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Title:

**THE EFFECT OF URBAN SPRAWL ON TREES
BIODIVERSITY IN SOUK AHRAS REGION
(GIS and Remote Sensing Approach)**

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Chapter IV: Evaluation of urban sprawl on trees biodiversity

ABSTRACT.

Environmental changes are one of the most important contemporary issues, especially in light of the current global conditions and the rapid development of cities, urbanization and technology.

Our topic revolves around the impact of urban expansion in the Souk Ahras area on the ecological diversity of the forests (trees), especially since eastern Algeria is known for its rare and important vegetation, We introduced the elements of the research title, as well as the definition and analysis of the study area, in addition to a personal achievement of illustrative maps of their characteristics and location.

As for the practical study, it was accomplished by using the remote sensing to create the land use and cover maps, as well as the vegetation cover index of the natural difference (NDVI) and the urban expansion maps to know the extent of the effect of the urabwn sprawl on the forest diversity of trees.

The result has shown effectively the impact of urban sprawl on trees biodiversity .

Key-words: Urban sprawl, Land cover, Remote Sensing, Landscape Metrics, Biodiversity, Modelling.

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ASTRATTO.

I cambiamenti ambientali sono una delle questioni contemporanee più importanti, soprattutto alla luce delle attuali condizioni globali e del rapido sviluppo delle città, dell'urbanizzazione e della tecnologia.

Il nostro argomento ruota attorno all'impatto dell'espansione urbana nell'area del Souk Ahras sulla diversità ecologica delle foreste (alberi), soprattutto perché l'Algeria orientale è nota per la sua vegetazione rara e importante. Abbiamo introdotto gli elementi del titolo della ricerca, nonché la definizione e l'analisi dell'area di studio, oltre al raggiungimento personale di mappe illustrative delle loro caratteristiche e localizzazione.

Per quanto riguarda lo studio pratico, è stato realizzato utilizzando il telerilevamento per creare le mappe di uso del suolo e di copertura, nonché l'indice di copertura vegetale del differenziale naturale (NDVI) e le mappe di espansione urbana per conoscere l'entità dell'effetto di l'espansione urbana sulla diversità forestale degli alberi.

Il risultato ha mostrato in modo efficace l'impatto dell'espansione urbana incontrollata sulla biodiversità degli alberi.

Parole chiave: espansione urbana, copertura del suolo, telerilevamento, metrica del paesaggio, biodiversità, modellistica.

Chapter IV: Evaluation of urban sprawl on trees biodiversity

ملخص.

التغيرات البيئية من أهم المواضيع المعاصرة خاصة في ظل الظروف العالمية الحالية والتطور السريع للمدن والعمران والتكنولوجيا.

يتمحور موضوعنا عن تأثير التوسع العمراني الحاصل في منطقة سوق أهراس على التنوع البيئي للغابات (الأشجار) خاصة و أن الشرق الجزائري معروف بالغطاء النباتي النادر والمهم ،

قمنا بالتعريف بعناصر عنوان البحث وكذا التعريف بمنطقة الدراسة وتحليلها بالإضافة إلى انجاز شخصي لخرائط توضيحية لخصائصها وموقعها .

أما بالنسبة للدراسة التطبيقية تم إنجاز باستعمال الاستشعار عن بعد خرائط شغل الأرض وكذا مؤشر الغطاء النباتي للاختلاف الطبيعي وخرائط التوسع العمراني لمعرفة مدى تأثير هذه الأخيرة على التنوع الغابي لأشجار .

أظهرت النتيجة بشكل فعال تأثير الزحف العمراني على التنوع البيولوجي للأشجار.

الكلمات المفتاحية: الزحف العمراني، الغطاء الأرضي، الاستشعار عن بعد، مقاييس المناظر الطبيعية، التنوع البيولوجي ، النمذجة.