**readme for anthropogenic heat flux structure uncertainty**

1, the conceptual figures (figures 1 and 2) are created using PowerPoint

2, Figures 3 and 4: OBS.py

3, Figure 5

NLCD\_TC.py: this is to analyze the results with Qah = 10 W/m2 and produce figure 5 (which is figures/NLCD\_combined\_TC.png)

NLCD\_TC\_AH50.py: this is to analyze the results with Qah = 50 W/m2 (but figures not used)

NLCD\_TC\_AH50.py: this is to analyze the results with Qah = 100 W/m2 (but figures not used)

4, Figure 6

NLCD\_decomposition.py: this is to decompose the TC contributions with different methods of handling AH but for Qah = 10 W/m2

NLCD\_decomposition\_AH50.py: for Qah = 50 W/m2

NLCD\_decomposition\_AH100.py: for Qah = 100 W/m2

The final figure is a combination of the three.

5, Figure 7

Produced by NLCD\_decomposition\_4cases\_AH100.py with AH\_option\_to\_study = 2. This code builds on NLCD\_decomposition\_4cases.py which produces a similar figure but for Qah = 10 W/m2. NLCD\_decomposition\_4cases.py further builds on NLCD\_decomposition\_ch100.py and NLCD\_decomposition\_rtc.py.

6, Figures 8, 9, 10, 11

Produced by T2\_decomposition.py

7, Figures 12

Produced by T2\_4cases.py

8, Figures 13, 14

Produced by T2\_ decomposition\_4cases.py

9, Figures S2-S5

Produced by T2\_starting\_point.py

10, Figure S1

Produced by NLCD\_TC.py

11, Figure S6 and S7

Produced by T2\_decomposition.py