DYNAMO 2011 P3 VARIABLES

Table originally produced by Ian Sears and Jessica Williams (NOAA AOC), modified by DYNAMO P-3 instrument PIs (Qing Wang, Djamal Khelif, Anthony Bucholtz, Dave Jorgensen, Chris Zappa, and Patrick Chuang)

Parmaeter Name	Description	Rate	Units	Comments	Responsible PI
AA.1 / AAI.1	Attack Angle	1Hz	degree		**Default contact persons if PI not denoted: Ian Sears (ian.sears@noaa.gov) and Jessica Williams (jessica.williams@noaa.gov)**
AAref (AA.1)	Attack Angle, Reference	1Hz	degree		
ACCZref (AccZfilterI-GPS.1)	Vertical Acceleration, Reference	1Hz	meter per second squared		
ALTGA.1	Geopotential Altitude	1Hz	meter		
ALTPA.1/2	AOC Pressure Altitude from PS.1 / PS.2	1Hz	meter		
ALTPAft.1	AOC Pressure Altitude #1 in feet	1Hz	feet		
ALTPAref (ALTPA.1)	Pressure Altitude, Reference	1Hz	meter		
ALTref (AltI-GPS.1)	Altitude, Reference	1Hz	meter		
ASZ_DPJ	Jorgenson Vertical Air Speed	1Hz	meter per second	Aircraft vertical motion relative to the air using algorithm described in "Jorgensen, D. P., and M. A. LeMone, 1989: Vertical velocity characteristics of oceanic convection. *J. Atmos. Sci* ., 46, 621–644."	Dave Jorgensen (david.p.jorgensen@noaa.gov)
AsfmrGamma.1 / AsfmrGamma.2 / AsfmrGamma.3 / AsfmrGamma.4 / AsfmrGamma.5 / AsfmrGamma.,6	AOC SFMR Gamma 0-5 from B slot			Not Calculated	

AsfmrRainRate.1	AOC SFMR Rain rate			Not Calculated	
AsfmrT.1 / AsfmrT.2 / AsfmrT.3 / AsfmrT.4 / AsfmrT.5 / AsfmrT.6 / AsfmrT.7	AOC SFMR Thermistor Temperature T0-T6			Not Calculated	
AsfmrTB.1 / AsfmrTB.2 / AsfmrTB.3 / AsfmrTB.4 / AsfmrTB.5 / AsfmrTB.6	AOC SFMR Brightness Temperature			Not Calculated	
AsfmrWErr.1	AOC SFMR Error			Not Calculated	
AsfmrWS.1	AOC SFMR Wind Speed			Not Calculated	
AXBT.1/2/3	AXBT Temperature Channel 1/2/3	25Hz	Celsius	Original data recorded on the flight with no lat/lon information and no QC	Qing Wang (qwang@nps.edu)
AXBTVolt.1/2/3	AXBT Raw Voltage Channel 1/2/3	25Hz	Volt	not QC'd	
AccAXI.1/2	Aircraft LONGITUDAL ACCELERATION	50Hz	meter per second squared		
AccAYI.1/2	Aircraft LATERAL ACCELERATION	50Hz	meter per second squared		
AccAZI.1/2	Aircraft NORMAL ACCELERATION	50Hz	meter per second squared		
AccXI-GPS.1/2	Earth Relative X ACCELERATION	50Hz	meter per second squared		
AccYI-GPS.1/2	Earth Relative Y ACCELERATION	50Hz	meter per second squared		
AccZI-GPS.1/2	Aircraft Relative Z ACCELERATION	50Hz	meter per second squared		
AccZfilterI-GPS.1/2	Earth-Relative Vertical Acceleration	50Hz	meter per second squared		
AltBCADDU.1	Corrected Barometric Altitude, Flight Deck	20Hz	meter		

