BI3101 EKOLOGI Semester I 2016/17:

***Handout* Kuliah Minggu 2 – TINJAUAN UMUM EKOSISTEM TERESTRIAL**

Pokok Bahasan Kuliah:

IKLIM

- Mengapa terjadi variasi iklim di bumi?
- Mengapa di belahan Bumi tertentu terdapat empat musim?
- Faktor yang mencirikan iklim: curah hujan, suhu, angin, posisi geografi & geomorfologi

BIOMA & DIAGRAM IKLIM

- Cara 'membaca' dan membuat diagram iklim
- Ciri bioma utama: tundra, taiga, hutan temperata, padang rumput temperata, gurun, savana, hutan hujan tropis
- Daerah pegunungan

TANAH

- Faktor pembentuk tanah: batuan induk, iklim, biota, topografi, waktu
- Tanah pada bioma yang berbeda
- Tekstur tanah: pasir, debu, liat

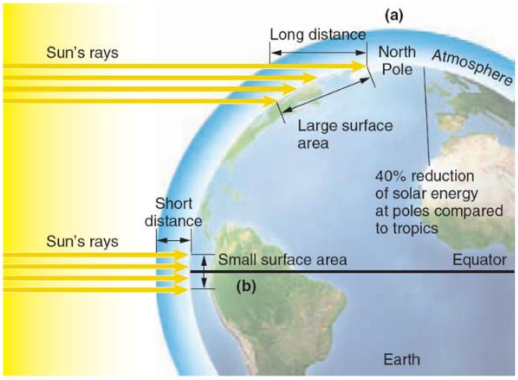


Figure 22.1 **The intensity of solar radiation varies with latitude.** In polar areas **(a)**, the sun's rays strike the Earth at an oblique angle and deliver less energy than at tropical locations. In tropical locations **(b)**, the energy is concentrated over a smaller surface and travels a shorter distance through the atmosphere.

(Stiling 2012)

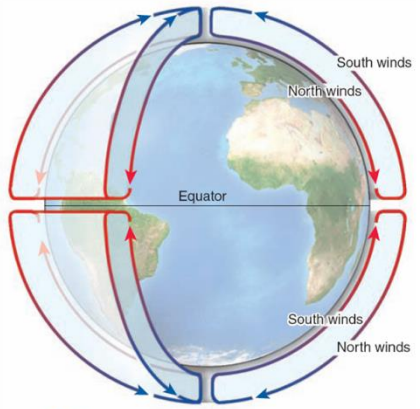


Figure 22.3 **George Hadley's 1735 model of atmospheric circulation.** In Hadley's model, simple convective circulation of air on a uniform, nonrotating Earth, heated at the equator and cooled at the poles, took the form of one large convection cell in each hemisphere. Winds are named according to the direction from which they blow, so the south wind blows from south to north.

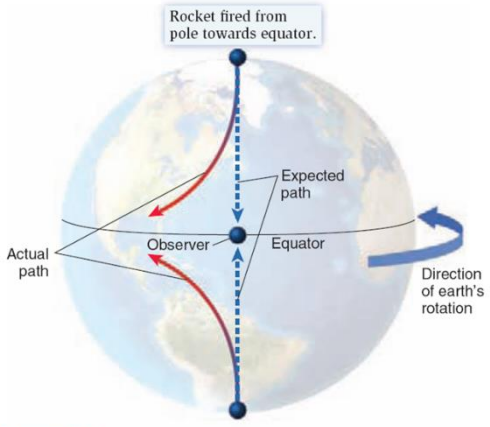


Figure 22.4 **Diagrammatic representation of the Coriolis force.** Even though a rocket fired from the North Pole flies due south, by the time it reaches the equator its intended target would have moved and the landing point would be at a more westward spot.

