Table 3. Parameters stored in the dataset files for each TC separately. N_{TC} denotes the number of TC track positions, N_{alt} denotes the number of altitude levels (600 by default) and N_{maxRO} stands for the maximum number of RO profiles found for a single TC best track position.

Parameter (unit)	Dimension	Description
altitude (m)	$N_{alt} \times 1$	Altitudes above geoid between 0 [TS1] and 59.9 km with 100 m spacing.
latTC (°N)	$N_{TC} \times 1$	Latitude of current TC track position.
lonTC (°E)	$N_{TC} \times 1$	Longitude of current TC track position.
basin	$N_{TC} \times 1$	Flag values (1–7) indicating the ocean basin for the current storm position: 1 = east Pacific, 2 = North Atlantic, 3 = north Indian, 4 = South Atlantic, 5 = south Indian, 6 = South Pacific, 7 = western Pacific.
dist2land (km)	$N_{TC} \times 1$	Distance between current TC position and land.
landfall (km)	$N_{TC} \times 1$	Minimum distance of TC to land over next 3 h (0 means landfall).
nature	$N_{TC} \times 1$	Flag values (1–6) indicating the nature of the current TC stage: 1 = not reported, 2 = disturbance, 3 = tropical system, 4 = extratropical system, 5 = subtropical system, 6 = mixed (occurs when agencies reported inconsistent types not reported).
storm_dir (°)	$N_{TC} \times 1$	Storm translation direction.
storm_speed (m s^{-1})	$N_{TC} \times 1$	Storm translation speed.
subbasin	$N_{TC} \times 1$	Flag values (1–9) indicating ocean sub-basin for the current storm position: 1 = Arabian Sea., 2 = Bay of Bengal, 3 = central Pacific, 4 = Caribbean Sea, 5 = Gulf of Mexico, 6 = North Atlantic, 7 = eastern Australia, 8 = western Australia, 9 = no sub-basin for this position.
wmo_agency	$N_{TC} \times 1$	Flag values (1–10) indicating name of the responsible WMO agency: 1 = not provided, 2 = atcf, 3 = bom, 4 = hurdat_atl, 5 = hurdat_epa, 6 = nadi, 7 = newdelhi, 8 = reunion, 9 = Tokyo, 10 = wellington.
wmo_pres (Pa)	$N_{TC} \times 1$	Minimum central pressure from the responsible WMO agency.
wmo_wind (m s^{-1})	$N_{TC} \times 1$	Maximum sustained wind speed from the responsible WMO agency.
RO_datetime (seconds since 1 January 1970 00:00:0.0)	$N_{TC} \times N_{maxRO}$	Date and time of RO profile.
RO_ID	$N_{TC} \times 64 \times N_{maxRO}$	ID of collocated RO profile.
latRO (°N)	$N_{TC} \times N_{maxRO}$	Latitude of mean RO tangent point.
lonRO (°E)	$N_{TC} \times N_{maxRO}$	Longitude of mean RO tangent point.
QC	$N_{TC} \times N_{maxRO}$	RO overall retrieval quality control (0 and 1 stand for good and bad profiles).
datediff_RO_TC (s)	$N_{TC} \times N_{maxRO}$	Time difference between collocated RO profile and TC track position.
dist_RO_TC (km)	$N_{TC} \times N_{maxRO}$	Distance between positions of TC track and mean RO tangent point.
bending_angle (rad)	$N_{alt} \times N_{TC} \times N_{maxRO}$	Ionosphere-corrected RO bending angle profile.
bending_angle_climatology (rad)	$N_{alt} \times N_{TC} \times N_{maxRO}$	Corresponding monthly climatological RO bending angle profile, interpolated from grid with 2.5° × 2.5° spatial resolution.
pressure (Pa)	$N_{alt} \times N_{TC} \times N_{maxRO}$	RO air pressure profile.
refractivity (N units)	$N_{alt} \times N_{TC} \times N_{maxRO}$	RO refractivity profile.
specific_humidity (kg kg^{-1})	$N_{alt} \times N_{TC} \times N_{maxRO}$	RO specific humidity profile.
specific_humidity_climatology (kg kg^{-1})	$N_{alt} \times N_{TC} \times N_{maxRO}$	Corresponding monthly climatological RO specific humidity profile, interpolated from grid with 2.5° × 2.5° spatial resolution.
temperature (K)	$N_{alt} \times N_{TC} \times N_{maxRO}$	RO air temperature profile.
temperature_climatology (K)	$N_{alt} \times N_{TC} \times N_{maxRO}$	Corresponding monthly climatological RO air temperature profile, interpolated from grid with 2.5° × 2.5° spatial resolution.