AltGPS.1 / AltGPS.2	GPS Altitude	25Hz	meter		
AltGPS.3	Novatel Altitude	20Hz	meter		
AltGPSft.1	GPS Altitude #1 in feet	1Hz	feet		
AltI-GPS.1 / AltiI-GPS.2	Blended Altitude	50Hz	meter		
AltI-GPSft.1	Blended Altitude #1 in feet	1Hz	meter		
AltPaADDU.1	Pressure Altitude, Flight Deck	20Hz	meter		
AltPaADDUft.1	Pressure Altitude, Flight Deck in feet	1Hz	feet		
AltRa.1 / AltRa.2	HG9550 RADAR ALTIMETER	50Hz	meter		
AltRaCnt.1 / AltRaCnt.2	HG9550 RADAR ALTIMETER burst count	50Hz			
AltRaRate.1 / AltRaRate.2	HG9550 RADAR ALTIMETER rate of change	50Hz	meter per second		
AltRaStat.1 / AltRaStat.2	HG9550 RADAR ALTIMETER status bits	50Hz		Used by AOC engineers	
AltRa_Cor.1 / AltRa_Cor.2	HG9550 RADAR ALTIMETER Corrected	1Hz	meter		
AltRa_Corft.1	HG9550 RADAR ALTIMETER Corrected #1 in feet	1Hz	feet		
AltRaft.1	HG9550 RADAR ALTIMETER #1 in feet	1Hz	feet		
AltRateADDU.1	ALTITUDE RATE, Flight Deck	20Hz	meter per second		
CasADDU.1	COMPUTED AIRSPEED, Flight Deck	20Hz	meter per second		
CasADDUkt.1	COMPUTED AIRSPEED, Flight Deck in knots	1Hz	knot		
DA.1 / DA.2	Drift Angle	1Hz	degree		
Daref (DA.1)	Drift Angle, Reference	1Hz	degree		
DIFF.1	Difference of blended Latitude and GPS Latitude	1Hz	degree		
DSLIP.1	Differential Slip Velocity	1Hz	meter per second		
DS_AltGA.1/2/3/4/5/6/7/8	Dropsonde Geopotential Altitude, Channels 1 -8	4Hz	meter		
DS_GPSAlt.1/2/3/4/5/6/7/8	Dropsonde GPS Altitude, Channels 1 -8	4Hz	meter		
DS_GPSGsZ.1/2/3/4/5/6/7/8	Dropsonde Vertical Velocity, Channels 1 -8	4Hz	meter per second		

DS_GPSLat.1/2/3/4/5/6/7/8	Dropsonde Latitude, Channels 1 - 8	4Hz	degree	Data here were recorded on the NOAA data system during the flight. Users should download the QC'd data, which is available from EOL data catelog	PI: Q. Wang/S. Chen Data QC: June Wang (junhong@ucar.edu)
DS_GPSLon.1/2/3/4/5/6/7/8	Dropsonde Longitude, Channels 1 -8	4Hz	degree		
DS_ID.1/2/3/4/5/6/7/8	Dropsonde Serial Number, Channels 1 -8	4Hz			
DS_PS.1/2/3/4/5/6/7/8	Dropsonde Air Pressure, Channels 1 -8	4Hz	millibar		
DS_RH.1/2/3/4/5/6/7/8	Dropsonde Relative Humidity, Channels 1 -8	4Hz	%		
DS_Rh1.1/2/3/4/5/6/7/8	Dropsonde RH1 Sensor, Channels 1 -8	4Hz	%		
DS_Rh2.1/2/3/4/5/6/7/8	Dropsonde RH2 Sensor, Channels 1 -8	4Hz	%		
DS_SndSats.1/2/3/4/5/6/7/8	Dropsonde Number of Sonde Sats, Channels 1 -8	4Hz			
DS_Ta.1/2/3/4/5/6/7/8	Dropsonde Temperature, Channels 1 -8	4Hz	Celsius		
DS_Wd.1/2/3/4/5/6/7/8	Dropsonde Wind Direction, Channels 1 -8	4Hz	degree		
DS_WndErr.1/2/3/4/5/6/7/8	Dropsonde Wind Error, Channels 1 -8	4Hz	meter per second		
DS_WndSats.1/2/3/4/5/6/7/8	Dropsonde Number of Wind Sats, Channels 1 -8	4Hz			
DS_Ws.1/2/3/4/5/6/7/8	Dropsonde Wind Speed, Channels 1 -8	4Hz	meter per second		
DV.1	D Value, ALTGA – ALTPA	1Hz	meter		
DWING.1	Differential Wind Velocity	1Hz	meter per second		
EE.1/2/3	Vapor Pressure from TdM.1/2/3	1Hz	millibar		
EEref (EE.2)	Vapor Pressure, Reference	1Hz	millibar		
EW.1	Saturated Vapor Pressure	1Hz			
GDIFF.1/2	Position Difference between blended Inertial and GPS	1Hz	meter		
GM.1	Ratio Specific Heat	1Hz			
GO.1	Ratio of specific heat	1Hz			
GPS_AltErr.1	Novatel GPS Altitude Error	20Hz	meter		
GPS_Fxtime	Novatel GPS Time of Fix	20Hz			
GPS_GGAcnt.1	Novatel GGA burst count	20Hz			
GPS_GSAcnt.1	Novatel GSA burst count	1Hz			

