

MERRA Data Access

MERRA FILE COLLECTIONS

- Distributed through a modeling data portal at the Goddard DISC:
<http://disc.sci.gsfc.nasa.gov/MDISC/>
- MERRA products are organized into **24 collections** in HDF
- All distributed data products have slightly degraded precision and are compressed with gzip.
- Data are produced on three horizontal grids:
 - Native ----- (1/2 by 2/3 w/ FV conventions)
 - Reduced ----- (1½ by 1½ Dateline-edge, Pole-edge)
 - Reduced FV -- (1 by 1¼ w/ FV conventions)
- In the vertical, 3-D data are on:
 - 72 model layers
 - 42 pressure levels
- Temporal resolution:
 - 3D products are 3-hourly
 - 2D products are hourly
- Total online collections ~70TB

http://gmao.gsfc.nasa.gov/research/merra/MERRA_FileSpec_DRAFT_09_02_2008.pdf

Data Access

- Starting point:
<http://disc.sci.gsfc.nasa.gov/MDISC/>
- Sign up for a news/info mail list
- Web-based FTP
 - All Collections: Hourly, Monthly, Monthly Diurnal
- Mirador search provides ftp download scripts
- Wget can mirror entire paths (collections)

Wget mirroring example script

```
#!/bin/csh -f

wget -r -N -nH --cut-dirs=1
  ftp://goldsmr2.sci.gsfc.nasa.gov/data/s4pa/MERRA_MONTHLY/MATMNXSLV.5.2.0
wget -r -N -nH --cut-dirs=1
  ftp://goldsmr2.sci.gsfc.nasa.gov/data/s4pa/MERRA_MONTHLY/MATMNXRAD.5.2.0
wget -r -N -nH --cut-dirs=1
  ftp://goldsmr2.sci.gsfc.nasa.gov/data/s4pa/MERRA_MONTHLY/MATMNXFLX.5.2.0
wget -r -N -nH --cut-dirs=1
  ftp://goldsmr2.sci.gsfc.nasa.gov/data/s4pa/MERRA_MONTHLY/MATMNXINT.5.2.0

wget -r -N -nH --cut-dirs=1
  ftp://goldsmr3.sci.gsfc.nasa.gov/data/s4pa/MERRA_MONTHLY/MAIMCPASM.5.2.0
wget -r -N -nH --cut-dirs=1
  ftp://goldsmr3.sci.gsfc.nasa.gov/data/s4pa/MERRA_MONTHLY/MAIMNPANA.5.2.0
```

Get the latest version!!

Works on Linux, Win and Mac

Data Access

- FTP Subsetter
 - Cuts the domain size, variables and time to produced tailored smaller data downloads
- NetCDF Converter
- OpenDAP (formerly DODS) and Grads Data Server (GDS)
- Giovanni (Coming soon)
- Locally: NCCS at the DMF Archive
 - Use as an alternative for certain data requests

MERRA On-Line Atlas

MERRA MULTI-STREAM VISUALIZATION
See [README](#) · [MERRA Progress & Events](#)

1 CHOOSE STREAM (EXPID) 2 SELECT YEAR 3 CHOOSE COMPARISON

d5_merra_jan79 Y1981 JRA25 Reanalysis

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	DJF	MAM	JJA	SON	ANN
Observing System	go	go	go	go	go	go	go	go	go	go	go						
ZM UWND	go	go	go	go	go	go	go	go	go	go			go	go	go		
ZM VWND	go	go	go	go	go	go	go	go	go	go			go	go	go		
ZM TEMP	go	go	go	go	go	go	go	go	go	go			go	go	go		
ZM Q	go	go	go	go	go	go	go	go	go	go			go	go	go		
850mb Eddy Heights	go	go	go	go	go	go	go	go	go	go			go	go	go		
500mb Eddy Heights	go	go	go	go	go	go	go	go	go	go			go	go	go		
300mb Eddy Heights	go	go	go	go	go	go	go	go	go	go			go	go	go		
850mb Temp	go	go	go	go	go	go	go	go	go	go			go	go	go		
200mb UWND	go	go	go	go	go	go	go	go	go	go			go	go	go		
200mb VWND	go	go	go	go	go	go	go	go	go	go			go	go	go		
850mb Q	go	go	go	go	go	go	go	go	go	go			go	go	go		
SLP	go	go	go	go	go	go	go	go	go	go			go	go	go		
TPW																	
Precip																	
Precip All	go	go	go	go	go	go	go	go									
Precip Diff	go	go	go	go	go	go	go	go									
Precip Taylors	go	go	go	go	go	go	go	go									
Precip Adv. Taylors	go	go	go	go	go	go	go	go									

