Daily GFS Precipitation

Global Forecast System

Prerequisite

The Iraq Daily GFS Prec process creates a 6-days map graphic product for the website. This process requires the Global Daily GFS Prec geoBIL zip as input data.

Run dates:

a. Operational run process date comes from the system date and it will the same used for the web products.
   Example: scheduler task for Sep 25, 2019 = web products for Sep 25, 2019
b. Manual run download using the user-defined date input arguments. Web product date will be the user-defined date.
   Example: scheduler run for Sep 17, 2019 = web products for Sep 17, 2019

Global Daily GFS Prec

Main script process steps

1. Downloads source (raw) data from NOAA NCEP (7 files): https://ftp.cpc.ncep.noaa.gov/International/gfs_00z_25km/for_usgs/
2. Converts source data to geoBIL for each forecast day

Python scripts used in the process

- `D:\FEWS\DataPortal_iraq\bin\global\daily\gfs\global_daily_gfs_config.py` → Configuration file
- `D:\FEWS\DataPortal_iraq\bin\global\daily\gfs\global_daily_gfs.py` → Main script
- `D:\FEWS\DataPortal_iraq\lib\daily_gfs_process.py` (uses another python lib scripts)

Products

- Download → `D:\FEWS\DataPortal_iraq\data\Global\Daily\GFSM\raw\YYYY` (GZ files)
- BIL product → `D:\FEWS\DataPortal_iraq\data\Global\Daily\GFS\geobil\YYYY` (TAR.GZ files)
- Graphics → `D:\FEWS\DataPortal_iraq\data\Global\Daily\GFS\graphics` (PNG files)

Command line

```
USAGE: D:\FEWS\DataPortal_iraq\bin\global\daily\gfs\global_daily_gfs.py YYYY M D
where YYYY is the 4 digit year .. M is the 1-2 digit of the month (1-12).. and D is the 1-2 digit of the day
(1-31). YYYY M D is an optional input, so the default input information is today's date.
```

Example

```
> global_daily_gfs.py 2013 9 9
```

Iraq Daily GFS Prec

Main script process steps

1. Creates geoBIL zip using the Global geoBIL zip as input
2. Create 6-days map graphic and uploads graphic to web server

Python scripts used in the process

- `D:\FEWS\DataPortal_iraq\bin\asia\middleeast\iraq\daily\gfs\iraq_daily_gfs_config.py` → Configuration file
- `D:\FEWS\DataPortal_iraq\bin\asia\middleeast\iraq\daily\gfs\iraq_daily_gfs.py` → Main script
- `D:\FEWS\DataPortal_iraq\lib\daily_gfs_process.py` (uses another python lib scripts)

Products

- BIL product → `D:\FEWS\ DataPortal\data\MiddleEast\Iraq\Daily\GFS\geobil\YYYY` (TAR.GZ files)
- Graphics → `D:\FEWS\DataPortal_iraq\data\MiddleEast\Iraq\Daily\GFS\graphics` (PNG files)

Command line

```
USAGE: D:\FEWS\DataPortal_iraq\bin\asia\middleeast\iraq\daily\gfs\iraq_daily_gfs.py YYYY M D
where YYYY is the 4 digit year .. M is the 1-2 digit of the month (1-12).. and D is the 1-2 digit of the day
(1-31). YYYY M D is an optional input, so the default input information is today's date.
```

Example

```
> iraq_daily_gfs.py2013 9 9
```

Windows Scheduler Task setup

For operational runs set it up for **Daily GFS Prec** to run using Global and Iraq bin main scripts at **4:15 AM (CT)** every day of the month.

- `D:\FEWS\DataPortal_iraq\bin\global\daily\gfs\global_daily_gfs.py`
- `D:\FEWS\DataPortal_iraq\bin\asia\middleeast\iraq\daily\gfs\iraq_daily_gfs.py`

Steps:

1. Open Scheduler Task
2. Go to folder “Iraq_Tasks”. If the folder does not exists, create it under “Task Scheduler Library”
3. Right click on “Iraq_Tasks” folder and click on “Create Task”
4. Under General
    a. Set up Name: **Daily GFS Prec** (required) and Description (optional)
    b. Click on “Run whether user is logged on or not”
    c. Check option “Run with highest privileges” (*may need to unchecked if scheduled task does not run*).
5. Under Triggers
    a. Click on New and set it up based on the information above.
6. Under Actions:
    a. Click on New and add the 2 python scripts paths described above in the exact order
7. Under Settings:
    a. In the checked “Stop the task if it runs longer than:”, select 1 hour.

After creating the scheduler task, it can be exported as an XML to be used in another system.

Python batch script for manual runs

A batch python script can be used to run the regions processes from one command line.

```
D:\FEWS\DataPortal_iraq\bin\allregions_daily_gfs.py YYYY M D
```

Exercise

- After creating a Windows Scheduler Task, right click on Task and select Run
- Manual run for Sep dates (09/17/2019-09/25/2019). Use BAT file approach.

```
D:\FEWS\DataPortal_iraq\bin\allregions_daily_gfs.py YYYY M D
```

- Manual run to get an incomplete run.

```
D:\FEWS\DataPortal_iraq\bin\allregions_daily_gfs.py 2019 12 31
```

References

- Global Forecast System (GFS) Precipitation - Iraq PPG documentation
- Iraq daily GFS Prec web product page: https://earlywarning.usgs.gov/fews/product/74