GPS_GSTcnt.1	Novatel GST burst count	20Hz			
GPS_GeoidHt	Novatel GPS Height of Geoid	20Hz	meter		
GPS_Hdop.1	Novatel GPS HDOP	20Hz			
GPS_LatErr.1	Novatel GPS Latitude Error	20Hz	meter		
GPS_LonErr.1	Novatel GPS Longitude Error	20Hz	meter		
GPS_Mode.GPGSA	Novatel GPS Mode	1Hz			
GPS_Pdop.GPGSA	Novatel PDOP	1Hz			
GPS_Quality.1	Novatel GPS Quality Indicator	20Hz			
GPS_SatNum.1	Novatel GPS # of satellites used in position	20Hz			
GPS_SatSys1.1 / GPS_SatSys2.2 / GPS_SatSys3.3 / GPS_SatSys4.4 / GPS_SatSys5.5 / GPS_SatSys6.6 / GPS_SatSys7.7 / GPS_SatSys8.8 / GPS_SatSys9.9 / GPS_SatSys10.10 / GPS_SatSys11.11 / GPS_SatSys12.12	Novatel GPS Satellite System in Use	1Hz			
GPS_Vdop.1	Novatel GPS VDOP	20Hz			
GS.1	Ground Speed	1Hz	meter per second		
GSXref (GsXI-GPS.1)	Ground Speed Vector, East Component, Reference	1Hz	meter per second		
GSYref (GsYI-GPS.1)	Ground Speed Vector, North Component, Reference	1Hz	meter per second		
GSZ_DPJ.1	Jorgenson Vertical Ground Speed	1Hz	meter per second	aircraft vertical motion relative to the ground (i.e., aircraft vertical ground speed)	Dave Jorgensen (david.p.jorgensen@noaa.gov)
GSZref (GsZI-GPS.1)	Aircraft Vertical Velocity, Reference	1Hz	meter per second		
GsXI-GPS.1 / GsXI_GPS.2	East-West Velocity	50Hz	meter per second		
GsYI-GPS.1 / GsYI-GPS.2	North-South Velocity	50Hz	meter per second		

