ACRF Ingest Software Status:
New, Current, and Future

Revision 3

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DISCLAIMER

Introduction

The purpose of this report is to provide status of the ingest software used to process instrument data for the Atmospheric Radiation Measurement Program Climate Research Facility (ACRF). The report is divided into 4 sections: (1) for news about ingests currently under development, (2) for current production ingests, (3) for future ingest development plans, and (4) for information on retired ingests. Please note that datastreams beginning in "xxx" indicate cases where ingests run at multiple ACRF sites, which results in a datastream(s) for each location.

Readers of this status report may want to consult our current list of instrument mentors at http://www.arm.gov/instruments/mentors.php or our list of software developers at http://engineering.arm.gov/engr/task/developercontacts.stm.

Another useful utility is the current datastream status, presented from the ARM Data Management Facility (DMF) perspective, which can be found at http://c1.dmf.arm.gov/ds/dsview/gui/datastream.php.

Hint: Select the "Login as Guest Account" option. Depending on the speed of your internet connection, it may take a few minutes for the complete display to generate. Datastream status for the current calendar month will be displayed. The legend (visible in the upper right hand area) will help you understand the display. In addition, the number (ideally 24.0) indicates the number of hours of data for the day in question.

For those who are interested in the contents of datastreams generated by ARM software, refer to the data object design files at http://science.arm.gov/tool/dod/showdod.php.

Contents

1. Ingest News

1.1 In Development

We are currently working on the following ingests:

iapmfr_ingest
isssonde_ingest
mwrhf_ingest
sws_ingest
wacr_spectra_filter

1.2 In Production

aeri_ingest	nfov2ch_ing
amfmet_ingest	org_ingest
aos_ingest	rain_ingest
disdrometer_ingest	rss_ingest
ebbr_ingest	rwp_ingest
ecor_ingest	sirs_ingest
gvr_ingest	smet_ingest
irt_ingest	smor_ingest
irthr_ingest	smos_ingest
met_ingest	sonde_ingest
metrad_ingest	surthref_ingest
mettwr_ingest	swats_ingest
mfrcdl_ingest	sws_ingest
mfr_ingest	thwaps_ingest
mmcrmom_ingest	tps_ingest
mmcr_spec_filter	tsi_ingest
mplpol_ingest	twr_ingest
mwr_ingest	vceil_ingest
mwrp_ingest	wacr_ingest

1.3 Reprocessing Tasks

A list of active reprocessing tasks and development needs related to reprocessing will be provided in this section.

1.4 Retired Ingests

This section lists ingest software that has been retired from production.

cm_ingest
cmh_ingest
issrwpcons_ingest
isssonde_ingest

[mfrirt_ingest](#)
[mmcr_ingest](#)
[mplps_ingest](#)
[noaaaos_ingest](#)

2.   Ingest Details

In the following sections, we will provide very basic information about the ingest software currently running in production. We list the mentor, lead developer, backup developer, basic information about the processing done by the ingest, and the current operational status. Detailed instrument information can be found at http://www.arm.gov/instruments/.

2.1   aeri_ingest

Mentors: Dave Turner and Ralph Dedecker, UWISC
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 8.0-0, 2006/10/31
Status: Running
Recent BCRs: 1241, 1212, 1202

Description:

The aeri_ingest is used to read raw data generated by the Atmospherically Emitted Radiance Interferometer (AERI). The following datastreams are generated:

xxxaerich1Fn.b1, channel 1 data
xxxaerich2Fn.b1, channel 2 data
xxxaeriengineerFn.b1, contains engineering data
xxxaerisummaryFn.b1, summary data

2.2   amfmet_ingest

Mentor: Mike Ritsche, ANL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 2.0-0, 2006/09/07
Status: Online
Recent BCRs: 1395

Description:

Database entries were updated.

The amfmet_ingest is used to read raw data generated by the ARM Mobile Facility (AMF) surface meteorology measurements. The following netCDF (i.e., network common data format) datastream is generated:

xxxmetFn.b1
xxxcmhFn.b1

2.3   aos_ingest

Mentor: John Ogren, NOAA
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 9.6-0, 2007/11/19
Status: Running
Recent BCRs: 1430, 1374, 1293, 1282

Description:

A new release of the aos_ingest (Baseline Change Request [BCR] 1430) corrects parsing of the missing value codes from the National Oceanic and Atmospheric Administration's (NOAA's) datastream, xxxaosccnFn.a1.

