

PR Rainfall 3A-25 Planetary Grid 1 [L3A_25_GRID]

The following parameters are used in describing the formats:

- nlat: the number of 5° grid intervals of latitude from 40° N to 40° S (16).
- nlon: the number of 5° grid intervals of longitude from 180°W to 180°E (72).
- nh1: the number of fixed heights above the earth ellipsoid, at 2, 4, 6, 10, and 15 km plus one for path-average (6).
- nh2: the number of fixed heights above the earth ellipsoid, at 2, 4, and 6 km (3).
- ncat2: the second number of categories for histograms (30). Note that the number of thresholds is one greater than the number of categories. Thresholds are given below for several variables, others are

TBD.

Reflectivity (dBZ) (bhz):

0.01, 12., 14., 16., 18., 20., 22., 24., 26., 28., 30., 32., 34., 36., 38., 40., 42., 44., 46., 48., 50., 52., 54., 56., 58., 60., 62., 64., 66., 68., 70.

Bright Band Height (km) (bhbb):

0.01, 0.25, 0.5, 0.75, 1., 1.25, 1.5, 1.75, 2., 2.25, 2.5, 2.75, 3., 3.25, 3.5, 3.75, 4., 4.25, 4.5, 4.75, 5., 5.25, 5.5, 5.75, 6., 6.25, 6.5, 6.75, 7., 7.5, 20.

Storm Height (km) (bhstorm):

0.01, 0.5, 1., 1.5, 2., 2.5, 3., 3.5, 4., 4.5, 5., 5.5, 6., 6.5, 7., 7.5, 8., 8.5, 9., 9.5, 10., 10.5, 11., 11.5, 12., 12.5, 13., 14., 15., 16., 20.

Snow Depth (km) (bhdepth):

0.01, 0.5, 0.75, 1., 1.25, 1.5, 1.75, 2., 2.25, 2.5, 2.75, 3., 3.25, 3.5, 3.75, 4., 4.25, 4.5, 4.75, 5., 5.25, 5.5, 5.75, 6., 6.25, 6.5, 6.75, 7., 7.25, 7.5, 20.

Zpzm (km) (bhzipzm):

0., 1., 2., 3., 4., 5., 6., 7., 8., 9., 10., 11., 12., 13., 14., 15., 16., 17., 18., 19., 20., 22., 24., 26., 28., 30., 32., 34., 36., 38., 50.

All PIA (dB) (bhpia):

0.01, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 9.5, 10., 100.

NUBF or Non-Uniform Beam Filling Factor (unitless) (bhnuhf):

1., 1.05, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65, 1.7, 1.75, 1.8, 1.85, 1.9, 1.95, 2., 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0

Xi or Horizontal Non-Uniformity Parameter (unitless) (bhxi):

0., 0.2, 0.4, 0.6, 0.8, 1., 1.2, 1.4, 1.6, 1.8, 2., 2.2, 2.4, 2.6, 2.8, 3., 3.2, 3.4, 3.6, 3.8, 4., 4.2, 4.4, 4.6, 4.8, 5., 10., 20., 30., 50., 10000.

Epsilon conditioned on use of SRT (unitless) (bhepsilon):

0., 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1., 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2., 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0

- nang: the number of fixed incidence angles, at 0°, 5°, 10° and 15° (4).

Rain Rate Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Rain Rate Mean 1	grid1.rainMean1(16,72,6)	4-byte float	Rain Rate Mean 1 gives means of nonzero rain rates over 5° x 5° boxes for one month. The rain rates are determined in 2A-25 and evaluated for the path-average and at the fixed heights of 2, 4, 6, 10 and 15 km. It ranges from 0.0 to 3000.0 mm/h.

Rain Rates Dev. 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Rain Rates Dev. 1	grid1.rainDev1(16,72,6)	4-byte float	These are standard deviations of nonzero rain rates over 5° x 5° boxes for one month. The rain rates are determined in 2A-25 and evaluated for path-average and at the fixed heights of 2, 4, 6, 10 and 15 km. It ranges from 0.0 to 3000.0 mm/h.

Conv. Rain Rate Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Rain Rate Mean 1	grid1.convRainMean1(16,72,6)	4-byte float	Conv. Rain Rate Mean 1 gives means of nonzero rain rates for convective rain over 5° x 5° boxes for one month. The rain rates are determined in 2A-25 and evaluated for path-average and at the fixed heights of 2, 4, 6, 10 and 15 km. It ranges from 0.0 to 3000.0 mm/h.

Conv. Rain Rates Dev. 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Rain Rates Dev. 1	grid1.convRainDev1(16,72,6)	4-byte float	Conv. Rain Rates Dev. 1 gives standard deviations of nonzero rain rates for convective rain over 5° x 5° boxes for one month. The rain rates are determined in 2A-25 and evaluated for path-average and at the fixed heights of 2, 4, 6, 10 and 15 km. It ranges from 0.0 to 3000.0 mm/h.