GsZI-GPS.1/2	Blended Vertical Groundspeed	50Hz	meter per second		
HT.1	Height of Std. Press. Surface	1Hz	meter		
HUM_ABS.1/2/3	absolute humidity from tdm 1/2/3	1Hz	gram per cubic meter		
HUM_ABSref (HUM_ABS.1)	absolute humidity, reference	1Hz	gram per cubic meter		
HUM_REL.1	Relative Humidity	1Hz	%		
HUM_SPEC.1	specific humidity from tdref	1Hz	gram per kilogram		
HerrGPS.1/2	GPS ESTIMATED HORIZONTAL ERROR	25Hz			
Hum_Abs.1	DYNAMO Krypton	1Hz	Volt		Djamal Khelif (dkhelif@uci.edu)
IAS.1	Computed Indicated air speed	1Hz	meter per second		
IASkt.1	Computed Indicated air speed in knots	1Hz	knot		
IasADDU.1	INDICATED AIRSPEED, Flight Deck	10	meter per second		
IRDTemp.3 (IrradIRD.1)	NADIR BBIR Temp	25Hz	Celsius		Anthony Bucholtz (Anthony.Bucholtz@nrlmry.nay.mil)
IrradIRDVolt.1	NADIR BBIR Temp Voltage	25Hz	Volt		
IRUTemp.3 (IrradIRU.1)	ZEINITH BBIR Temp	25Hz	Celsius		
IrradIRUVolt.1	ZEINITH BBIR Temp Voltage	25Hz	Volt		
SolDTemp.2 (IrradSolD.1)	NADIR BBSR Temp	25Hz	Celsius		
IrradSolDVolt.1	NADIR BBSR Temp Voltage	25Hz	Volt		
SolUTemp.2 (IrradSolU.1)	ZEINITH BBSR Temp	25Hz	Celsius		
IrradSolUVolt.1	ZEINITH BBSR Temp Voltage	25Hz	Volt		
LATref (LatI-GPS.1)	Latitude, Reference	1Hz	degree		
LONref (LonI-GPS.1)	Longitude, Reference	1Hz	degree		
LWC.1	King Liquid Water Content	25Hz	milliliter	Not Available	
LWCVolt.1	King Liquid Water Content Voltage	25Hz	Volt	Not Available	
LatGPS.1 / LatGPS.2	GPS Latitude	25Hz	degree		
LatGPS.3	Novatel Latitude	20Hz	degree		
LatI-GPS.1/2	Blended Inertial/GPS LATITUDE	50Hz	degree		
LicAccY.L	LICOR Acceleration - Y			Not Calculated	

LicAccYVolt.L	LICOR Acceleration – Y Voltage			Not Calculated	
LicAccZ.L	LICOR Acceleration - Z			Not Calculated	
LicAccZVolt.L	LICOR Acceleration – Z Voltage			Not Calculated	
LicCO2D.1	LICOR CO2	25Hz	Volt		Djamal Khelif (dkhelif@uci.edu)
LicCO2DVolt.1	LICOR CO2 Voltage	25Hz	Volt		
LicHum_Abs.1	LICOR Humidity	25Hz	%		
LicHum_AbsVolt.1	LICOR Humidity Voltage	25Hz	Volt		
LicPT.1	LICOR Pressure	25Hz	millibar		
LicPTVolt.1	LICOR Pressure Voltage	25Hz	Volt		
LicPsam.L	LICOR Sample Pressure			Not Calculated	
LicPsamVolt.L	LICOR Sample Pressure Voltage			Not Calculated	
LicTTMi.1	LICOR Inlet Temp	25Hz	Celsius		Djamal Khelif (dkhelif@uci.edu)
LicTTMiVolt.1	LICOR Inlet Temp	25Hz	Volt		
LicTTMo.1	*LICOR Outlet Temp*	*25Hz*	*Celsius*		
LicTTMoVolt.1	*LICOR Outlet Temp Voltage*	*25Hz*	*Volt*		
LicTdM.1	LICOR Dewpoint Temp	25Hz	Celsius		
LicTdMVolt.1	LICOR Dewpoint Temp Voltage	25Hz	Volt		
LonGPS.1 / LonGPS.2	GPS Longitude	25Hz	degree		
LonGPS.3	Novatel Longitude	20Hz	degree		
LonI-GPS.1/2	Blended Inertial/GPS LONGITUDE	50Hz	degree		
MACH.1	Mach Number	1Hz	mach		
MACH_SQ.1	Aircraft Mach Number Squared	1Hz	mach squared		
MR.1	Mixing Ratio	1Hz	gram		
MachADDU.1	MACH NUMBER, Flight Deck	10Hz	mach		
PCAB.1	Cabin Pressure Sensor	25Hz	millibar		
PCAB.L	Cabin Pressure Sensor			Not Calculated	
PCABVolt.1	Cabin Pressure Sensor Voltage	25Hz	Volt		
PCABVolt.L	Cabin Pressure Sensor Voltage			Not Calculated	
PDAlphaF.1	Fuselage Differential Pressure Transducer	25Hz	millibar		
PDAlphaFVolt.1	Fuselage Differential Pressure Transducer Voltage	25Hz	Volt		
PDAlphaR.1	Radome Differential Pressure Transducer	25Hz	millibar		Djamal Khelif (dkhelif@uci.edu)
PDAlphaRVolt.1	Radome Differential Pressure Transducer Voltage	25Hz	Volt		

