



المملكة العربية السعودية

وزارة التعليم العالي

جامعة الملك سعود

عمادة الدراسات العليا

كلية العلوم

برنامج ماجستير العلوم في التنوع الأحيائي

تأثير خصائص التربة في توزيع المجتمعات النباتية في روضة خريم

The Influence of Soil Characteristic on Distribution of Vegetation Communities in Raudhat Khuraim

قُدمت هذه الدراسة استكمالاً لمتطلبات الحصول على درجة الماجستير في برنامج
التنوع الإحيائي

إعداد

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المخلص باللغة الأنجليزية

The Influence of Soil Characteristic on Distribution of Vegetation Communities in Raudhat Khuraim

This study was carried out on Raudhat Khuraim located northeastern of Riyadh city ($30^{\circ} - 25^{\circ} 30' N$ and $46^{\circ} 30' - 47^{\circ} 25' E$). The objectives were to study the drainage basin of Raudhat Khuraim and to evaluate the communities' diversity in relation to soil properties. Studies included morphometric characteristics analyses. Total area of the drainage basin reached about 1812.74 km² divided into three watersheds or catchments. Al Thumamah watershed was the largest with an area of 1054 km², Alkhuwaysh watershed is the second with an area reaching 472.20 km², and the smallest watershed is Watheylan with an area of about 286.54 km². There were different in drainage network. Unlike, Al Thummamh which had 852 tributaries with total length of 1254.3 km reaching a sixth stream order, Alkhuwaysh watershed had 188 tributaries with total length of 307.0 km reaching a fifth stream order. On the other hand, Watheylan watershed had 111 tributaries with total length of 173.20 km reaching a fourth stream order. Drainage density was low for all three watersheds. It reached 1.19, 0.65, and 0.60 km/km² for Al Thumamah, Alkhuwaysh, and Watheylan, respectively.

The Raudhat located in Aird region with mean annual ppt. about 110.9 mm and mean annual temperature of about 25.7 c.

Fifteen sites selected where vegetation and soil characteristics were studied. The vegetation was divided into fifteen communities including *Ziziphus nummularia*, *Rhazya stricta*- *Pulicaria undulate*, *Capparis spinosa*, *Artemisia sieberi*, *Pulicaria undulate* -*Achillea fragrantissima* with vegetation cover ranged from 7.8-65%. plant density ranging from 168-12480 Results showed influence of soil properties on vegetation distribution throughout the Raudh.