Strat. Rain Rate Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Rain Rate Mean 1	grid1.stratRainDev1(16,72,6)	4-byte float	Strat. Rain Rate Mean 1 gives means of nonzero rain rates for stratiform rain over 5° x 5° boxes for one month. The rain rates are determined in 2A-25 and evaluated for path-average and at the fixed heights of 2, 4, 6, 10 and 15 km. It ranges from 0.0 to 3000.0 mm/h.

Strat. Rain Rates Dev. 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Rain Rates Dev. 1	grid1.stratRainDev1(16,72,6)	4-byte float	Strat. Rain Rates Dev. 1 gives standard deviations of nonzero rain rates for stratiform rain over 5° x 5° boxes for one month. The rain rates are determined in 2A-25 and evaluated for path-average and at the fixed heights of 2, 4, 6, 10 and 15 km. It ranges from 0.0 to 3000.0 mm/h.

Zm Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Zm Mean 1	grid1.zmMean1(16,72,6)	4-byte float	The Zm Mean 1 gives means of measured radar reflectivity at the fixed heights of 2, 4, 6, 10 and 15 km and for path-average over 5° x 5° boxes for one month using data from 1C-21. It ranges from 0 to 100 dBZ.

Zm Dev.1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Zm Dev.1	grid1.zmDev1(16,72,6)	4-byte float	The Zm Dev. 1 gives standard deviations of measured radar reflectivity at the fixed heights of 2, 4, 6, 10 and 15 km and for path-average over 5° x 5° boxes for one month using data from 1C-21. It ranges from 0 to 100 dBZ.

Conv. Zm Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Zm Mean 1	grid1.convZmMean1(16,72,6)	4-byte float	Conv. Zm Mean 1 gives the monthly means of measured radar reflectivity for convective rain at a horizontal resolution of 5° x 5°. The path-averaged mean and means at the fixed heights of 2, 4, 6, 10 and 15 km are calculated using data from 1C-21. It ranges from 0 to 100 dBZ.

Conv. Zm Dev. 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Zm Dev. 1	grid1.convZmDev1(16,72,6)	4-byte float	Conv. Zm Dev. 1 gives the monthly standard deviations of measured radar reflectivity for convective rain at a horizontal resolution of 5° x 5°. The path-averaged standard deviation and those at the fixed heights of 2, 4, 6, 10 and 15 km are calculated using data from 1C-21. It ranges from 0 to 100 dBZ.

Strat. Zm Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Zm Mean 1	grid1.stratZmMean1(16,72,6)	4-byte float	Strat. Zm Mean 1 gives the monthly means of measured radar reflectivity for stratiform rain at a horizontal resolution of 5° x 5°. The path-averaged mean and means at the fixed heights of 2, 4, 6, 10 and 15 km are calculated using data from 1C-21. It ranges from 0 to 100 dBZ.

Strat. Zm Dev. 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Zm Dev. 1	grid1.stratZmDev1(16,72,6)	4-byte float	Strat. Zm Dev. 1 gives the monthly standard deviations of measured radar reflectivity for stratiform rain at a horizontal resolution of 5° x 5°. The path-averaged standard deviation and those at the fixed heights of 2, 4, 6, 10 and 15 km are calculated using data from 1C-21. It ranges from 0 to 100 dBZ.

Zt Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Zt Mean 1	grid1.ztMean1(16,72,6)	4-byte float	The Zt Mean 1 gives means of corrected radar reflectivity factors at the fixed heights of 2, 4, 6, 10 and 15 km and for path-average over 5° x 5° boxes for one month using data from 2A-25. It ranges from 0.1 to 80 dBZ.

Zt Dev 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Zt Dev 1	grid1.ztDev1(16,72,6)	4-byte float	The Zt Dev. 1 gives standard deviations of corrected radar reflectivity factors at the fixed heights of 2, 4, 6, 10 and 15 km and for path-average over 5° x 5° boxes for one month using data from 2A-25. It ranges from 0.0 to 80 dBZ.

Conv. Zt Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Zt Mean 1	grid1.convZtMean1(16,72,6)	4-byte float	Conv. Zt Mean 1 gives the monthly means of corrected radar reflectivity for convective rain at a horizontal resolution of 5° x 5°. The path-averaged mean and means at the fixed heights of 2, 4, 6, 10 and 15 km are calculated using data from 2A-25. It ranges from 0.1 to 80 dBZ.

Conv. Zt Dev 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Zt Dev 1	grid1.convZtDev1(16,72,6)	4-byte float	Conv. Zt Dev. 1 gives the monthly standard deviations of corrected radar reflectivity for convective rain at a horizontal resolution of 5° x 5°. The path-averaged standard deviation and those at the fixed heights of 2, 4, 6, 10 and 15 km are calculated using data from 2A-25. It ranges from 0.0 to 80 dBZ.

Strat. Zt Mean 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Zt Mean 1	grid1.stratZtMean1(16,72,6)	4-byte float	Strat. Zt Mean 1 gives the monthly means of measured radar reflectivity for stratiform rain at a horizontal resolution of 5° x 5°. The path-averaged mean and means at the fixed heights of 2, 4, 6, 10 and 15 km are calculated using data from 2A-25. It ranges from 0.1 to 80 dBZ.

