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Readme for summary files

The 1-min daily ASCII files *CalNEX_2010_proc_name_1min.txt* (name='met', 'rad', 'licor', 'KMscs', 'son' or 'gpsnav'; are the composite files for the entire project written at 1min resolution.
Most quantities given are subject to future modification based on accounting for other sources of data and revised calibrations.

Details:
* name='met' refers to slow mean data (T/RH, PIR/PSP, etc)
* name='rad' refers to all data related to PSP and PIR sensors
* name=' licor' refers to Licor sensor (CO2/H2O)
* name='son' refers to sonic measurement on the bow tower
* name= 'gpsnav' refers to the PSD navigation data from GPS units.

The data columns are not labeled so they can be directly acquired with a MATLAB 'load' statement.

The columns for files *CALNEX_2010_proc_met_1min.txt* are as follow:

```
jdy=x(:,1);            % Day-Of-Year at beginning of time average
pir=x(:,2);            % averaged downward IR flux between Eppley unit and
K&Z unit (W/m^2)
psp=x(:,3);            % averaged downward solar flux between Eppley unit and
K&Z unit (W/m^2)
Tc1=x(:,4);            % case temperature of PIR Eppley unit (C)
Td1=x(:,5); );         % dome temperature of PIR Eppley unit (C)
Tsea=x(:,6             % sea snake temperature (C)
Tvais=x(:,7);          % air temperature(C)
Rhvais=x(:,8);         % Relative Humidity (%)
org=x(:,9);            % rainrate, STI optical rain gauge, uncorrected
(mm/hr)
org_carrier =x(:,10);  % rain gauge function (V)
aspir_on=x(:,11);      % backflow indicator for RH/T sensor (V).
press=x(:,12);         % atmospheric pressure (mb)
```

The columns for files *CALNEX_2010_proc_rad_1min.txt* are as follow:

```
jdy=x(:,1);       % Day-Of-Year at beginning of time average
pir1=x(:,2);      % downward IR flux from Eppley unit (W/m^2)
pir2=x(:,3);      % downward IR flux from K&Z unit (W/m^2)
psp1=x(:,4);      % downward solar flux flux from Eppley unit (W/m^2)
psp2=x(:,5);      % downward solar flux flux from K&Z unit (W/m^2)
Tc1=x(:,6);       % case temperature of PIR Eppley unit (C)
Td1=x(:,7);       % dome temperature of PIR Eppley unit (C)
Tkz=x(:,8);       % temperature of PIR K&Z unit (C)
Tvais=x(:,9);     % air temperature(C)
Rhvais=x(:,10);   % Relative Humidity (%)
Tsea=x(:,11);     % sea snake temperature(C)
```

The columns for files *CALNEX_2010_proc_licor_1min.txt* are as follow:

```
jdy=x(:,1);              % Day-Of-Year at beginning of time average
Licor_H2O=x(:,2);        % Specific humidity (g/kg)
Licor_CO2=x(:,3);        % CO2 (umol/mol)
Licor_Tempi=x(:,4);      % Licor temperature (degC)
Licor_Pressi=x(:,5);     % Licor pressure (hPa)
Licor_agci=x(:,6);       % Livor AGC value (%)
```

The columns for files *CALNEX_2010_proc_son_1min.txt* are as follows:

```
jdy=x(:,1);     % Day-Of-Year at beginning of time average
U=x(:,2);       % Relative u wind component (+boward) , m/s
V=x(:,3);       % Relative v wind component (+portward) , m/s
W=x(:,4);       % Relative w wind component (+up) , m/s
Tsonic=x(:,5);  % sonic temperature, C
dir =x(:,6)     % Relative wind direction (from),clockwise rel ship's bow,
deg
```

The columns for files *CALNEX_2010_proc_ gpsnav_1min.txt* are as follow:

```
jdy=x(:,1);           % Day-Of-Year at beginning of time average
gpslat1i=x(:,2);      % decimal latitude, deg
gpslon1i=x(:,3);      % decimal longitude, deg
gpsspeedi=x(:,4);     % GPS SOG, m/s
gpsheadi=x(:,5);      % GPS COG, deg
headxi_pitch=x(:,6);  % Crescent GPS heading, deg
pitchxi_pitch=x(:,7); % Crescent GPS angle (pitch), deg
pitchxi_roll=x(:,8);  % Crescent GPS angle (roll), deg
```

A second set of programs reads the daily 1-min text files; time matches the various data sources, averages them to 5 or 30 minutes, computes fluxes, and writes new daily flux files. The 5-min and 30-min daily flux files have been combined and rewritten as a single file to form the file *CALNEX_2010_PSD_flux_5min_all.txt* and *CALNEX_2010_PSD_flux_30min_all.txt*.

The column assignment for those files is as follow:

```
jdy=x(:,1);       %Day-Of-Year at beginning of time average
s1t1=x(:,2);      %psd bow true wind speed, m/s
dir1t1=x(:,3);    %psd bow true wind direction, deg
ts=x(:,4);        %psd seasnake T, C
ts_tsg=x(:,5);    %ship thermosalinograph T, C  bow
sal_tsg=x(:,6);   %ship thermosalinograph salinity, psu  bow
ta=x(:,7);        %psd air T, C
qs=x(:,8);        %psd air specific humidity at sea surface, g/kg
qa=x(:,9);        %psd air specific humidity, g/kg
psp=x(:,10);      %psd solar flux, w/m^2
pir=x(:,11);      %psd IR flux, w/m^2
org=x(:,12);      %psd optical raingage precip rate, mm/hr
sogm5=x(:,13);    %ship sog from gps, m/s
cogm5=x(:,14);    %ship heading from gyrocompass, deg
relsp1=x(:,15);   %rel bow wind speed, m/s
reldir1=x(:,16);  %rel bow wind direction, deg
```

```
lat=x(:,17);      %decimal latitude, deg
lon=x(:,18);      %decimal longtude, deg
zt=x(:,19);       %Depth of SST sensor used in heat flux calc, m
sig_sp=x(:,20);   %standard deviation of ship speed, m/s
taub=x(:,21);     %wind stress, coare 3.0, N/m^2
hsb=x(:,22);      %sensible heat flux, coare 3.0, w/m^2
hlb=x(:,23);      %latent heat flux, coare 3.0, w/m^2
rf=x(:,24);       %rain heat flux, w/m^2
ta_im=x(:,25);    %IMET air t, C  from RTD
qa_im=x(:,26);    %IMET air specific humidity from RTD, g/kg
s_shp1=x(:,27);   %ship port true wind speed, m/s
dir_shp1=x(:,28); %IMET port true wind direction, deg
psp_im=x(:,29);   %IMET solar flux, w/m^2
pir_im=x(:,30);   %IMET IR flux, w/m^2
pressm=x(:,31);   %IMET BP, mb
rh_psd=x(:,32);   %RH (%)
```