

Supplement of**Assessing the Assimilation of Himawari-8 observations on Aerosol Forecasts and Radiative Effects During Pollution Transport from South Asia to the Tibetan Plateau**

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Table S1. The summary of the abbreviations and their corresponding full names in this study.

Abbreviation	Full name	Abbreviation	Full name
SA	South Asia	NMVOC	volatile organic compounds
TP	Tibetan Plateau	FINN	the Fire INventory from NCAR
DA	data assimilation	MEGAN	the Model of Emissions of Gasses and Aerosols from Nature
AOT	aerosol optical thickness	GOCART	the Goddard Chemical Aerosol Radiation Transport
WRF-Chem	Weather Research and Forecasting-Chemistry	NCEP	the National Centers for Environmental Prediction
MODIS	Moderate Resolution Imaging Spectroradiometer	AHI	Advanced Himawari Imager
AERONET	AERosol ROBotic NETwork	AE	Ångström exponent
CCN	cloud condensation nuclei	JAXA	the Japan Aerospace Exploration Agency
BC	black carbon	DT	the Dark Target
GOES-8	Goddard Earth Observing System-8	DB	the Deep Blue
GOCI	Geostationary Ocean Color Imager	SYN	synoptic
CERES	Clouds and the Earth's Radiant Energy System	BIAS	mean bias
ERA5	the fifth generation of the European Centre for Medium-Range Weather Forecasts Re-Analysis	RMSE	root-mean-square error
LETKF	local ensemble transform Kalman filter	CORR	correlation coefficient
IC	initial conditions	PDFs	the probability distribution functions

GSI	Gridpoint Statistical Interpolation	DSRc	downward solar radiation under clear-sky
CBMZ	Carbon Bond Mechanism	DSR	downward radiation flux at the surface at the all-sky
MOSAIC	Model for Simulating Aerosol Interactions and Chemistry	PBLH	planetary boundary layer height
RRTMG	Rapid Radiative Transfer Model	T2	2-m temperature
OC	Organic Carbon	RH2	2-m relative humidity
PM _{2.5}	fine particulate matter	q	water vapor mixing ratio
PM ₁₀	coarse particulate matter	T	temperature