Strat. Zt Dev 1 (SDS, array size nlat x nlon x nh1, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Zt Dev 1	grid1.stratZtDev1 (16,72,6)	4-byte float	Strat. Zt Dev. 1 gives the monthly standard deviations of corrected radar reflectivity for stratiform rain at a horizontal resolution of 5° x 5°. The path-averaged standard deviation and those at the fixed heights of 2, 4, 6, 10 and 15 km are calculated using data from 2A-25. It ranges from 0.0 to 80.0 dBZ.

PIA srt Mean (SDS, array size nlat x nlon x nang, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
PIA srt Mean	grid1.piaSrtMean (16,72,4)	4-byte float	PIA srt Mean gives the monthly means of SRT (surface reference technique) path-integrated attenuation calculated at four fixed incidence angles. It has a horizontal resolution of 5° x 5°. It has units of dB and a range from 0 dB to 100 dB.

PIA srt Dev. (SDS, array size nlat x nlon x nang, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
PIA srt Dev.	grid1.piaSrtDev(16,72,4)	4-byte float	PIA srt Dev. gives the monthly standard deviation of SRT path-integrated attenuation calculated at four fixed incidence angles. It has a horizontal resolution of 5° x 5°. It has units of dB and a range from 0 dB to 100 dB.

PIA hb Mean (SDS, array size nlat x nlon x nang, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
PIA hb Mean	grid1.piaHbMean(16,72,4))	4-byte float	PIA hb Mean gives the monthly means of HB path-integrated attenuation calculated at four fixed incidence angles. It has a horizontal resolution of 5° x 5°. It has units of dB and a range from 0 dB to 100 dB.

PIA hb Dev. (SDS, array size nlat x nlon x nang, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
PIA hb Dev.	grid1.piaHbDev(16,72,4)	4-byte float	PIA hb Dev. gives the monthly standard deviation of HB path-integrated attenuation calculated at four fixed incidence angles. It has a horizontal resolution of 5° x 5°. It has units of and a range from 0 dB to 100 dB.

PIA 0th Mean (SDS, array size nlat x nlon x nang, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
PIA 0th Mean	grid1.pia0Mean(16,72,4)	4-byte float	PIA 0th Mean gives the monthly means of the 0th-order path-integrated attenuation calculated at four fixed incidence angles. It has a horizontal resolution of 5° x 5°. It has units of and a range from 0 dB to 100 dB.

PIA 0th Dev. (SDS, array size nlat x nlon x nang, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
PIA 0th Dev.	grid1.pia0Dev(16,72,4)	4-byte float	PIA 0th Dev. gives the monthly standard deviation of the 0th-order path-integrated attenuation calculated at four fixed incidence angles. It has a horizontal resolution of 5° x 5°. It has units of dB and a range from 0 dB to 100 dB.

Storm Height Mean (SDS, array size nlat x nlon x 3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Storm Height Mean	grid1.stormHtMean(16,72,3)	4-byte float	Storm Height Mean is the mean of the storm height for conditions of stratiform rain, convective rain and unconditional rain. It has units of meters and ranges from 0.0 to 20,000.

Storm Height Dev. (SDS, array size nlat x nlon x 3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Storm Height Dev.	grid1.stormHtDev(16,72,3)	4-byte float	Storm Height Dev. is the standard deviation of the storm height for conditions of stratiform rain, convective rain and unconditional rain. It has units of meters and ranges from 0.0 to 20,000.

Xi Mean (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Xi Mean	grid1.xiMean(16,72)	4-byte float	Xi Mean gives the monthly means of the horizontal non-uniformity parameter of the rain field within a ray at a horizontal resolution of 5° x 5°. It has no units and ranges from 0.0 to 99.0.

Xi Dev. (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Xi Dev.	grid1.xiMean(16,72)	4-byte float	Xi Dev. gives the monthly standard deviation of the horizontal non-uniformity parameter of the rain field within a ray at a horizontal resolution of 5° x 5°. It has no units and ranges from 0.0 to 99.0.

NUBF Correction Factor Mean (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
NUBF Correction Factor Mean	grid1.nubfCorFacMean(16,72)	4-byte float	The NUBF (Non-Uniform Beam Filling) Correction Factor Mean gives the monthly mean of NUBF correction for Z-factor and Rain Rate at a horizontal resolution of 5° x 5°. It has no units and a range of 0 to 2.0.

NUBF Correction Factor Dev. (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
NUBF Correction Factor Dev.	grid1.nubfCorFacDev(16,72)	4-byte float	The NUBF (Non-Uniform Beam Filling) Correction Factor Dev. gives the monthly standard deviation of the NUBF correction for Z-factor and Rain Rate at a horizontal resolution of 5° x 5°. It has no units and ranges from 0 to 2.0.

BB Height Mean (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
BB Height Mean	grid1.bbHtMean(16,72)	4-byte float	BB Height Mean gives the monthly means of the bright band height at a horizontal resolution of 5° x 5°. It has units of meters and ranges from 0 to 20,000.

