Since P is usually small, it is ignored in many energy balance applications.

Figure 3 shows a typical energy budget at 2 p.m. EST on April 29, 1978, for a short-grass pasture near Okeechobee, Florida. The energy inflow is from net radiation (R_n), which is the net amount of radiant energy absorbed by the grassland. In this example, 62% of the net radiation (R_n) went into evapotranspiration or latent heat flux (ET), 22% into sensible heat flux (H), and 16% into soil heat flux (G).

During the daytime, the earth's surface usually heats the air by convection, as shown by H in Figure 3. However, if a wet, freely evaporating surface is surrounded by a large hot, dry area, the wet surface could absorb sensible heat from the air as the wind blows across. This transference of heat is called "sensible heat advection," and the additional energy absorbed goes largely into evaporation of water. This effect is called the "oasis effect." An example would be the case of evapotranspiration from an irrigated field in an arid climate. During the dry season or periods of drought in Florida, an irrigated field could experience sensible advection with higher evapotranspiration rates and negative sensible heat flux, or at least the upward-directed sensible heat flux would become much smaller.

2.1.2 Potential Evapotranspiration

Potential evapotranspiration is a concept popularized by the climatologist C. W. Thornthwaite (1944) as "the water loss from a moist soil tract

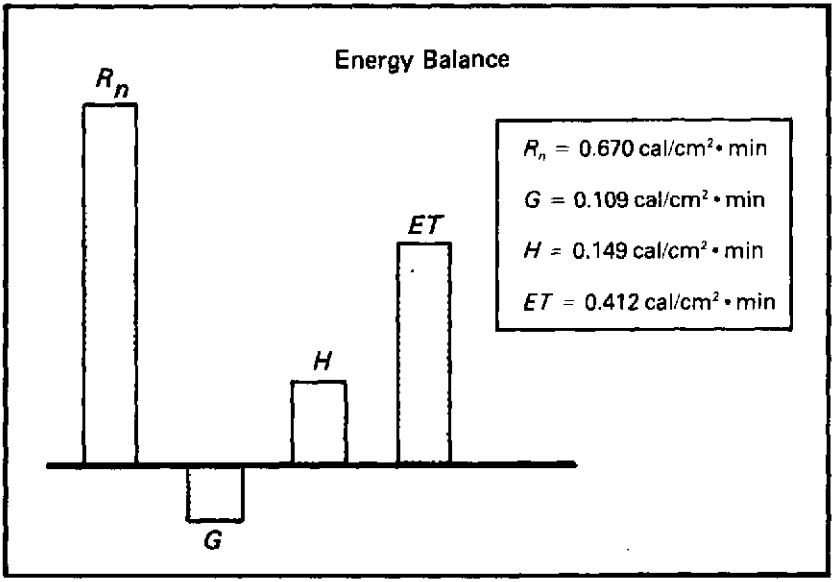

Fig. 3. Energy balance at 2:00 p.m. EST, April 29, 1978, for a short grass pasture near Okeechobee, Florida (from Allen et al., 1978).