s$
Digital elevation map	GMTED2010, Danielson et al. (2011)	Average over the ground pixel area.	$z_s$
Cloud fraction	Operational cloud product based on a Lambertian cloud model (S5P: Loyola et al., 2018; OMI: Veefkind et al., 2016).	For each ground pixel.	$f_c$
Cloud pressure			$p_{\text{cloud}}$
Cloud albedo			$A_{\text{cloud}}$
A priori HCHO profiles	Forecast (NRT) or reanalysis from TM5-MP CTM	Daily profiles at overpass time $1^\circ \times 1^\circ$ (lat $\times$ long) 34 sigma pressure levels up to 0.1 hPa	$n_a$