Lerneinheit 04: Environmental factors' influence on flora

Lernziele: This learning unit deepens the understanding of the correlation between environmental factors and flora's characteristics.

Lernergebnisse: After working with this unit, learners are able to understand and to explain the correlation between environmental factors and flora. The example of the indicator plant will extend the knowledge.

Vorwissen: Elementary knowledge about the correlation between environmental influences on the development of plants population (see first contact)

Zeitumfang: ca. 45 Min

Material: literature provided

Methoden / Techniken: textual work, description, creative thinking, transfer task, (teamwork possible)

Modul/Niveau: Modul 3: „M03 Sammlung und Analyse Biodiversitätsdaten"/ advanced learning

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Einführung:

In this activity you will get to know the relation between different environmental factors and vegetation in more details. In this context, you will learn about the meaning of indicator plants.

Aufgaben:

Task 1.

Read text one and explain the relation between the environmental factors and vegetation.

Task 2.

Do you know any other factors, which can influence the flora? (teamwork possible)

Task 3.

Read text two. Why could it be useful for humans to know about silver grass?

Task 4.

Do you know any indicator plants on Cape Verde? (teamwork possible)

Resourcen:

Text 1. Investigation area

An investigation area is a restricted area, which can be explored in terms of different factors. These factors depend on the researchers' interests. In this context, the interaction between environmental factors and vegetation will be clarified.

Environmental factors are for example

• Climate, including air temperature, humidity and precipitation
• Relief means the shape of the area
• Soil structure and soil material include: PH - value, nutrients etc.
• Sunlight is the source of energy and it is necessary for photosynthesis

• Water means in this case: groundwater content and moisture content

These environmental factors are partially responsible for the vegetation, which is growing on an investigation area. A few plants are highly depended on specific environmental influences. If you find these plants, you can tell that the area has special environmental conditions that are needed for the plants to grow in. Therefore, the flora can give us information about the environmental conditions. The name of these specific plants is indicator plants.

(Source: https://de.wikipedia.org/wiki/Abiotische_Faktoren, retrieved 28 July 2015)

Text 2. Indicator plant: silver grass (Corynephorus canescens)

Silver grass is a shrub with green-grey spikes. It is located around Europe, North Africa, North America and South America. It is used to heat, drought and low nutrients areas; so you can find it on loose and sandy soil – dunes are possible.
It is an indicator plant, which stands for drought to severe drought.

(Source: https://de.wikipedia.org/wiki/Silbergras, retrieved 28 July 2015 and
http://www.schutzstation-wattenmeer.de/wissen/pflanzen/duene/silbergras/, retrieved 28 July 2015)

Mögliche Resultate:

1. Key message: Form of vegetation depends on environmental factors

2. Animals and humans

3. If you know details about silvergrass and about the relation between plant and environment, you can, for example, conclude that the area in which it grows is not useful for agriculture, because the soil is not nutrient. Further examples are possible.

4. Saltoat: Chenopodiaceae,Traganum moquinii-Moquins Traganum

Thematisch ähnliche Lerneinheiten:

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