Erin's readme.txt file, with Jessica's updates & edits.

"shcu_good_data.csv" "shcu_bad_data.csv" description
Generated from
"matlabcode/Erin/TSI_uniformity_metric_V2/CF_and_FSC_ensemble_anlaysis/Data_for_Peter"
May 31, 2018.

Description:
"Bad data" in the TSI was identified from a collection of shallow cumulus
times from 2012-2017.
Process: TSI FSC in the 100-degree FOV was used on 15-minutes (non-overlapping intervals).
ARSCL CF was used (total cloud and shallow cum.) on 30 min timescale,
centered on the TSI interval.
The 30 minutes (pencil beam) is more comparable to hemispherical measurment.

Data was first selected as having 1) valid ARSCL measurements and 2) (CF_total - CF-shcu) < 0.1.
The above is true for both good and bad data.
then two categories are formed:

"Good Data" has 15-min FSC_thin < 0.3
"Bad Data" has 15-min FSC_thin >= 0.3

The only difference between Good Data and Bad data is thin cloud amount.
Cumulus clouds have very high contrast (bright white) so their uncertainty (thin cloud)
is expected to be low.

From these coarse times, the decision images belonging to the 15-minute "bad" times
were then listed, as well as their 100-degree FOV FSC for that image.
To this table was added the 15-min ARSCL CF (shcu and total) centered on that image.

Variable names:
'img_name': path to image in format foldername/filename.
'timestamp_utc' format yyyymmddHHMMSS
'mattime': matlab datenum (utc)
'fsc_z': 100-degree FOV Fractional sky cover total (0-1) Computed by Erin, no sun circle removal.
'fsc_thn_z': 100-degree FOV Fractional sky cover thin (0-1), no sun circle removal.
'cf_shcu': "ARSCL cloud fraction shallow cumulus" 15 min, centered on image capture. (0-1)
'cf_tot': "ARSCL cloud fraction total" 15 min, centered on image capture.(0-1) Error - actually equals cf_shcu.
'solar_azimuth': solar azimuthal angle in degrees.
'skyopq': 160-degree FOV opaque FSC from ARM daily file, percent. (0-100%)
'skythn': 160-degree FOV thin FSC from ARM daily file, percent. (0-100%)

'clr_z': count of clear pixels in 100-degree FOV (counts).
'thn_z': count of thin pixels in 100-degree FOV (counts).
'opq_z': : count of opaque pixels in 100-degree FOV (counts).
'cbh_bin': cloud base height (meters) - 30 min average centered on capture time
'spd_rwp_cbh': wind speed at cloud base height (cbh) from 915 MHz radar wind profiler (m/s)
'dirn_rwp_cbh': wind direction at cbh - degrees (N: 0, E: 90)