The following datastreams are generated:

xxxaosFn.a1
xxxaosauxFn.a1
xxxaosccnFn.a1

2.4   cm_ingest

Mentor: To be determined (TBD)
Lead Developer: TBD
Backup Developer: TBD
Current Version: 7.7-0, 2003/10/09
Status: TBD

Description:

The cm_ingest processed data collected from chilled mirror instrumentation at the Southern Great Plains (SGP) site. It produced the following datastreams:

xxxcmFn.b1
xxxcm25mFn.b1
xxxcm60mFn.b1

2.5   cmh_ingest

Mentor: TBD
Lead Developer: TBD
Backup Developer: TBD
Current Version: 7.5-0, 2003/05/28
Status: TBD

Description:

The cmh_ingest processed data collected from chilled mirror hygrometer instrumentation at the North Slope of Alaska (NSA) Barrow (C1) and Atqasuk (C2) facilities. It produced the following datastreams:

xxxcmhFn.b1

2.6   disdrometer_ingest

Mentor: Mary Jane Bartholomew, BNL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 2.1-0, 2007/04/23
Status: Running
Recent BCRs: 1362, 1346, 1251, 1156

Description:

This ingest was upgraded to handle large files. The disdrometer_ingest is used to read data from disdrometer instruments. Disdrometers are used to collect data from tipping bucket rain gauges. The following netCDF datastreams are generated:

xxxdisdrometerFn.b1

2.7   ebbr_ingest

Mentor: David Cook, ANL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 8.1-0, 2006/09/05
Status: Running
Recent BCRs: 1036, 674

Description:

The ebbr_ingest reads data from the Energy Balance Bowen Ratio (EBBR) system. The following datastreams are generated:

xxx5ebbrFn.b1, 5-minute data
xxx15ebbrFn.b1, 15-minute data
xxx30ebbrFn.b1, 30-minute data

2.8   ecor_ingest

Mentor: David Cook, ANL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 8.0, 2006/10/25
Status: Running
Recent BCRs: 1352, 1218, 1151, 1039, 1015

Description:

The ecor_ingest reads data from the Eddy Correlation Flux Measurement System (ECOR) and generates netCDF datastreams, which provide in situ, half-hour measurements of the surface turbulent fluxes of momentum, sensible heat, latent heat, and carbon dioxide. Datastreams generated include the following:

xxx30ecorFn.b1

2.9   gvr_ingest

Mentor:	Maria Cadeddu, ANL
Lead Developer:	Annette Koontz, PNNL
Backup Developer:	Brian Ermold, PNNL
Current Version:	1.3-0, 2007/02/20
Status:	Running
Recent BCRs:	1344, 1338, 1329, 1287, 1255, 1189

Description:

The gvr_ingest reads data generated by the 183.3 GHz radiometer and generates netCDF datastreams. The G-Band Vapor Radiometer (GVR) is located at the NSA C1 site. Datastreams generated include the following:

xxxgvrFn.a0
xxxgvrFn.b1

2.10   iapmfr_ingest

Mentor:	Gary Hodges, NOAA
Lead Developer:	Annette Koontz, PNNL
Backup Developer:	Brian Ermold, PNNL
Version:	N/A
Status:	Development
Recent BCRs:	1422 – Approved

Description:

The datastreams are in final review by the mentor. As soon as the mentor approves the datastream structure, the iapmfr_ingest will be released. In preparation for this release, the zip2tar utility and the preprocess_IAPMFR utility have been released into production. The iapmfr_ingest requires that only the Global Positioning System (GPS) and Mutifilter Radiometer (MFR) data be extracted from the In-situ Aerosol Profiles (IAP) data. This is done via a combination of the zip2tar and preprocess_IAPMFR software to merge the GPS and MFR data into a single file for each flight.