PDAref (PDAlphaF.1)	Fuselage Differential Pressure Transducer, Reference	10Hz	millibar		
PDBetaF.1	Sideslip Differential Pressure Transducer	25Hz	millibar		
PDBetaFVolt.1	Sideslip Differential Pressure Transducer Voltage	25Hz	Volt		
PDBetaR.1	Radome Differential Pressure Transducer	25Hz	millibar		Djamal Khelif (dkhelif@uci.edu)
PDBetaRVolt.1	Radome Differential Pressure Transducer Voltage	25Hz	Volt		
PDBref (PDBetaF.1)	Sideslip Differential Pressure Transducer, Reference	1Hz	millibar		
PDSref (PDBetaR.1)	Radome Differential Pressure Transducer, Reference	1Hz	millibar		
PITCHref (PitchI-GPS.1)	Aircraft Pitch Angle, Reference	1Hz	degree		
PQ.1	Fuselage Corrected Dynamic Static Pressure	1Hz	millibar		
PQ.2	Wingtip Corrected Dynamic Static Pressure	1Hz	millibar		
PQAlphaF.1	Fuselage Dynamic Pressure Transducer, Attack Probe	25Hz	millibar		
PQAlphaFVolt.1	Fuselage Dynamic Pressure Transducer, Attack Probe Voltage	25Hz	Volt		
PQAref (PQAlphaF.1)	Fuselage Dynamic Pressure Transducer, Reference	1Hz	millibar		
PQBetaF.1	Fuselage Dynamic Pressure Transducer Sideslip	25Hz	millibar		
PQBetaFVolt.1	Fuselage Dynamic Pressure Transducer Sideslip Voltage	25Hz	Volt		
PQBref (PQBetaF.1)	Fuselage Dynamic Pressure Transducer, Reference	1Hz	millibar		
PQF.1 / PQF.2	Fuselage Dynamic Pressure Transducer	25Hz	millibar		
PQFVolt.1 / PQFVolt.2	Fuselage Dynamic Pressure Transducer Voltage	25Hz	Volt		
PQFref (PQF.1)	Raw Fuselage Dynamic Pressure, Reference	1Hz	millibar		
PQR.1	Radome Dynamic Pressure Transducer	25Hz	millibar		Djamal Khelif (dkhelif@uci.edu)

PQRVolt.1	Radome Dynamic Pressure Transducer Voltage	25Hz	Volt		Djamal Khelif (dkhelif@uci.edu)
PQW.1	Wingtip Dynamic Pressure Transducer	25Hz	millibar		
PQWVolt.1	Wingtip Dynamic Pressure Transducer Voltage	25Hz	Volt		
PQWref (PQW.1)	Raw Wingtip Dynamic Pressure, Reference	1Hz	millibar		
PQref (PQ.1)	Corrected Dynamic Static Pressure, Reference	1Hz	millibar		
PS.1	Corrected Fuselage Static Pressure	1Hz	millibar		
PS.2	Corrected Wingtip Static Pressure	1Hz	millibar		
PSF.1	Fuselage Static Pressure Transducer	25Hz	millibar		
PSFVolt.1	Fuselage Static Pressure Transducer Voltage	25Hz	Volt		
PSFref (PSF.1)	Raw Fuselage Static Pressure, Reference	1Hz	millibar		
PSURF.1	Extrapolated Seal Level Pressure	1Hz	millibar		
PSW.1	Wingtip Static Pressure Transducer	25Hz	millibar		
PSWVolt.1	Wingtip Static Pressure Transducer Voltage	25Hz	Volt		
PSWref (PSW.1)	Raw Wingtip Static Pressure, Reference	1Hz	millibar		
PSref (PS.1)	Corrected Static Pressure, Reference	1Hz	millibar		
PTR.1	Radome Absolute Pressure Transducer	25Hz	millibar		
PTRVolt.1	Radome Absolute Pressure Transducer Voltage	25Hz	Volt		
PitchI-GPS.1/2/3/4	Blended Pitch	50Hz	degree		
PitchI.1 / PitchI.2	Intertial Pitch	50Hz	degree		
PitchRate.1	DYNAMO Pitch Rate	25Hz	degree per second		Djamal Khelif (dkhelif@uci.edu)