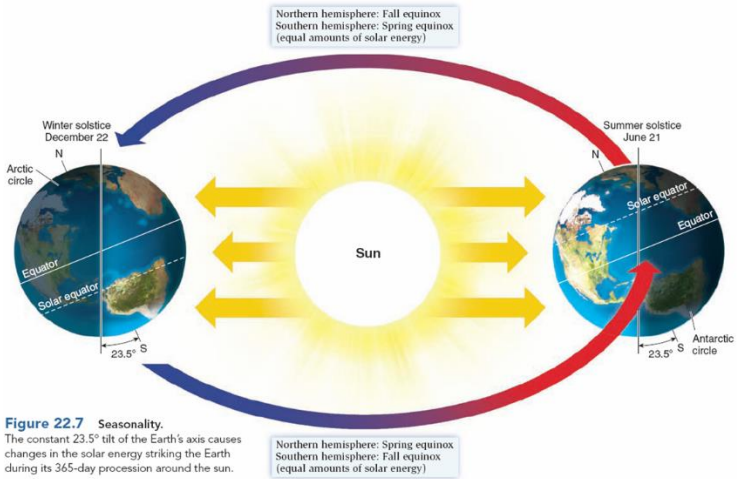


Figure 22.7 **Seasonality.** The constant 23.5° tilt of the Earth's axis causes changes in the solar energy striking the Earth during its 365-day procession around the sun.

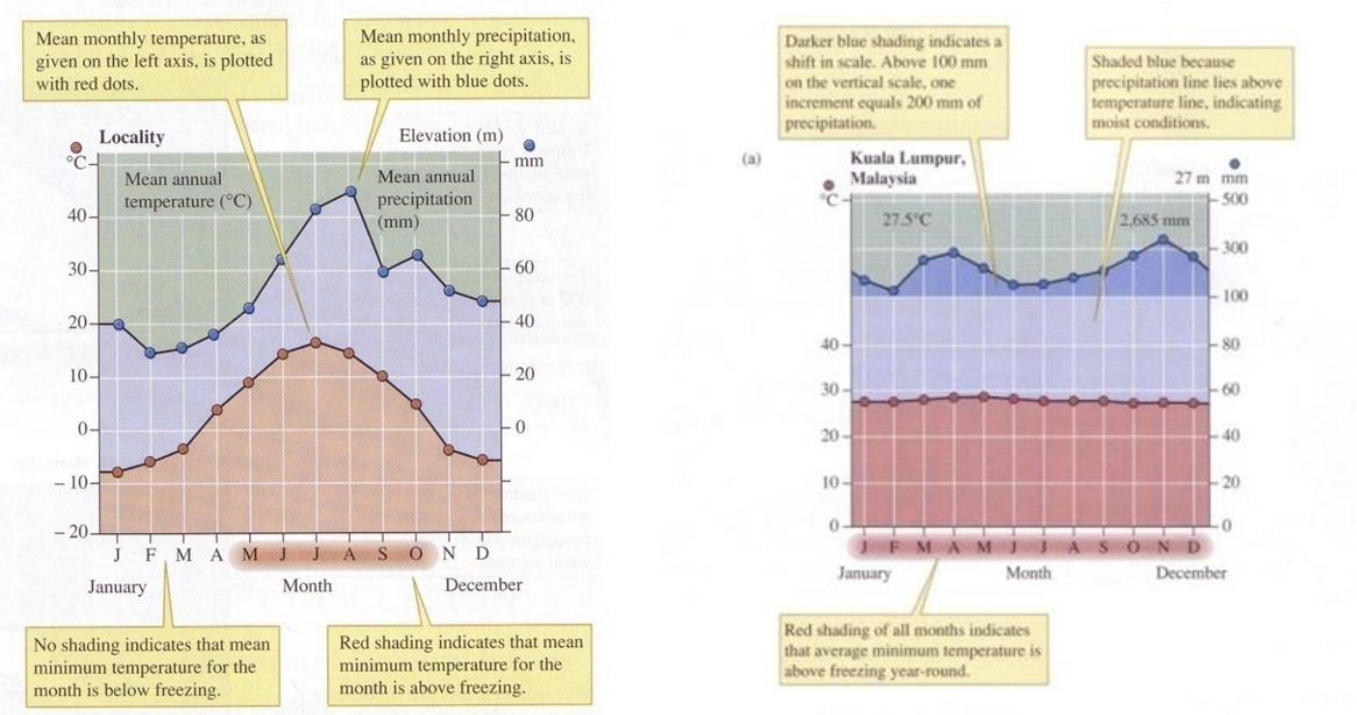


Figure 2.6 The structure of climate diagrams.