BB Height Dev. (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
BB Height Dev.	grid1.bbHtDev(16,72)	4-byte float	BB Height Dev. gives the monthly deviation of the bright band height at a horizontal resolution of 5° x 5°. It has units of meters and ranges from 0 to 20,000.

epsilonMean1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
epsilonMean1	grid1.epsilonMean1(16,72)	4-byte float	Mean of epsilon conditioned on use of SRT in 2A21 at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 3.0 (unitless).

epsilonDev1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
epsilonDev1	grid1.epsilonDev1(16,72)	4-byte float	Standard deviation of epsilon conditioned on use of SRT in 2A21 at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 3.0 (unitless).

surfRainMean1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
surfRainMean1	grid1.surfRainMean1(16,72)	4-byte float	Mean of near-surface rain rate at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 3000.0 mm/h.

surfRainDev1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
surfRainDev1	grid1.surfRainDev1(16,72)	4-byte float	Standard deviation of near-surface rain rate at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 3000.0 mm/h.

bbZmaxMean1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
bbZmaxMean1	grid1.bbZmaxMean1(16,72)	4-byte float	Mean of maximum reflectivity in bright band at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 100.0 dBZ.

bbZmaxDev1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
bbZmaxDev1	grid1.bbZmaxDev1(16,72)	4-byte float	Standard Deviation of maximum reflectivity in bright band at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 100.0 dBZ.

bbwidthMean1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
bbwidthMean1	grid1.bbwidthMean1(16,72)	4-byte float	Mean of width of bright band at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 20,000.0 m.

bbwidthDev1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
bbwidthDev1	grid1.bbwidthDev1(16,72)	4-byte float	Standard deviation of width of bright band at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 20,000.0 m.

sdepthMean1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
sdepthMean1	grid1.sdepthMean1(16,72)	4-byte float	Mean of snow depth at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 20,000.0 m.

sdepthDev1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
sdepthDev1	grid1.sdepthDev1(16,72)	4-byte float	Standard deviation of snow depth at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 20,000.0 m.

surfRainAllMean1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
surfRainAllMean1	grid1.surfRainAllMean1(16,72)	4-byte float	Mean of near-surface rain rate using rain certain and rain possible at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 3,000.0 mm/h.

surfRainAllDev1 (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
surfRainAllDev1	grid1.surfRainAllDev1(16,72)	4-byte float	Standard deviation of near-surface rain rate using rain certain and rain possible at a horizontal resolution of 5° x 5°. It ranges from 0.0 to 3,000.0 mm/h.

Total Pixel Number 1 (SDS, array size nlat x nlon, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Total Pixel Number 1	grid1.ttlPix1(16,72)	4-byte float	The Total Pixel Number 1 is the number of total pixels over 5° x 5° boxes for one month. The range is 0 to 2,000,000.

Bright Band Pixel Number 1 (SDS, array size nlat x nlon, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Bright Band Pixel Number 1	grid1.bbPix1(16,72)	4-byte float	The number of bright band counts over each 5 x 5 degree box for one month. The range is 0 to 2,000,000.

Rain Pixel Number 1 (SDS, array size nlat x nlon x nh1, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Rain Pixel Number 1	grid1.rainPix1(16,72,6)	4-byte float	The Rain Pixel Number 1 is the number of nonzero rain rate pixels at the fixed heights of 2, 4, 6, 10 and 15 km and for path-average over 5° x 5° boxes for one month. The range is 0 to 2,000,000.

Conv. Rain Pixel Number 1(SDS, array size nlat x nlon x nh1, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Conv. Rain Pixel Number 1	grid1.convRainPix1(16,72,6)	4-byte float	The Convective Rain Pixel Number 1 is the number of nonzero rain rate pixels for convective rain at the fixed heights of 2, 4, 6, 10 and 15 km and for path-average over 5° x 5° boxes for one month. The range is 0 to 2,000,000.

Strat. Rain Pixel Number 1(SDS, array size nlat x nlon x nh1, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Strat. Rain Pixel Number 1	grid1.stratRainPix1(16,72,6)	4-byte float	The Stratiform Rain Pixel Number 1 is the number of nonzero rain rate pixels for stratiform rain at the fixed heights of 2, 4, 6, 10 and 15 km and for path-average over 5° x 5° boxes for one month. The range is 0 to 2,000,000.

Total Angle Pixel Number 1 (SDS, array size nlat x nlon x nang, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Total Angle Pixel Number 1	grid1.ttlAnglePix1(16,72,4)	4-byte float	Total Angle Pixel Number 1 is the total number of pixels over each 5° x 5° latitude-longitude grid box for a month. This parameter is accumulated at four different angles, i.e., 0°, 5°, 10° and 15°. The range is 0 to 30,000.

