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Assessment of availability water at Boi Branco watershed through the water climate balance and growing

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The water resources are fundamental to the development of several economic activities. Concerning the agriculture production, the water can represent close to 90% of the physical constitution of the plant. The low water supply during the growing stage of vegetables can make the agricultural production not viable and can even seriously affect the balance of the ecosystem. One way to calculate the amount of water in a determined system is by means of the water balance, that is an important tool for the assessment process of the water cycle in a specific region. The main goal of this work was to establish the water balance in the watershed Boi Branco-SP, so that it can be used as a tool for the hydro-agricultural and environmental planning of the region. For the water climate balance, it was used data of the historical series of the region (1971 - 1995). The data of evapotranspiration were estimated by the method Thornthwaite. The water climate balance showed low water supply total annual of 10.1 mm, and exceeding of 319.7 mm, wherein in month January an exceeding of 92.6 to the average monthly precipitation; given the effective monthly precipitation with probability of 75% low water supply in the soil it is 238.8 mm and the exceeding 56.8 mm. When these data are added to the ones of the crop, as a crop coefficient and availability factor of water in the soil, it is observed that all crops which are inserted in the watershed present low water supply in all the months they are in the field. As the water balance is an important assessment of a specific region, further studies are recommended, with data collected in the region, so that the update in the results is obtained. Thus, it is also recommended the establishment of a system for agrometerological collecting data to help the irrigation management and other agricultural activities.

Keyword: Water agricultural planning, water capability available in the soil, evapotranspiration.