

# Meta-data

## Quality control and process flags

- **Good data: flag divisible by 10**
- **QA/QC flags:**

<b>0: Good data</b>	<b>1: No data</b>	<b>2: L2 RangeCheck</b>	<b>3: L2 DiurnalCheck</b>
	<b>4: CSAT Diagnostic</b>	<b>5: LI7500 Diagnostic</b>	<b>6: exclude dates</b>
	<b>7: exclude hours</b>	<b>8: albedo <math>F_{sd} &lt; \text{threshold}</math></b>	<b>9: albedo time flag</b>
- **Corrections & QA/QC flags:**

<b>10: Linear</b>	<b>[11: Rotation]</b>	<b>[12: Massman]</b>	<b>[13: Virtual <math>F_H</math>]</b>
	<b>[14: WPL]</b>	<b>15: TafromTv</b>	<b>16: L3 RangeCheck</b>
	<b>17: L3 DiurnalCheck</b>	<b>18: <math>u^*</math> filter</b>	<b>19: Gap co-ordination</b>
	<b>21: Data-flag mismatch</b>	<b>22: <math>L = 0</math> in <math>\zeta = z/L</math></b>	
- **Gap-filling flags:**

<b>30: Gap filled by ANN</b>	<b>31: Gap not filled</b>		
<b>40: Gap filled from one-minute average</b>			
<b>50: Gap filled from alternate</b>			
<b>60: Gap filled by interpolation</b>			
<b>70: Gap filled by replacement from paired tower</b>			

<b>80: <math>u^*</math> from <math>F_H</math></b>	<b>81: <math>u^*</math> not from <math>F_H</math></b>	<b>82: L4 RangeCheck</b>	<b>83: L4 DiurnalCheck</b>
		<b>84: L5 RangeCheck</b>	<b>85: L5 DiurnalCheck</b>
		<b>86: L6 RangeCheck</b>	<b>87: L6 DiurnalCheck</b>

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## Process flags

- **Carbon partitioning flags:**
  - 90: night  $R_e$  from  $Q_{10}$
  - 100: Day  $R_e$  from light response curve or  $NEEmax$
  - 110: GPP night mask
  - 120: Day  $F_c = R_e$
- **Footprint flags:**
  - 121: Date filter
  - 122: no solution
- **Penman-Monteith inversion flags:**
  - 131:  $r_{st} < 0$
  - 132:  $F_e < \text{threshold}$
  - 133:  $F_{sd} < \text{threshold}$
  - 134:  $U = 0$
- **Penman-Monteith aerodynamic resistance flags:**
  - 140:  $rav\_base$  short circuit ( $rav\_top$  good)
  - 150:  $rav\_top$  short circuit ( $rav\_base$  good)
  - 151:  $rav\_top$  not short circuit ( $rav\_base$  bad)
  - 160: parallel circuit ( $rav\_full$  and  $rav\_top$  good)
  - 161: not parallel circuit ( $rav\_full$  short-circuit)
- **Bulk Richardson number flags:**
  - 171:  $\Delta U = 0$  (RiB infinite)