

Pakin Suchatanon 2014: Influence of Green Area on Urban heat balance.

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93 pages.

The energy balance of different green areas, varied fractions of reservoir area was conducted by using Eddy covariance technique. Net radiometer and three dimension sonic anemometer with Infrared gas analyzer, called IRgason were used to measured meteorological parameters including net solar radiation and wind component (UVW) for calculating energy balance parameters. The study areas were green areas with different fractions of reservoir area. The measurement was in summer 2014, March - May 2557, (6.00 am.–6.00pm).The results show that green area and green areas consisting of mostly water were used solar radiation for evaporating the water called Latent heat flux. The averaged latent heat flux was 154.41 (77 % of net radiation) and 108.15 w/m^2 (72 % of net radiation), respectively, whereas urban area, buildings, green areas (without reservoir area), Solar radiation was used for burning the air called Sensible heat flux, averaged 83.89 w/m^2 whereas Latent heat flux was averaged only 31.45 w/m^2 (19 % of net radiation). As a result, urban air temperature was increased. This phenomenon is known as urban heat island. Furthermore, energy balance of green area in urban areas show that sensible heat flux was highest at noon, 172.15 w/m^2 . To be concluded that, green area and green area with water area were used energy for evaporating water more than burning the air.

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