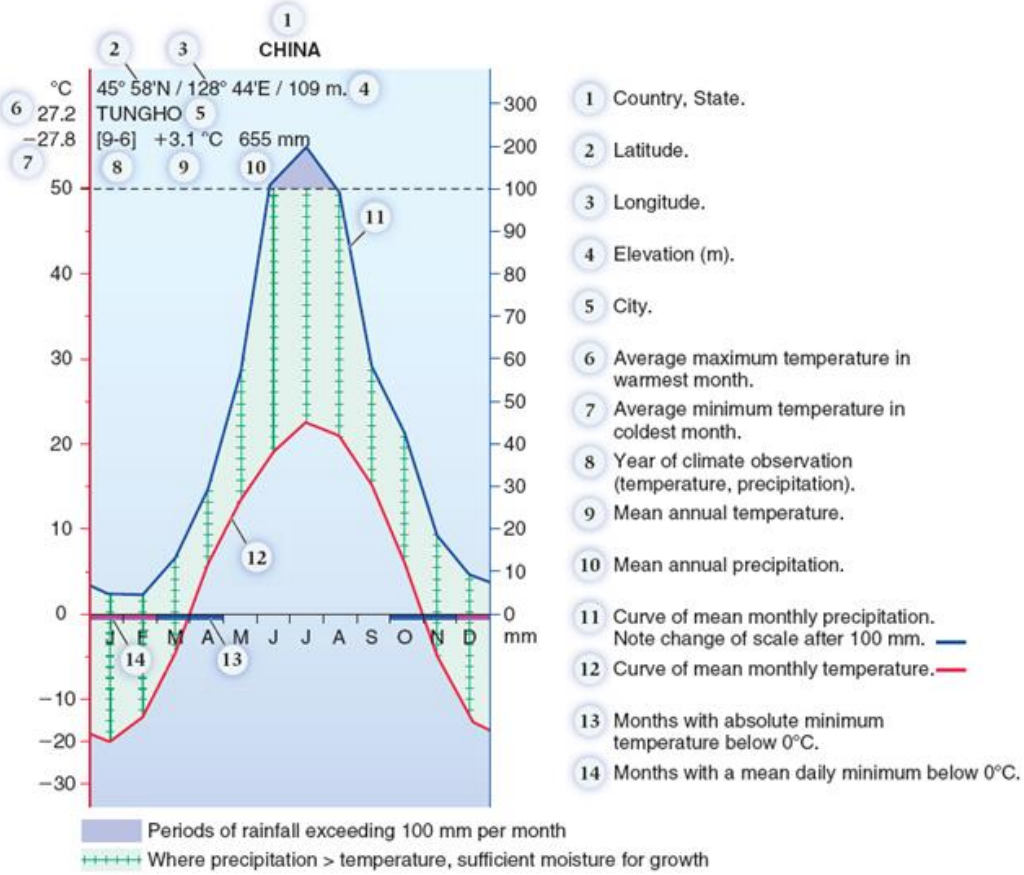
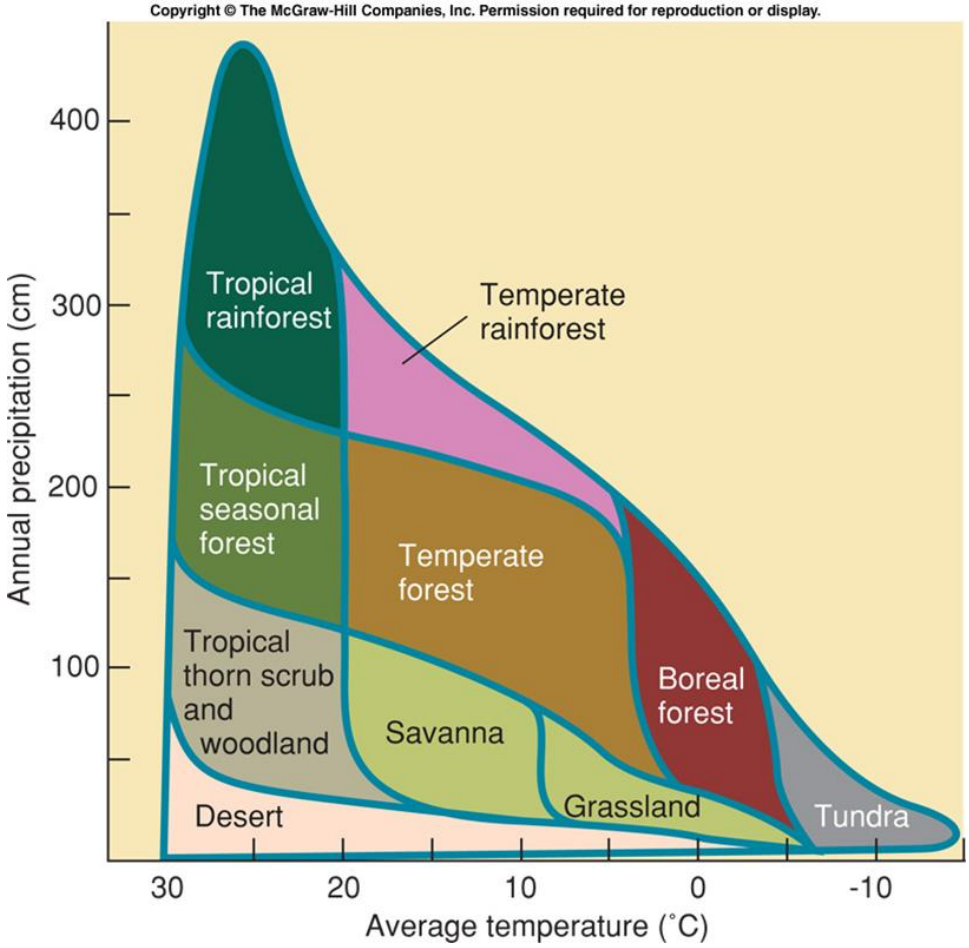
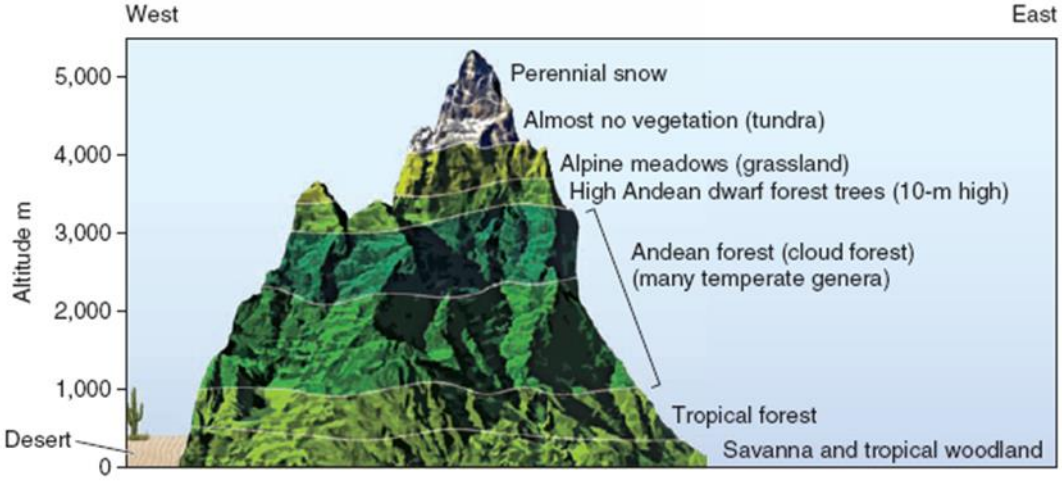