We expect to generate the following datastream names:

sgpiapmfrC1.a0
sgpiapmfrC1.b1

2.11   irt_ingest

Mentor:	Victor Morris, PNNL
Lead Developer:	Brian Ermold, PNNL
Backup Developer:	Sutanay Choudhury, PNNL
Current Version:	9.2-0, 2006/10/27
Status:	Running
Recent BCRs:	1384, 988, 890, 777, 668

Description:

The irt_ingest, similar to the irthr_ingest, reads data from the Infrared Thermometer (IRT) instruments. However, this ingest is designed for the older IRTs that report data every 20 seconds. There is one IRT located on a tower at 10 meters above the ground and another at 25 meters above the ground. The tower-mounted instruments are pointed downward. Datastreams generated include the following:

xxxirt10mFn.b1, 10-meter tower data
xxxirt25m20sFn.a0. 25-meter tower data, 20-second interval
xxxirt25mFn.b1, 25-meter tower data, 1-minute averages

2.12 irthr_ingest

Mentor: Victor Morris, PNNL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 2.0-0, 2006/08/14
Status: Running
Recent BCRs: 1111

Description:

The irthr_ingest reads data from the high-resolution Infrared Thermometer (IRT) instruments distributed around the SGP. Datastreams generated are for 200-millisecond, 2-seconds, and 1-minute sample intervals and include the following:

xxxirt200msFn.a1, 200-millisecond data
xxxirt2sFn.b1, 2-second data
xxxirtFn.b1, 1-minute data

2.13 issonde_ingest

Mentor: Barry Lesht, ANL
Lead Developer: Brian Ermold, PNNL
Backup Developer: TBD
Version: 8.0-0, 2007/03/20
Status: Retired ingest being revised for historical data processing
Recent BCRs: 1337

Description:

The isssonde_ingest was used to process sonde data in the past. It is being revised for use with the new databases for the purpose of reprocessing historical data and will result in the following datastreams:

xxxisssonde10sFn.a1
xxxisssondeFn.a1

2.14   issrwpcons_ingest

Mentor:	TBD
Lead Developer:	TBD
Backup Developer:	TBD
Current Version:	7.1-0, 2001/02/23
Status:	TBD

Description:

The issrwpcons_ingest was used to process data from an external rass wind profiler (RWP) located at the Tropical Western Pacific (TWP). It produced the following datastreams:

xxx915issrwptempconFn.a1
xxx925issrwpwindconFn.a1

2.15   met_ingest

Mentor:	Mike Ritsche, ANL
Lead Developer:	Sutanay Choudhury, PNNL
Backup Developer:	Brian Ermold, PNNL
Current Version:	7.8-0, 2001/10/20
Status:	Running
Recent BCRs:	1335, 1232, 1163, 1059

Description:

The met_ingest processed data collected from conventional in situ sensors measuring meteorological data such as wind speed, barometric pressure, and so on. The following datastream is generated:

xxxmetFn.b1

2.16   metrad_ingest

Mentor:	Mike Ritsche, ANL
Lead Developer:	Sutanay Choudhury, PNNL
Backup Developer:	Brian Ermold, PNNL
Current Version:	2.0-0, 2006/10/31
Status:	Offline
Recent BCRs:	None.

Description:

The metrad_ingest processes raw radiometer and meteorological data to produce NetCDF files. The following datastreams are generated:

nimmetS1.b1
nimradS1.b1

2.17   mettwr_ingest

Mentor: Mike Ritsche, ANL
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 2.1-0, 2006/09/08
Status: Running
Recent BCRs: 1133

Description:

The mettwr_ingest processes data collected from conventional in situ sensors on the ground and on a tower at 10 meters and 40 meters above the ground. The sensors measure meteorological data such as wind speed, barometric pressure, and so on. The mettwr_ingest is used to process data collected at the NSA from surface and tower meteorological instrumentation. Datastreams generated include the following:

xxxmettwr2hFn.b1
xxxmettwr4hFn.b1
xxxmettwrFn.b1

2.18   mfr_ingest

Mentor: Gary Hodges, NOAA
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 7.19-0, 2006/09/18
Status: Running
Recent BCRs: 1297, 1177, 1145

Description:

Soon data from the Normal Incidence Multifilter Radiometer (NIMFR) will be processed via mfrcdl_ingest. The mfr_ingest is used to process NIMFR, MFR10m, and MFR25m data. The datastreams generated include the following:

xxxmfr10mFn.a0
xxxmfr10mFn.b1
xxxmfr25mFn.a0
xxxmfr25mFn.b1
xxxnimfrFn.a0
xxxnimfrFn.b1