PitchRateI-GPS.1/2	Blended PITCH RATE	50Hz	degree per second		
PitchI.1/2	Inertial PITCH RATE	50Hz	degree		
PitchRateVolt.1	DYNAMO Pitch Rate Voltage	25Hz	Volt		Djamal Khelif (dkhelif@uci.edu)
ROLLref (RollI-GPS.1)	Aircraft Roll Angle, Reference	1Hz	degree		
RollI-GPS.1/2/3/4	Blended Roll	50Hz	degree		
RollI.1 / RollI.2	Inertial Roll	50Hz	degree		
RollRateI-GPS.1/2/3/4	Blended Roll Rate	50Hz	degree per second		
RollRateI.1/2	Inertial Roll Rate	50Hz	degree per second		
SA.1 / SAI.1	Slip Angle	1Hz	degree		
SAref (SA.1)	Slip Angle, Reference	1Hz	degree		
SfmrAP.1	SFMR Air Pressure	.01Hz			
SfmrAP.P	SFMR Air Pressure, Raw Counts	.01Hz			
SfmrCA.1/2/3/4/5/6	SFMR Antenna Brightness Temp	2Hz			
SfmrCC.1/2/3/4/5/6	SFMR Cold Load Brightness	2Hz			
SfmrCW.1/2/3/4/5/6	SFMR Warm Load Brightness	2Hz			
SfrmDV.R	SFMR Data Validity	1Hz			
SfmrHS.R	SFMR Health Status	1Hz			
SfmrID.1	SFMR Serial Number	.01Hz			
SfmrID.P	SFMR Serial Number, Raw Counts	.01Hz			
SfmrRainRate.R	Prosensing SFMR Rain Rate	1Hz	mm/h		
SfmrSerialNumber.R	SFMR Serial Number	1Hz			
SfmrT.1/2/3/4/5/6/7/8	SFMR Thermistor Value	.07Hz			
SfmrT0/1/2/3/4/5/6.T	SFMR Thermistor Value, Raw Counts	.07Hz			
SfmrTB.1/2/3/4/5/6	SFMR Brightness Temperature	1Hz			
SfmrTB1/2/3/4/5/6.K	SFMR Brightness Temperature, Raw Counts	1Hz			
SfmrTimeStamp.R	SFMR Time Stamp	1Hz			
SfmrWErr.R	ProSensing SFMR Wind Error	1Hz	meter per second		