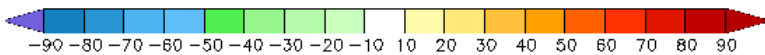
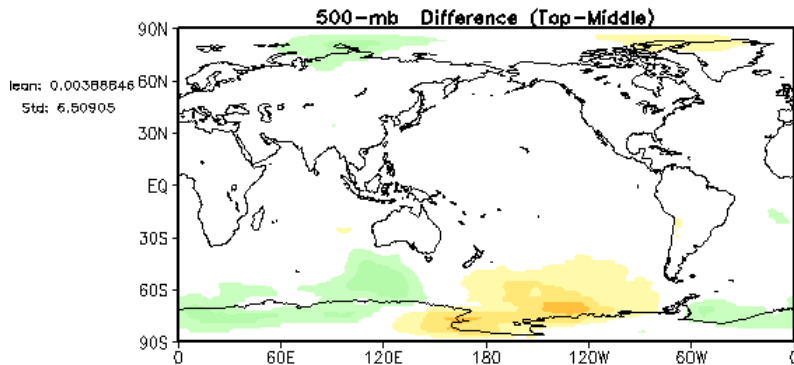
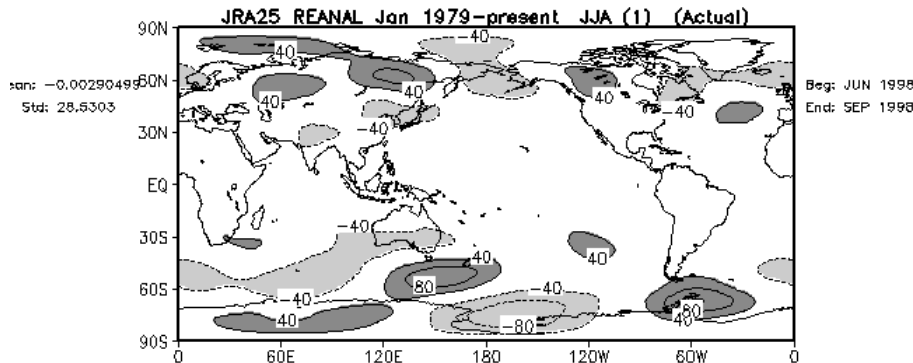
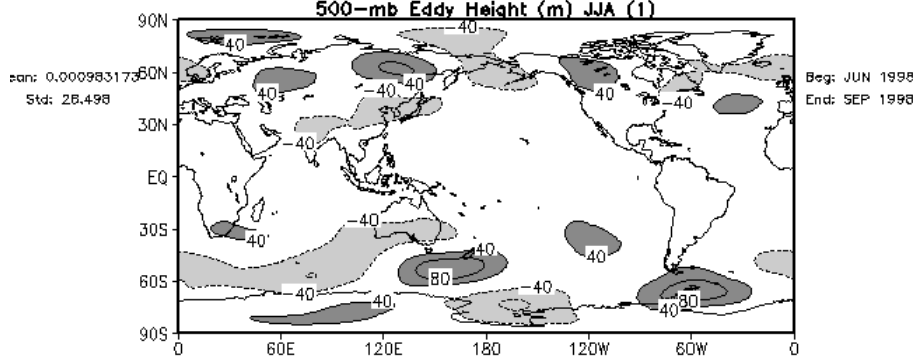
- Updated regularly with monthly comparisons versus existing reanalyses and some global observed data sets
- More comparisons being added and will be redone at the completion of MERRA
- Beta Version
Comments Welcome

<http://gmao.gsfc.nasa.gov/research/merra/prequel/view.php>

Example figures from the Atlas

500mb Eddy Height vs JRA25

d5_merra_jan98



Precipitation Taylor Diagram, All Reanalyses using GPCP as the reference

d5_merra_jan98
199807

d5_merra_jan98 v. GPCP
NCEP-R2 v. GPCP
NCEP-R1 v. GPCP
JRA-25 v. GPCP
ECMWF ERA-40 v. GPCP
CMAP v. GPCP