2.19   mfrcdl_ingest

Mentor: Gary Hodges, NOAA
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 9.9-0, 2007/10/08
Status: Running

Recent BCRs: 1380, 1230

Description:

Most recently, changes made to the Multifilter Rotating Shadowband Radiometer (MFRSR) processing logic were retracted. Those changes marked data as "missing" that are basically non-physical. However, those changes caused difficulties for the Data Quality Office software, so they were retracted. Logic to handle the non-physical MFRSR data will eventually be handled via a value-added product (VAP).

The following datastreams are generated:

xxxmfrsrFn.a0
xxxmfrsrFn.b1, processed data
xxxmfrsrauxFn.a0

Several SGP MFRSRs have been converted to the Campbell Data Logger. Raw data are being collected. We can now process NIMFR data via this ingest.

2.20   mfrirt_ingest

Mentor: N/A
Lead Developer: Annette Koontz, PNNL
Backup Developer: N/A
Current Version: 8.1-0, 2006/03/06
Status: Offline

Description:

The mfrirt_ingest was used to process data collected from an IRT instrument that was included in an MFR datastream at SGP C1. It produced the following datastreams:

xxxmfrirt10mFn.b1
xxxmfrirt25mFn.b1

NOTE: These data have all been reprocessed and cloned to look like sgpirt10mC1.b1 and sgpirt25mC1.b1 data.

2.21   mmcr_ingest

Mentor: N/A
Lead Developer: Annette Koontz, PNNL
Backup Developer: N/A
Current Version: 8.0-0, 2006/11/01
Status: Retired, replaced by mmcrmom_ingest

Description:

The mmcr_ingest has been replaced by the mmcrmom_ingest. The mmcr_ingest was used to process data collected from the first generation of Millimeter Wavelength Cloud Radar (MMCR) instruments. It produced the following datastreams:

xxxmmcrcalFn.a1
xxxmmcrmomentsFn.a1
xxxmmcrmonFn.a1

2.22 mmcr_spec_filter

Mentor: Karen Johnson, BNL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Version: 2.8-0, 2007/10/22
Status: Online at SGP C1
Recent BCRs: 1374

Description:

Recent changes were implemented to get the filtered data flowing. Currently, this is happening for
SGP C1 data only, with filtered spectra data delivered directly to the ARM Archive. The mentor may be
providing logic adjustments to better handle thin clouds in the future.

2.23 mmcrmom_ingest

Mentor: Kevin Widener, PNNL, and Karen Johnson, BNL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 8.5-1, 2007/06/6
Status: Running
Recent BCRs: 1382, 1203, 918, 899

Description:

The mmcrmom_ingest has been modified recently to better filter out not-a-number and infinity values.
The mmcrmom_ingest is used to process data from the MMCR. Datastreams generated include the
following:

xxxmmcrmomFn.b1

Per Engineering Change Order (ECO) 610, the raw and processed MMCR data will be undergoing
another facelift. There is no news on when this will happen, but the Engineering Change Request (ECR)
was approved.

2.24 mplpol_ingest

Mentor: Richard Coulter, ANL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 9.2-0, 2007/07/20
Status: Running
Recent BCRs: 1392, 1315, 1233

Description:

The mplpol_ingest processes data from the Micropulse Lidar (MPL). Datastreams generated include the following:

xxxmplpolFn.b1

Since these data are used by several important "downstream" VAPs, a VAP to average the MPLPOL data has been released and is being run on the DMF. The corresponding averaged datastream names are the following:

xxxmplpolavgFn.c1
xxxmplpolavgFn.s1

The mplpol_ingest is being modified to handle odd data collected at the TWP site in Darwin, Australia, recently.

2.25   mplps_ingest

Mentor: Richard Coulter, ANL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 8.0-0, 2006/10/27
Status: Retired

The mplps_ingest was used to process data collected from a prototype, a polarizing MPL, located at the NSA C1. It produced the following datastream:

xxxmplpsFn.a0

These data were subsequently used as input to the mplavg process, which produced

xxxmplFn.a1

which was used as input to the Active Remotely-Sensed Cloud Locations (ARSCL) VAP. This ingest was retired when the mplpol_ingest was put in production at the NSA C1.