Rain Angle Pixel Number 1 (SDS, array size nlat x nlon x nang, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Rain Angle Pixel Number 1	grid1.rainAnglePix1(16,72,4)	4-byte float	Rain Angle Pixel Number 1 is the total number of non-zero rain rate pixels over each 5° x 5° latitude-longitude grid box for a month. This parameter is accumulated at four different angles, i.e., 0°, 5°, 10° and 15°. The range is 0 to 30,000.

wrainPix1 (SDS, array size nlat x nlon, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
wrainPix1	grid1.wrainPix1(16,72)	4-byte float	Warm rain counts at a horizontal resolution of 5° x 5°. It ranges from 0 to 2,000,000.

surfRainPix1 (SDS, array size nlat x nlon, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
surfRainPix1	grid1.surfRainPix1(16,72)	4-byte float	Near-surface rain counts at a horizontal resolution of 5° x 5°. It ranges from 0 to 2,000,000.

epsilonPix1 (SDS, array size nlat x nlon, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
epsilonPix1	grid1.epsilonPix1(16,72)	4-byte float	Counts for epsilon when SRT value of PIA is used at a horizontal resolution of 5° x 5°. It ranges from 0 to 2,000,000.

surfRainAllPix1 (SDS, array size nlat x nlon, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
surfRainAllPix1	grid1.surfRainAllPix1(16,72)	4-byte float	Number of counts of non-zero near-surface rain rate using rain certain and rain possible at a horizontal resolution of 5° x 5°. It ranges from 0 to 2,000,000.

Storm Height Hist. (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Storm Height Hist.	grid1.stormHH(16,72,30)	2-byte integer	These are histograms of the ‘effective’ storm heights for 30 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

Conv. Storm Height Hist. (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Conv. Storm Height Hist.	grid1.convStormHH(16,72,30)	2-byte integer	These are histograms of the ‘effective’ storm heights for convective rain for 30 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

Strat. Storm Height Hist. (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Strat. Storm Height Hist.	grid1.stratStormHH(16,72,30)	2-byte integer	These are histograms of the ‘effective’ storm heights for stratiform rain for 30 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

BB Height Hist. (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
BB Height Hist.	grid1.BBHH(16,72,30)	2-byte integer	These are histograms of the bright-band heights for 30 categories over a 5° x 5° box for one month, given that the bright band is detected. It ranges from 0 to 32,767.

Snow-ice Layer Hist. (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Snow-ice Layer Hist.	grid1.snowIceLH(16,72,30)	2-byte integer	These are histograms of the depth of snow-ice layer for 30 categories over a 5° x 5° box for one month. The depth of snow-ice layer is defined as the difference between effective storm height and estimated height of 0°C isotherm. It ranges from 0 to 32,767.

Zm Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Zm Hist.	grid1.zmH(16,72,30,6)	2-byte integer	The Zm Histograms are histograms of measured reflectivities of rain pixels at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

Conv. Zm Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Conv. Zm Hist.	grid1.convZmH(16,72,30,6)	2-byte integer	The Convective Zm Histograms are histograms of measured reflectivities of convective rain pixels at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

Strat. Zm Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Strat. Zm Hist.	grid1.stratZmH(16,72,30,6)	2-byte integer	The Stratiform Zm Histograms are histograms of measured reflectivities of stratiform rain pixels at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5°box for one month. It ranges from 0 to 32,767.

Zt Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Zt Hist.	grid1.ztH(16,72,30,6)	2-byte integer	The Zt Histograms are histograms of corrected reflectivity factors for rain pixels at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5°box for one month. It ranges from 0 to 32,767.

Conv. Zt Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Conv. Zt Hist.	grid1.convZtH(16,72,30,6)	2-byte integer	The Convective Zt Histograms are histograms of corrected reflectivity factors for convective rain pixels at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5°box for one month. It ranges from 0 to 32,767.

Strat. Zt Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Strat. Zt Hist.	grid1.stratZtH(16,72,30,6)	2-byte integer	The Stratiform Zt Histograms are histograms of corrected reflectivity factors for stratiform rain pixels at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5°box for one month. It ranges from 0 to 32,767.

Rain Rate Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Rain Rate Hist.	grid1.rainH(16,72,30,6)	2-byte integer	These are histograms of nonzero rain rate pixels at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5°box for one month. It ranges from 0 to 32,767.

Conv. Rain Rate Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Conv. Rain Rate Hist.	grid1.convRainH(16,72,30,6)	2-byte integer	These are histograms of nonzero rain rate pixels for convective rain at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5°box for one month. It ranges from 0 to 32,767

Strat. Rain Rate Hist. (SDS, array size nlat x nlon x ncat2 x nh1, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Strat. Rain Rate Hist.	grid1.stratRainH(16,72,30,6)	2-byte integer	These are histograms of nonzero rain rate pixels for stratiform rain at five heights (2, 4, 6, 10 and 15 km) and path-average for 20 categories over a 5° x 5°box for one month. It ranges from 0 to 32,767

PIA srt Hist. (SDS, array size nlat x nlon x ncat2 x nang, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
PIA srt Hist.	grid1.piaSrtH(16,72,30,4)	2-byte integer	PIA srt Hist. gives histograms of path-attenuation as determined by the surface reference technique (SRT) at 4 incidence angles (0, 5, 10 and 15°) for 30 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

PIA hb Hist. (SDS, array size nlat x nlon x ncat2 x nang, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
PIA hb Hist.	grid1.piaHbH(16,72,30,4)	2-byte integer	These are histograms of path-attenuation using an estimate derived from measured reflectivity (Z_m) and a k-Z relationship at 4 incidence angles (0, 5, 10 and 15°) for 30 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

