

Correspondence of Variables Between Raw Data Files and the Common Data Format

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Following is a table that lists the correspondence between variable names in the various USAFR and NOAA data formats, as well as within the codeset and in the Level 1 Common NetCDF Data File (CNDF_L1). This table specifically compares the ARWO version 16.0.1.13 (used in 2012) with the NOAA ASCII and NetCDF formats from that year. Previous years often have fewer variables included in the ASCII listings.

The notation '->' indicates that the variable is not identical, but is rather translated into a different format (e.g. date/time) or different units (e.g. wind speed from knots to meters per second).

An asterisk (*) indicates that the variable is not currently output from the reader subroutine. Most of these * variables are of secondary importance, since they are subsidiary to the primary meteorological variables. These * variables may also provide navigational information that provides reference to the frame of the moving aircraft platform. Currently, these navigational variables are also of secondary importance.

	USAFR ASCII (ARWO ver. 16.0.1.3)	NOAA ASCII listing (circa 2012)	NOAA NetCDF (circa 2012)	variable name in reader subroutine	variable name in CNDF_L1	Data Type in CNDF_L1
Time of day (UTC)	GMT Time (HH:MM:SS)	---		platform_Stime	-> all_platform_Sdatetime_Chr (YYYYMMDDHHSS) -> all_timeoffset (seconds since 1970- 01-01 00:00:00.0 UTC)	character integer
Air Density Ratio	ADR (dimensionless)	---		* air_density_ratio (dimensionless)		
Angle of Attack	AOA (degrees)	---		attack_angle (degrees)	attack_angle (degrees)	float
Baro-Corrected Altitude	BCA (millibars)	---		* baro_corrected_altitude (millibars)		
Baroset Pressure	BSP (millibars)	---		baroset_pressure (millibars)		
Calibrated Air Speed	CAS (knots)	---		-> calibrated_air_speed (mps)		
Corrected Static Pressure	CSP (millibars)	Press (millibars)		corrected_static_pressur e (millibars)	all_platform_pressure (millibars)	float
Dynamic Pressure	DPR (millibars)	---		dynamic pressure (millibars)		
GPS Altimeter	GPSA (meters)	---		gps_altimeter (meters)	all_gps_altimeter (meters)	float
Ground Speed	GS (knots)	GnSpd (mps)		-> ground_speed (mps)	all_ground_speed (mps)	float
Inertial Altimeter	IA (meters)	---		* inertial_altimeter (meters)		
Inertial Static Pressure	ISP (millibars)	---		* inertial_static_pressure (millibars)		
Latitude	LAT (deg North)	Lat (deg North)		platform_latitude (degrees North)	all_platform_latitude (deg North)	float
Longitude	LON (deg East)	Lon (deg West)		platform_longitude (deg East)	all_platform_longitude (deg East)	float
Pressure Altitude	PA (millibars)	---		pressure_altitude (meters)	all_pressure_altitude (meters)	float
Pitch Angle	PITCH (degrees)	---		pitch_angle (degrees)	all_pitch_angle (degress)	float
Pressure Ratio	PR (dimensionless)	---		pressure_ratio (dimensionless)		
Total Pressure	PT (millibars)	---		total_pressure (millibars)		
Radar Altitude	RA (meters)	RdAlt (meters)		radar_altitude (meters)	all_radar_altitude (meters)	float
Roll angle	ROLL (degrees)	---		roll_angle (degrees)	all_roll_angle (degrees)	float
Side Slip	SS (degrees)	---		side_slip (degrees)	all_side_slip (degrees)	float

Corrected Static Air Temperature	TA (deg C)	Tempr (deg C)		corrected_static_air_temperature (deg C)	all_temperature (deg C)	float
True Air Speed	TAS (knots)	TAS (mps)		-> true_air_speed (mps)	all_true_air_speed (mps)	float
True Heading	THD (degrees)	Head (degrees)		true_heading (degrees)	all_true_heading (degrees)	float
Track	TRK (degrees)	Track (degrees)		track (degrees)	all_track (degrees)	float
Total Temperature	TT (deg C)	---		total_temperature (deg C)		
Velocity East	VE (knots)	---		* -> velocity_east (mps)		
Velocity North	VN (knots)	---		* -> velocity_north (mps)		
Vertical Velocity	V V (knots)	VtWnd (mps)		-> vertical_velocity (mps)	-> all_vertical_velocity (mps)	float
Wind Direction	WDIR (deg from North)	WndDr (deg from North)		wind_dir (deg from North)	all_wind_direction (deg from North)	float
Wind Speed	WSPD (knots)	WndSpd (mps)		-> wind_speed (mps)	-> all_wind_speed (mps)	float
Dew Point Temperature - Digital	TD (deg C)	Dewpt (deg C)		dew_point_temperature_digital (deg C)	all_dew_point_temperature (deg C)	float
Rain Rate (SFMR)	RR (mm/hr)	---		sfmr_rain_rate (mm/hr)	all_sfmr_rain_rate (mm/hr)	float
Surface Wind Speed (SFMR)	SWS (knots)	---		-> sfmr_surface_wind_speed (mps)	-> all_sfmr_surface_wind_speed (mps)	float
Course Correction	CC (degrees)	---		course_correction (degrees)		
Deviation Value	DVAL (meters)	D Val (meters)		deviation_value (meters)	all_deviation_value (meters)	float
Geopotential Altitude	GA (meters)	GeoAl (meters)		geopotential_altitude (meters)	all_geopotential_altitude (meters)	float
Height of Standard Surface	HSS (meters)	---		height_of_standard_surface (meters)		
Sea Level Pressure	SLP (millibars)	SfcPr (millibars)		sea_level_pressure (millibars)	all_sea_level_pressure (millibars)	float
Wind Direction (calculated)	WD (deg from North)	---		* wind_dir_calculated (deg from North)		
Wind Speed (calculated)	WS (knots)	---		* -> wind_speed_calculated (mps)		
Parameter Validity Flags	Valid Flags (binary)	---		* parameter_validity_flags (binary)		
Data Source Tags	Source Tags (hex)	---		* data_source_tags (hex)		
Satellite Communications Status	SATCOM (binary)	---		* satcom_status (binary)		
AVAPS Communications Status	AVAPS (binary)	---		* avaps_status (binary)		
<i>Dew Point Temperature - Analog (deprecated)</i>	<i>TDA (deg C)</i>	---		* <i>dew_point_temperature_analog (deg C)</i>		
<i>Dew Point Temperature - Digital (deprecated)</i>	<i>TDD (deg C)</i>	---		* <i>dew_point_temperature_digital (deg C)</i>		
<i>Motorola ARC-210 Radio Status (deprecated)</i>	<i>ARC210 (binary)</i>	---		* <i>arc210_radio_status (binary)</i>		
<i>Analog/Digital Card Status (deprecated)</i>	<i>AD (binary)</i>	---		* <i>analog_digital_card_statuses (binary)</i>		
Digital Dew Point Hygrometer Status	DDPH (binary)	---		* dew_point_hygrometer_digital (binary)		
Main Aircraft Data Bus	1553 (digital)	---		* var1533 (digital)		
Stepped Frequency Microwave Radiometer Output	SFMR (hexadecimal)	---		* sfmr_output (hexadecimal)		

Liquid Water Content J-W Fuselage	---			cloud_liquid_water (g /m^3)	all_cloud_liquid_water (g/m^3)	float
Mixing Ratio	---	MixR (g/m^3)				
Equivalent Potential Temperature	---	ThetaE (deg C**?)				