2.26   mwr_ingest

Mentor: Maria Cadeddu, ANL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 10.0-0, 2007/06/26
Status: Running
Recent BCRs: 1385, 1223

Description:

The mwr_ingest processes data from the Microwave Radiometer (MWR). Datastreams generated include the following:

xxxmwrlosFn.b1, line-of-sight data
xxxmwrlosFn.a1, TIP data

The format of the MWRTIP files changed as a result of BCR 1385. The data are being reprocessed so that the MWRTIP files will have a consistent format.

2.27 mwrhf_ingest

Mentor: Maria Cadeddu, ANL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Version: 1.1-0, 2007/06/25
Status: Offline
Recent BCRs: 1358, 1319, 1302

Description:

The mwrhf_ingest processes 90/150-GHz Microwave Radiometer - high frequency (MWRHF) data. This instrument has been installed at the SGP C1 and at the AMF deployment in Germany (FKB M1).

The ingest is being modified to make the file handling logic more robust (EWO 12253).

The following datastreams are generated:

xxxmwrhfFn.b1

2.28 mwrp_ingest

Mentor: Maria Cadeddu, ANL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 8.3-0, 2007/09/06
Status: Running
Recent BCRs: 1320, 1314, 1250, 1249, 1234

Description:

Recent changes were made to remove not-a-number and infinity values. The mwrp_ingest processes data collected from the Microwave Radiometer Profiler (MWRP). Datastreams generated include the following:

xxxmwrpFn.b1

2.29 nfov2ch_ingest

Mentor: Gary Hodges, NOAA
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: TBD
Current Version: 11.0-1, 2007/05/01
Status: Running
Recent BCRs: 1286, 1028, 1006

Description:

This ingest has been ported to the new database and is currently running for AMF deployment in Germany. The nfov2ch_ingest processes data collected from the Narrow Field of View, 2-channel radiometer (NFOV2).

The following datastream is generated:

xxxnfov2chFn.b1

The mentor indicates that the instrument is out for calibration and/or repair. No estimate is available at this time for its return to production. Also, the nfov2ch_ingest is being modified to use new databases and a new version will be released prior to the AMF deployment in Germany.

2.30 noaaaos_ingest

Mentor: John Ogren, NOAA
Lead Developer: Annette Koontz, PNNL
Backup Developer: N/A
Current Version: 2.2-0, 2006/12/22
Recent BCRs: 1374
Status: Retired, became aos_ingest

Description:

The noaaaos_ingest processed raw (not mentor reviewed) data collected from the NSA and the AMF AOS instruments. It produced the following datastreams:

xxxaosFn.a0
xxxaosauxFn.a0
xxxaosccnFn.a0

2.31 org_ingest

Mentor: Michael Ritsche, ANL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 1.0-0 1007/10/25
Status: Released, Instrument

Recent BCRs: 1389

Description:

The org_ingest processes optical rain gauge measurements. The first version of the org_ingest has been released into production.

Datastreams generated include the following:

xxxorgFn.b1

2.32 rain_ingest

Mentor: Mary Jane Bartholomew, BNL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 3.0-1, 2007/11/09
Status: Running
Recent BCRs: 1395, 1156

Description:

The rain_ingest processes tipping bucket measurements. The rain ingest was upgraded to implement a new interpolation algorithm and support a new optical rain gauge instrument (EWO 12168). The upgraded version was released to production.

Datastreams generated include the following:

xxxrainFn.b1

2.33 rss_ingest

Mentor: Piotr Kiedron, NOAA
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 2.0-0, 2006/10/31
Status: Running
Recent BCRs: 1143, 1104

Description:

The rss_ingest is used to process data collected from Rotating Shadowband Spectroradiometer (RSS) instruments. The datastreams generated include the following:

xxxrssFn.b1

NOTE: Data are processed every couple of months, when the required inputs arrive.