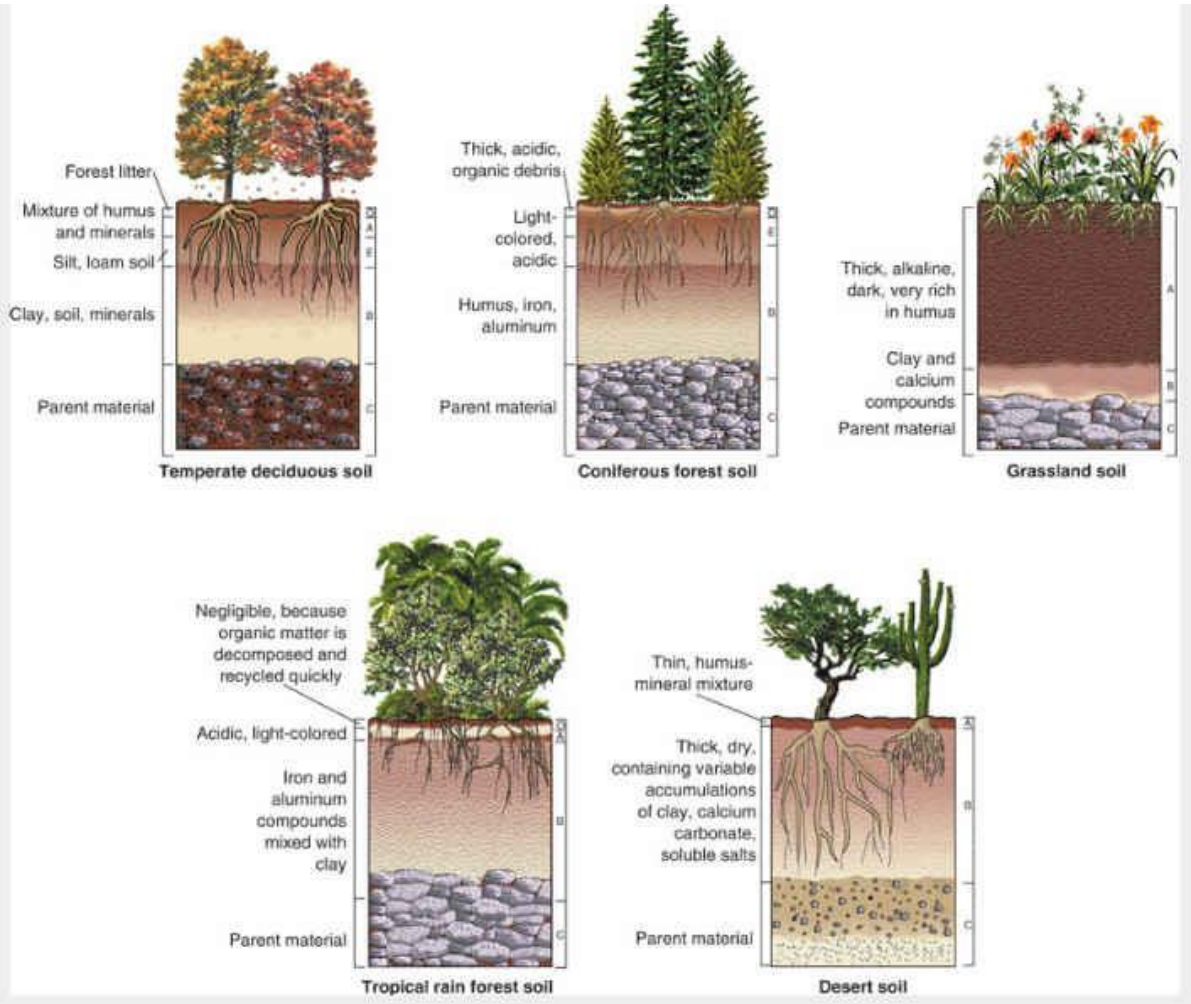
Figure 22.16 **A Walter climate diagram.** On average, about 20 mm of precipitation per month is needed for plant growth for every 10°C in temperature. The two scales, temperature and precipitation, are therefore aligned in this manner. Not all data are recorded for all stations. Months are arranged January to December for locations in the Northern Hemisphere, and July to June for locations in the Southern Hemisphere.

