**CE 374K Hydrology
Spring 2011**

**Homework #2 Revised
Feb 2, 2011**

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| --- | --- | --- |
|  | 1/6/2005 | 8/1/2005 |
| Net Radiation (W/m2) | 16 | 191.3 |
| Temperature (°C) | 2.7 | 27.4 |
| Relative Humidity (%) | 75.2 | 67.0 |
| Wind Speed (m/s) | 2.62 | 2.92 |

1. The meteorological data above were measured at the Freeman Ranch flux tower. The wind, temperature and relative humidity measurements are at a height of 2m. Calculate the potential ET for both days according to the

a. Energy Method

b. Aerodynamic Method

c. Combined Method

d. Priestley-Taylor Method

Assume standard atmospheric pressure (101.3kPa) and zo = 0.01 m.

The water vapor flux was also measured on these days on the flux tower with the results given below. What is the ratio of the actual evaporation to the potential evaporation estimated from the Combined Method on these days?

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| --- | --- | --- |
|  | 1/6/2005 | 8/1/2005 |
| Latent Heat (W/m2) | 24.4 | 137.3 |

2. Problem 3.2.1

3. Problem 3.3.1

4. Problem 3.4.4

This problem set is due in on Tues Feb 8