



Major Uses: Parameter estimation, parameterization development

| In-Situ Cases | Lat/Lon | Time | MERRA/-2/FP Cases | Lat/Lon | Time |
|---------------|----------|-----------|-------------------|----------|-----------|
| ARM/SGP | 36N 97W | July 1997 | MERRA-ARM/SGP | 36N 97W | July 1997 |
| ARM/KWAJEX | 8N 167E | July 1999 | MERRA-KWAJEX | 8N 167E | July 1999 |
| COARE | 1S 155E | Nov 1992 | MERRA-COARE | 1S 155E | Nov 1992 |
| TRMM/LBA | 11S 62W | Jan 1999 | MERRA-TRMM | 11S 62W | Jan 1999 |
| ARM/SCSMEX | 10N 112E | May 1998 | MERRA-SCSMEX | 10N 112E | May 1998 |
| CFMIP 6,11,12 | 16N 149W | July 1993 | | | |
| ARM/TWP-ICE | 12S 131E | Jan 2006 | MERRA-TWP | 12S 131E | Jan 2006 |
| DOE/LASIC | 8S 14W | Aug 2016 | | | |
| BARROW/2013 | 71N 157W | Mar 2013 | MERRA2/BARROW13 | 71N 157W | Mar 2013 |
| | | | MERRA-Kan-L | 67N 51W | Mar 2013 |
| | | | MERRA-NAMMA | 16N 24W | July 2006 |
| | | | MERRA-NAMECORE | 24N 108W | July 2004 |
| | | | MERRA-NAMEAZNM | 33N 110W | July 2004 |
| | | | MERRA2-ARISE-ICE | 75N 140W | Sept 2014 |
| | | | MERRA2-ARISE-OPEN | 74N 155W | Sept 2014 |
| | | | MERRA2-ASCOS | 87N 8W | Aug 2008 |
| | | | FP/DISCOVERAQ | 39N 75W | July 2011 |



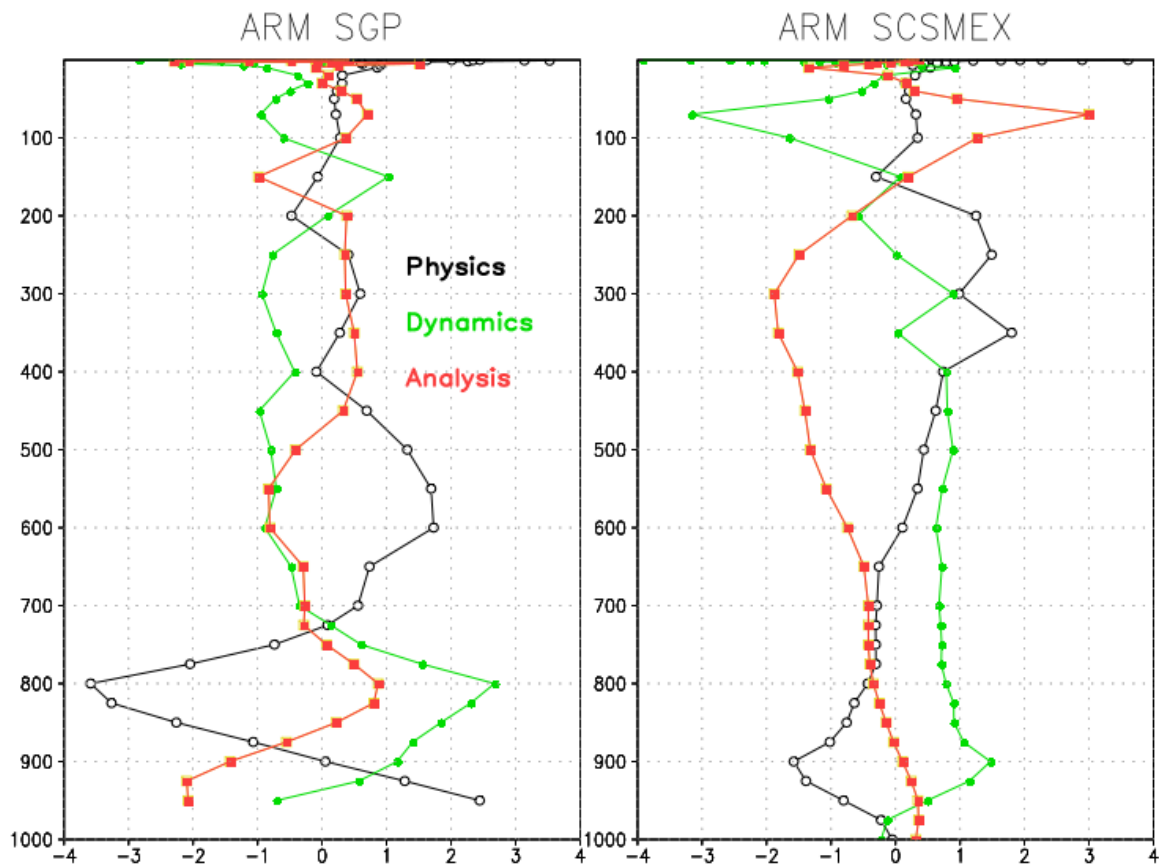
GEOS Single Column Model

Request for modification of unified format 1:

Add space in variable list to include analysis increments. Intended for cases that are derived from reanalysis.

We make this request based on use of MERRA-2 derived cases at many different times/places/conditions (that of course will be shared if there is interest)

Role of MERRA-2 Data Assimilation “Analysis Increments” in SCM cases



ARM SGP Case:

Balance is mainly between **Physics** and **Dynamics** Increments. This is interpreted as the assimilation correcting errors in the physics.
 → No need for analysis increments for SCM case

SCSMEX Case:

Balance is mainly between **Analysis** and **Dynamics** Increments. This is interpreted as the dynamics responding to the analysis increment.
 → Must have the analysis increments for SCM case



GEOS Single Column Model

Request for modification of unified format 2:

Add flag/option for ALL quantities other than dynamical forcing to be calculated by the model (eg., surface fluxes...)

We make this request based on the GEOS Infrastructure for SCM