2.34   rwp_ingest

Mentor: Richard Coulter, ANL
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 8.1-0, 2007/4/11
Status: Running
Recent BCRs: 1353, 1246, 1186, 974

Description:

The rwp_ingest processes data collected from Radar Wind Profilers (RWPs). The datastreams generated include the following:

xxx50rwptempFn.a2
xxx50rwptempconFn.a1
xxx50rwptempmomFn.a0
xxx50rwptempspecFn.a0
xxx50rwpwindconFn.a1
xxx50rwpwindmomFn.a0
xxx50rwpwindspecFn.a0
xxx915rwptempFn.a2
xxx915rwptempconFn.a1
xxx915rwptempmomFn.a0
xxx915rwptempspecFn.a0
xxx915rwpwindconFn.a1
xxx915rwpwindmomFn.a0
xxx915rwpwindspecFn.a0
xxx1290rwpwindconFn.a1
xxx1290rwpwindmomFn.a0
xxx1290rwpwindspecFn.a0

For the next AMF installation, the rwp_ingest will require modification to handle the new configuration of RWP data.

2.35   sirs_ingest

Mentor: Tom Stoffel, NREL
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 10.0-0, 2006/08/31
Status: Running
Recent BCRs: 1080, 1040

Description:

The sirs_ingest processes data collected from Solar Infrared Radiation Station (SIRS) instruments. Datastreams generated include the following:

xxxsirsFn.b1

xxxsirs20sFn.a0
xxxskyrad60sFn.b1
xxxskyrad20sFn.a0
xxxgndrad60sFn.b1
xxxgndrad20sFn.a0

2.36   smet_ingest

Mentor: Michael Ritsche, ANL
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 8.1-0, 2006/10/04
Status: Running
Recent BCRs: 1213, 1048, 738

Description:

The smet_ingest processes data collected from Surface Meteorological Instruments for TWP (SMET).
Datastreams generated include the following:

xxxsmet60sFn.b1

2.37   smor_ingest

Mentor: TBD
Lead Developer: Brian Ermold, PNNL
Backup Developer: Annette Koontz, PNNL
Version: 7.11-0, 2003/10/09
Status: Retired ingest being revised for reprocessing historical data from Sky
                        Radiometers on Stand for Downwelling Radiation (SKYRAD) and Ground
                        Radiometers on Stand for Upwelling Radiation (GNDRAD)
Recent BCRs: 738, 623, 522, 413, 397, 385

Description:

This ingest has been taken out of retirement. It will be used for reprocessing of historical SKYRAD,
GNDRAD, and SMET data, but with the addition of logic to use new databases to improve performance
and to generate new datastreams comparable to those currently being generated by the sirs_ingest. This
reprocessing is needed, at least in part, for subsequent processing by one or more VAPs.

The following datastreams will be generated:

xxxskyrad20sFn.a0
xxxskyrad60sFn.b1
xxxgndrad20sFn.a0
xxxgndrad60sFn.b1
xxxsmet60sFn.b1

2.38   smos_ingest

Mentor: Michael Ritsche, ANL
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 8.1-1, 2007/03/14
Status: Running
Recent BCRs: 1298, 1257, 1178

Description:

The smos_ingest processes data from the Surface Meteorological Observation System (SMOS) instruments. The smos_ingest has been updated to handle changes being made to the sensors. It is being updated to add new calibration variables (EWO-11989). Modifications to the datastreams are underway to remove snow-depth measurements. Datastreams generated include the following:

xxx1smosFn.b1
xxx30smosFn.b1

2.39   sonde_ingest

Mentor: Barry Lesht, ANL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 8.1-0, 2006/09/28
Status: Running
Recent BCRs: 1245, 1229

Description:

The sonde_ingest processes data collected from Balloon-Borne Sounding System (sonde). Datastreams generated include the following:

xxxsondewnpnFn.b1

2.40   surthref_ingest

Mentor: Michael Ritsche, ANL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 2.0-0, 2006/11/01
Status: Running
Recent BCRs: 1124, 1106

Description:

The surthref_ingest processes data collected from Surface Temperature and Humidity Reference (SURTHREF) system instruments. Datastreams generated include the following:

xxxsurthrefFn.b1

2.41   swats_ingest

Mentor: John Harris, CIMMS
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 10.0-0, 2006/09/07
Status: Running
Recent BCRs: 1017, 896

Description:

The swats_ingest processes data collected from the Soil Water and Temperature System (SWATS).
Datastreams generated include the following:

xxxswatsFn.b1
xxxswatsspcpFn.b1

2.42   sws_ingest

Mentor: Alan Scott Kittelman, CU-Boulder
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 3.0-0, 2007/03/06
Status: Running
Recent BCRs: 1406, 1347, 1288, 1216

Description:

The sws_ingest is being modified to handle new calibration logic. More enhancements are expected in
November 2007. The sws_ingest processes data collected from the Shortwave Spectroradiometer (SWS).
Datastreams generated include the following:

xxxswsFn.b1
xxxswsauxFn.b1

2.43   thwaps_ingest

Mentor: Michael Ritsche, ANL
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 8.0-0, 2006/08/14
Status: Running
Recent BCRs: 726

Description:

The thwaps_ingest processes data collected from Temperature, Humidity, Wind and Pressure Sensors
(THWAPS) instruments. Datastreams generated include the following:

xxxthwapsFn.b1

2.44   tps_ingest

Mentor: Mark Ivey, SNL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Version: 1.0-0, 2006/12/22
Status: Running
Recent BCRs: 1387, 1366

Description:

The Total Precipitation Sensor (TPS) will be deployed at both NSA sites in Barrow and Atqasuk soon. The tps_ingest will process data from the Total Precipitation Sensor (precipitation rate and daily accumulated precipitation).

xxxtpsFn.b1

2.45   tsi_ingest

Mentor: Victor Morris, PNNL
Lead Developer: Sutanay Choudhury, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 10.1-0, 2006/11/07
Status: Running
Recent BCRs: 1294, 1247, 1206, 1107

Description:

The tsi_ingest processes data collected from the Total Sky Imager (TSI). Datastreams generated include the following:

xxxtsicldmaskFn.a1
xxxtsimovieFn.a
xxxtsiskycoverFn.b1
xxxtsiskyimageFn.a1

2.46   twr_ingest

Mentor: David Cook, ANL
Lead Developer: Brian Ermold, PNNL
Backup Developer: Sutanay Choudhury, PNNL
Current Version: 8.0-0, 2006/09/07
Status: Running
Recent BCRs: 727

Description:

The twr_ingest processes data collected from meteorological instruments located on towers above the ground. The datastreams generated include the following

xxx1440twr21xFn.b1

xxx1440twr25mFn.b1
xxx1440twr60mFn.b1
xxx1twr10xFn.b1
xxx1twr25mFn.b1
xxx1twr60mC1.b1
xxx30twr10xFn.b1
xxx30twr25mFn.b1
xxx30twr60mFn.b1

2.47   vceil_ingest

Mentor: Victor Morris, PNNL
Lead Developer: Brian Ermold, PNNL
Backup Developer: Annette Koontz, PNNL
Current Version: 8.1-0, 2006/09/08
Status: Running
Recent BCRs: 1295, 1132

Description:

The vceil_ingest processes data collected from Vaisala Ceilometers (VCEILs). Datastreams generated include the following:

xxxvceil25kFn.b1

2.48   wacr_ingest

Mentor: Kevin Widener, PNNL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Current Version: 8.1-0, 2006/09/11
Status: Running
Recent BCRs: 1357, 1263, 1242

Description:

The wacr_ingest processes data collected from W-Band (95 GHz) ARM Cloud Radar (WACR) instruments. Datastreams generated include the following:

xxxwacrFn.b1

2.49   wacr_spectra_filter

Mentor: Karen Johnson, BNL
Lead Developer: Annette Koontz, PNNL
Backup Developer: Brian Ermold, PNNL
Version: 3.1-0, 2007/04/12
Status: Installed
Recent BCRs: 1349

Description:

This ingest is still not running, but hardware issues at SGP have been resolved. We will begin shipping spectra data to the ARM Archive soon. The software will be used to generate spectra files that will be shipped directly to the Archive.

3. Reprocessing Needs

The next issue of this document will contain information on development needs related to reprocessing.

4. Future Ingest Development Needs

In the next few weeks, the underlying libraries used by the ingests will be updated to further standardize the quality check (QC) results and make QC attributes more consistent with recent VAP QC standards.

In future months, the latest generation of database software used by the ingest software will continue to be developed.