SfmrWS.R	ProSensing SFMR Wind Speed	1Hz	meter per second		
TA.1 / TA.2 / TA.3	Ambient Temp from TTM.1/2/3	1Hz	Celsius		Djamal Khelif (dkhelif@uci.edu)
TASF.1 / TASF.2 / TASF.3	Fuselage True Airspeed from TA.1/2/3	1Hz	meter per second		
TASFkt.1 / TASFkt.2 / TASFkt.3	Fuselage True Airspeed in knots from TA.1/2/3	1Hz	knot		
TASW.1	True Airspeed from Wingtip	1Hz	meter per second		
TASWkt.1	True Airspeed from Wingtip in knots	1Hz	knot		
TASref (TASF.1)	True Airspeed, Reference	1Hz	meter per second		
TAkelvin.1	Total Ambient Temperature Kelvin	1Hz	Kelvin		
TAref (TA.1)	Ambient Temp Reference	1Hz	Celsius		
TD.1 / TD.2 / TD.3	AOC dew point (TdM corrected)	1Hz	Celsius		
TDMref (TdM.1)	Dew/Frost Point Temperature, Reference	1Hz	Celsius		
THDGref (ThdgI-GPS.1)	Aircraft True Heading Angle, Reference	1Hz	degree		
THETA.1	Potential Temperature	1Hz	Kelvin		
THETAE.1	Equivalent Potential Temperature	1Hz	Kelvin		
THETAV.1	Virtual Potential Temperature	1Hz	Kelvin		
ThdgI-GPS.1/2/3/4	Blended True Heading	50Hz	degree		
TRK.1 / TRK.2	Track	1Hz	degree		
TRKref (TRK.1)	Track, Reference	1Hz	degree		
TradD.1	Radiometer Down	25Hz	Celsius		
SolDIrrad.2 (TradD.2)	NADIR BBSR Signal	25Hz	watt per meter squared		Anthony Bucholtz (Anthony.Bucholtz@nrlmry.nay.mil)
IRDIrrad.3 (TradD.3)	NADIR BBIR Signal	25Hz	watt per meter squared		
TradDVolt.1	Radiometer Down Voltage	25Hz	Volt		
SolDIrrad.2 (TradDVolt.2)	NADIR BBSR Signal Voltage	25Hz	Volt		
IRDIrrad.3 (TradDVolt.3)	NADIR BBIR Signal Voltage	25Hz	Volt		

TradS.1	Radiometer Side	25Hz	Celsius		
TradSVolt.1	Radiometer Side Voltage	25Hz	Volt		
TradU.1	Radiometer Up	25Hz	Celsius		
TradUVolt.1	Radiometer Up Voltage	25Hz	Volt		
IRUIrrad.3 (TradU.3)	ZEINITH BBIR Signal	25Hz	watt per meter squared		Anthony Bucholtz (Anthony.Bucholtz@nrlmry.nay.mil)
IRUIrrad.3 (TradUVolt.3)	ZEINITH BBIR Signal Voltage	25Hz	Volt		
SolUIrrad.2 (TradU.2)	ZEINITH BBSR Signal	25Hz	watt per meter squared		
SolUIrrad.2 (TradUVolt.2)	ZEINITH BBSR Signal Voltage	25Hz	Volt		
TTM.1 / TTM.2	Rosemount Total Temp 1 and 2	25Hz	Celsius		
TTMVolt.1 / TTMVolt.2	Rosemount Total Temp 1 and 2 Voltage	25Hz	Volt		
TTM.3	DYNAMO Total Temp	25Hz	Celsius		Djamal Khelif (dkhelif@uci.edu)
TTMVolt.3	DYNAMO Total Temp Voltage	25Hz	Volt		
TTM_Cor.1	Total Temperature Dynamic Correction	1Hz	Celsius		
TTref (TTM.1)	Total Temperature, Reference	1Hz	Celsius		
TVIRT.1	Virtual Temperature	1Hz	Kelvin		
TaADDU.1	STATIC AIR TEMPERATURE, Flight Deck	4Hz	Celsius		
TasADDU.1	True Airspeed, Flight Deck	10Hz	meter per second		
TasADDUkt.1	True Airspeed in knots, Flight Deck	1Hz	knot		
TdBal.1	Buck dew point balance	25Hz			
TdBalVolt.1	Buck dew point balance Voltage	25Hz	Volt		
TdM.1	Buck Research dew point	25Hz	Celsius		
TdM.2	Edgetech vigilant	25Hz	Celsius		
TdM.2x	Corrected Edgetech vigilant	25Hz	Celsius		
TdM.3	Maycomm TDL	25Hz	Celsius		
TdMVolt.1	Buck Research dew point Voltage	25Hz	Volt		
TdMVolt.2	Edgetech vigilant Voltage	25Hz	Volt		
TdMVolt.3	Maycomm TDL Voltage	25Hz	Volt		
TtADDU.1	TOTAL AIR TEMPERATURE, Flight Deck	4Hz	Celsius		
TtH.1	DYNAMO Dual thermistor Ch1	25Hz			

