14 May 2018

This README file accompanies the data the were provided to New York State
Department of Health and SUNY-Albany (Shao Lin and post-docs) to conduct
a study relating projected changes in exposure to extreme heat by pregnant
women to changes in incidences of children born with congenital heart
defects.

The paper resulting from this work is led by Wangjian Zhang and Shao Lin,
and it includes EPA coauthors Tanya Spero, Chris Nolte, and Val Garcia,
along with many other coauthors who are associated with the proprietary
health data used for this study.

This README file includes metadata for the data files.

The data provided to NYSDOH were extracted from dynamical downscaling of
NASA/GISS ModelE2-R following RCP6.0 and using WRFv3.2.1. The data are
in CSV format, and hourly data were provided for each WRF grid cell within
10 states. Data were processed separately for each state, and the data
are loaded into monthly files of the naming format SS_YYYY-MM.csv, where
"SS" is the postal code for the state, "YYYY" is the four-digit year, and
"MM" is the two-digit month.

The data are too large to upload to ScienceHub, as they exceed the 1 gigabyte
size limit. The data are archived in:

        atmos:/asm/MAQSEA/downscale/applications/nysdoh

Data were extracted and provided for the following states:

        AR = Arkansas
        CA = California
        GA = Georgia
        IA = Iowa
        MA = Massachusetts
        NC = North Carolina
        NJ = New Jersey
        NY = New York
        TX = Texas
        UT = Utah

The data include the following columns:

"TIME"
Short description: time
Type: character, format=YYYY-MM-DD_HH
Units: time zone is GMT
Domain: hourly
Missing value: n/a
Quality indicator: n/a

```
"LAT"
Short description:    latitude
Type:                 real
Units:                degrees (north = positive)
Domain:               all points in given states
Missing value:        n/a
Quality indicator:    n/a


"LON"
Short description:    longitude
Type:                 real
Units:                degrees (west = negative)
Domain:               all points in given states
Missing value:        n/a
Quality indicator:    n/a


"T2"
Short description:    2-m temperature
Type:                 real
Units:                Celsius
Domain:               all points in given states
Missing value:        n/a
Quality indicator:    n/a


"Q2"
Short description:    2-m water vapor mixing ratio
Type:                 real
Units:                g/kg
Domain:               all points in given states
Missing value:        n/a
Quality inidator:     n/a


"RC"
Short description:    rain--convective
Type:                 real
Units:                mm
Domain:               all points in given states
Missing value:        n/a
Quality indicator:    n/a


"RN"
Short description:    rain--non-convective
Type:                 real
Units:                mm
Domain:               all points in given states
Missing value:        n/a
Quality indicator:    n/a


"WSPD10"
Short description:    10-m wind speed
Type:                 real
```

```
Units:              m/s
Domain:             all points in given states
Missing value:      n/a
Quality indicator:  n/a


"WDIR10"
Short description:   10-m wind direction
Type:            real
Units:              degrees (0=north, 90=east, 180=south, 270=west)
Domain:             all points in given states
Missing value:      n/a
Quality indicator:  n/a


"PSFC"
Short description:  pressure at the surface
Type:            real
Units:              hPa
Domain:             all points in given states
Missing value:      n/a
Quality indicator:  n/a
```