PIA 0th Hist. (SDS, array size nlat x nlon x ncat2 x nang, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
PIA 0th Hist.	grid1.pia0H(16,72,30,4)	2-byte integer	PIA 0th Hist. is the histogram of the 0th order path-integrated attenuation with a horizontal resolution of 5° x 5°. This histogram is calculated for 30 categories at 4 different incident angles (0°, 5°, 10° and 15°). It ranges from 0 to 32,767

Zm Gradient Hist. (SDS, array size nlat x nlon x ncat2 x nh2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Zm Gradient Hist.	grid1.zmGradH(16,72,30,3)	2-byte integer	These are histograms of the vertical gradient in measured reflectivity at 3 levels for 30 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

Xi Hist. (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
Xi Hist.	grid1.xiH(16,72,30)	2-byte integer	The Xi Histograms is the histogram of non-uniformity parameter determined in 2A-25 for 30 categories over a 5° x 5° box for one month. It ranges from 0 to 32,767.

NUBF Hist. (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
NUBF Hist.	grid1.grid1.nubfH(16,72,30)	2-byte integer	NUBF(Non-Uniform Beam Filling) Hist. gives the histogram of the NUBF correction for Z-factor and rain rate of 30 different categories over 5° x 5° grid boxes. It ranges from 0 to 32,767.

ZPZM Hist. (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
ZPZM Hist.	grid1.zpzmH(16,72,30)	2-byte integer	ZPZM Hist. is the histogram of the difference between the reflectivity at two heights: (Bright Band - Epsilon) and (Bright Band + Epsilon). This histogram is calculated for 30 different categories at each grid box of 5° x 5°. It ranges from 0 to 32,767.

bbZmaxH (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
bbZmaxH	grid1.bbZmaxH(16,72,30)	2-byte integer	Histogram of maximum Zt in bright band at a horizontal resolution of 5° x 5°. It ranges from 0 to 32,000.

epsilonH (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
epsilonH	grid1.epsilonH(16,72,30)	2-byte integer	Histogram of epsilon conditioned on use of SRT in 2A25 at a horizontal resolution of 5° x 5°. It ranges from 0 to 32,000.

surfRainH (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
surfRainH	grid1.surfRainH(16,72,30)	2-byte integer	Histogram of near-surface rain rate at a horizontal resolution of 5° x 5°. It ranges from 0 to 32,000.

surfRainAllH (SDS, array size nlat x nlon x ncat2, 2-byte integer):

Name	Name in the TOOLKIT	Format	Description
surfRainAllH	grid1.surfRainAllH(16,72,30)	2-byte integer	Histogram of near-surface rain rate using rain certain and rain possible at a horizontal resolution of 5° x 5°. It ranges from 0 to 32,000.

RR Corr. Coef. (SDS, array size nlat x nlon x 3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
RR Corr. Coef.	grid1.rainCCoef(16,72,3)	4-byte float	These are correlation coefficients of nonzero rain rates between 3 heights (i.e., correlation coefficient of rain rates at 2 km vs 4 km , 2 km vs 6 km , and 4 km vs 6 km) for a 5° x 5° box for one month. They are calculated under convective condition, stratiform condition or both. It ranges from -1.000 to 1.000.

Conv. RR Corr. Coef. (SDS, array size nlat x nlon x 3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. RR Corr. Coef.	grid1.convRainCCoef(16,72,3)	4-byte float	These are correlation coefficients of nonzero rain rates for convective rain between 3 heights (i.e., correlation coefficient of rain rates at 2 km vs 4 km , 2 km vs 6 km , and 4 km vs 6 km) for a 5° x 5° box for one month. It ranges from -1.000 to 1.000.

Strat. RR Corr. Coef. (SDS, array size nlat x nlon x 3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. RR Corr. Coef.	grid1.stratRainCCoef(16,72,3)	4-byte float	These are correlation coefficients of nonzero rain rates for stratiform rain between 3 heights (i.e., correlation coefficient of rain rates at 2 km vs 4 km , 2 km vs 6 km , and 4 km vs 6 km) for a 5° x 5° box for one month. It ranges from -1.000 to 1.000.

Hgt. and Zm Corr. Coef. (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Hgt. and Zm Corr. Coef.	grid1.stormHtZmCCoef(16,72)	4-byte float	This is the correlation coefficient between the storm height and the maximum measured reflectivity factor along the path for a 5° x 5°box for one month. It ranges from -1.000 to 1.000.

PIAs Corr. Coef. (SDS, array size nlat x nlon x nang x 3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
PIAs Corr. Coef.	grid1.piaCCoef(16,72,4,3)	4-byte float	This is the correlation coefficient of three path-integrated attenuations (SRT, HB, and 0th order PIAs) at angles of 0°, 5°, 10° and 15° for a 5° x 5°box for one month. It ranges from -1.000 to 1.000.

Xi and Zm Corr. Coef. (SDS, array size nlat x nlon, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Xi and Zm Corr. Coef.	grid1.xiZmCCoef(16,72)	4-byte float	This is the correlation coefficient between the non-uniformity and the maximum measured reflectivity factor along the path for a 5° x 5°box for one month. It ranges from -1.000 to 1.000.