Molles 2013, Stiling 2012)





(Stiling 2012)



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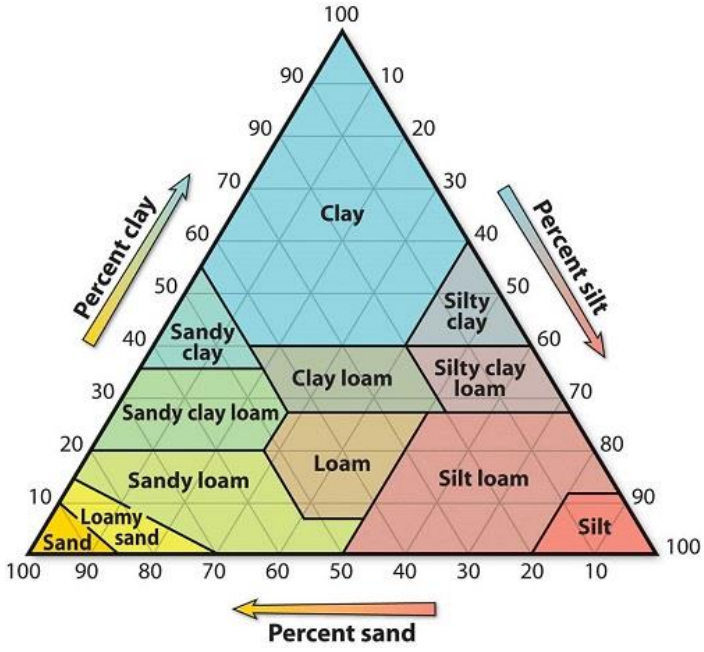

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