TtH.2	DYNAMO Dual thermistor Ch2	25Hz			Djamal Khelif (dkhelif@uci.edu)
TtHVolt.1	DYNAMO Dual thermistor Ch1 Voltage	25Hz	Volt		
TtHVolt.2	DYNAMO Dual thermistor Ch2 Voltage	25Hz	Volt		
TtHeat.1 / TtHeat.2	Total Temp Heater	25Hz			
TtHeatVolt.1 / TtHeatVolt.2	Total Temp Heater Voltage	25Hz	Volt		
UDIRX.1	relative wind direction vector (X-direction)	1Hz			
UDIRY.1	relative wind direction vector (Y-direction)	1Hz			
UDIRZ.1	relative wind direction vector (Z-direction)	1Hz			
UIZ.1	AOC Vertical Ground Speed	1Hz	meter per second		
URAD.1	Radial Wind	1Hz	meter per second		
URX.1 / URY.1	Relative Wind X/Y-direction	1Hz	meter per second		
URZ.1	Vertical Air Speed	1Hz	meter per second		
USLIPX.1 / USLIPY.1 / USLIPZ.1	Rotational Slip Velocity X/Y/Z-direction	1Hz	meter per second		
USLIP_SQ.1	sum of squares of 3-D slip velocity	1Hz	meter per second		
UTAILX.1 / UTAILY.1 / UTAILZ.1	Rotational Tail Velocity X/Y/Z-direction	1Hz	meter per second		
UTAN.1	Tangential Wind	1Hz	meter per second		
UWINGX.1 / UWINGY.1 / UWINGZ.1	Rotational Wing Velocity X/Y/Z-direction	1Hz	meter per second		
UWING_SQ.1	sum of squares of 3-D wing velocity	1Hz	meter per second		
UWX.1 / UWY.1	Horizontal Wind X/Y-direction	1Hz	meter per second		
UWZ.1	Vertical Wind	1Hz	meter per second		
VINE.1	INE Rotational Velocity	1Hz	meter per second		

VelXGPS / VelYGPS	GPS VELOCITY EAST / NORTH	25Hz	meter per second		
VelXI-GPS / VelYI-GPS	GPS Horizontal Ground Speed X/Y	50Hz	meter per second		
VelXI / VelYI	X/Y VELOCITY	50Hz	meter per second		
VelZGPS.1/2	GPS VERTICAL VELOCITY	25Hz	meter per second		
VelZI-GPS.1/2	GPS/Inertial Blended VERTICAL VELOCITY	50Hz	meter per second		
VelZI.1/2	Vertical Ground Speed	50Hz	meter per second		
VerrGPS.1/2	GPS ESTIMATED VERT ERROR	25Hz	meter per second		
WS.1	Wind Speed	1Hz	meter per second		
WD.1	Wind Direction	1Hz	degree		
WSZ_DPJ	Jorgenson Vertical Wind	1Hz	meter per second	vertical air motion (ASZ_DPJ-GSZ_DPJ.1)	Dave Jorgensen (david.p.jorgensen@noaa.gov)
Wskt.1	Wind Speed in knots	1Hz	knot		
WV.1	Water Vapor	25Hz		Not Calculated	
WVVolt.1	Water Vapor Voltage		Volt		
YawRateI-GPS.1/2	Blended Inertial and GPS YAW RATE	50Hz	degree per second		
YawRateI.1/2	Inertial YAW RATE	50Hz	degree per second		

Acknowledgements:

The P-3 measurements were jointly supported by NOAA and Office of Naval Research (ONR). AXBT/AXCTD measurements were supported by ONR. The dropsonde project was supported by National Science Foundation (NSF).