PR Rainfall 3A-25 Planetary Grid 2 [L3A_25_GRID]

The following parameters are used in describing the formats:

- nlath: the number of 0.5° grid intervals of latitude from 37° N to 37° S (148).
- nlonh: the number of 0.5° grid intervals of longitude 180°W to 180°E (720).
- nh3: the number of fixed heights above the earth ellipsoid, at 2, 4, and 6 km plus one for path-average (4).

Rain Rate Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Rain Rate Mean 2	grid2.rainMean2(148,720,4)	4-byte float	Rain Rate Mean 2 gives means of nonzero rain rates over 0.5° x 0.5° boxes for one month. The rain rates are determined in 2A-25 and evaluated for the path-average and at the fixed heights of 2, 4, and 6 km. It ranges from 0.0 to 3000.0 mm/h.

Rain Rates Dev. 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Rain Rates Dev. 2	grid2.rainDev2(148,720,4)	4-byte float	Rain Rate Dev. 2 gives standard deviations of nonzero rain rates over 0.5° x 0.5° boxes for one month. The rain rates are determined in 2A-25 and evaluated at the fixed heights of 2, 4, and 6 km. It ranges from 0 to 3000.0 mm/h.

Conv. Rain Rate Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Rain Rate Mean 2	grid2.convRainMean2(148,720,4)	4-byte float	Conv. Rain Rate Mean 2 gives means of nonzero rain rates for convective rain over 0.5° x 0.5° boxes for one month. The rain rates are determined in 2A-25 and evaluated at the fixed heights of 2, 4, and 6 km. It ranges from 0 to 3000.0 mm/h.

Conv. Rain Rates Dev. 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Rain Rates Dev. 2	grid2.convRainDev2(148,720,4)	4-byte float	Conv. Rain Rate Dev. 2 gives standard deviations of nonzero rain rates for convective rain over 0.5° x 0.5° boxes for one month. The rain rates are determined in 2A-25 and evaluated at the fixed heights of 2, 4, and 6 km. It ranges from 0 to 3000.0 mm/h.

Strat. Rain Rate Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Rain Rate Mean 2	grid2.stratRainDev2(148,720,4)	4-byte float	Strat. Rain Rate Mean 2 gives means of nonzero rain rates for stratiform rain over 0.5° x 0.5° boxes for one month. The rain rates are determined in 2A-25 and evaluated at the fixed heights of 2, 4, and 6 km. It ranges from 0 to 3000.0 mm/h.

Strat. Rain Rates Dev. 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Rain Rates Dev. 2	grid2.stratRainDev1 (148,720,4)	4-byte float	Strat/ Rain Rate Dev. 2 gives standard deviations of nonzero rain rates for stratiform rain over 0.5° x 0.5° boxes for one month. The rain rates are determined in 2A-25 and evaluated at the fixed heights of 2, 4, and 6 km. It ranges from 0 to 3000.0 mm/h.

Zm Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Zm Mean 2	grid2.zmMean2(148,720,4)	4-byte float	Zm Mean 2 gives the monthly means of the measured reflectivity at 3 fixed height levels (2, 4 and 6 km) over 0.5° x 0.5° grid boxes. It ranges from -20 to 80 dBZ.

Conv. Zm Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Zm Mean 2	grid2.convZmMean2 (148,720,4)	4-byte float	Conv. Zm Mean 2 gives the monthly means of the measured reflectivity of convective rain at 3 fixed height levels (2, 4, and 6 km) over 0.5° x 0.5° grid boxes. It ranges from -20 to 80 dBZ.

Strat. Zm Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Zm Mean 2	grid2.stratZmMean2 (148,720,4)	4-byte float	Strat. Zm Means gives the monthly means of the measured reflectivity of stratiform rain at 3 fixed heights (2, 4, and 6 km) over 0.5° x 0.5° grid boxes. It ranges from -20 to 80 dBZ.

Zt Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Zt Mean 2	grid2.ztMean2(148,720,4)	4-byte float	Zt Mean 2 gives the monthly means of the corrected reflectivity at 3 fixed heights (2, 4, and 6 km) over 0.5° x 0.5° grid boxes. It ranges from 0.1 to 80 dBZ.

Conv. Zt Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Conv. Zt Mean 2	grid2.convZtMean2 (148,720,4)	4-byte float	Conv. Zm Mean 2 gives the monthly means of the corrected reflectivity of convective rain at 3 fixed height levels (2, 4, and 6 km) over 0.5° x 0.5° grid boxes. It ranges from 0.1 to 80 dBZ.

Strat. Zt Mean 2 (SDS, array size nlath x nlonh x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Strat. Zt Mean 2	grid2.stratZtMean2 (148,720,4)	4-byte float	Strat. Zm Means gives the monthly means of the corrected reflectivity of stratiform rain at 3 fixed heights (2, 4, and 6 km) over 0.5° x 0.5° grid boxes. It ranges from 0.1 to 80 dBZ.

Storm Height Mean (SDS, array nlath x nlonh x 3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Storm Height Mean	grid2.stormHeightMean (148,720,3)	4-byte float	Storm Height Mean gives the monthly means of the storm height, unconditioned and conditioned for stratiform and convective rain over 0.5° x 0.5° grid boxes. It has units of meters and ranges from 0 to 20,000.

BB Height Mean (SDS, array nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
BB Height Mean	grid2.bbHeightMean (148,720)	4-byte float	BB Height Mean gives the monthly means of bright-band height over grid boxes of 0.5° x 0.5°. It has units of meters and ranges from 0 to 20,000.

surfRainMean2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
surfRainMean2	grid2.surfRainMean2 (148,720)	4-byte float	Mean of near-surface rain rate at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 3000.0 mm/h.

surfRainDev2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
surfRainDev2	grid2.surfRainDev2(148,720)	4-byte float	Standard Deviation of near-surface rain rate at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 3000.0 mm/h.

bbZmaxMean2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
bbZmaxMean2	grid2.bbZmaxMean2 (148,720)	4-byte float	Mean of maximum reflectivity in bright band at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 100.0 dBZ.

bbZmaxDev2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
bbZmaxDev2	grid2.bbZmaxDev2(148,720)	4-byte float	Mean of maximum reflectivity in bright band at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 100.0 dBZ.

sdepthMean2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
sdepthMean2	grid2.sdepthMean2(148,720)	4-byte float	Mean of snow depth at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 20,000.0 m.

sdepthDev2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
sdepthDev2	grid2.sdepthDev2(148,720)	4-byte float	Standard deviation of snow depth at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 20,000.0 m.

stormHeightDev2 (SDS, array size nlath x nlonh x 3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
stormHeightDev2	grid2.stormHeightDev2 (148,720,3)	4-byte float	Standard deviation of storm height at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 20,000.0 m.

bbHeightDev2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
bbHeightDev2	grid2.bbHeightDev2 (148,720)	4-byte float	Standard deviation of bright band height at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 20,000.0 m.

surfRainAllMean2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
surfRainAllMean2	grid2.surfRainAllMean2 (148,720)	4-byte float	Mean of near-surface rain rate using rain certain and rain possible at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 3,000.0 mm/h.

surfRainAllDev2 (SDS, array size nlath x nlonh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
surfRainAllDev2	grid2.surfRainAllDev2 (148,720)	4-byte float	Standard deviation of near-surface rain rate using rain certain and rain possible at a horizontal resolution of 0.5° x 0.5°. It ranges from 0.0 to 3,000.0 mm/h.

Total Pixel Number 2 (SDS, array size nlath x nlonh, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Total Pixel Number 2	grid2.ttlPix2(148,720)	4-byte float	The Total Pixel Number 2 is the number of total pixels over 0.5° x 0.5° boxes for one month. The range is 0 to 2,000,000.

Bright Band Pixel Number 2 (SDS, array size nlath x nlonh, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Bright Band Pixel Number 2	grid2.bbPixNum2(148,720)	4-byte float	The number of bright band counts over each 0.5° x 0.5° box for one month. The range is 0 to 2,000,000.

wrainPix2 (SDS, array size nlath x nlonh, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
wrainPix2	grid2.wrainPix2(148,720)	4-byte float	Warm rain counts at a horizontal resolution of 0.5° x 0.5°. It ranges from 0 to 2,000,000,000.

surfRainPix2 (SDS, array size nlath x nlonh, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
surfRainPix2	grid2.surfRainPix2(148,720)	4-byte float	Near-surface rain counts at a horizontal resolution of 0.5° x 0.5°. It ranges from 0 to 2,000,000,000.

surfRainAllPix2 (SDS, array size nlath x nlonh, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
surfRainAllPix2	grid2.surfRainAllPix2 (148,720)	4-byte float	Near-surface rain counts using rain certain and rain possible at a horizontal resolution of 0.5° x 0.5°. It ranges from 0 to 2,000,000,000.

Rain Pixel Number 2 (SDS, array size nlath x nlonh x nh3, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Rain Pixel Number 2	grid2.rainPix2(148,720,4)	4-byte float	The Rain Pixel Number 2 is the monthly number of nonzero rain rate pixels for path-averaged rainfall and rainfall at the fixed heights of 2, 4, and 6 km over 0.5° x 0.5° boxes. The range is 0 to 2,000,000.

Conv. Rain Pixel Number 2 (SDS, array size nlath x nlonh x nh3, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Conv. Rain Pixel Number 2	grid2.convRainPix2(148,720,4)	4-byte float	The Convective Rain Pixel Number 2 is the number of nonzero rain rate pixels for convective rain at the fixed heights of 2, 4, and 6 km over 0.5°x 0.5° boxes for one month. The range is 0 to 2,000,000.

Strat. Rain Pixel Number 2 (SDS, array size nlath x nlonh x nh3, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Strat. Rain Pixel Number 2	grid2.stratRainPix2(148,720,4)	4-byte float	The Stratiform Rain Pixel Number 2 is the number of nonzero rain rate pixels for stratiform rain at the fixed heights of 2, 4, and 6 km over 0.5° x 0.5° boxes for one month. The range is 0 to 2,000,000.