

University of Anbar

College of Science – Applied Geology Department

Dr. Omar AL-Jarrah

Assis. Professor

4th Stage

Quaternary

Lecture 8: Non Glacial features

Non Glacial features

At the regions which not effected by the glacial features directly its happened some other features by effect of the pluvial or inter pluvial periods , mean more rain rates and low in temperatures degrees , that changes caused some other features suitable with a new conditions .

if the Runoff increase more that level within Glacial periods many quantities of water inter the rivers and cause some changes to the channel (width – depth) with different ratios .

But at the flood plain of the river this factor can cause (river terraces)



When the runoff increase because of the high rate of rains some lakes formed at wide areas and floodplain .

(our Lakes at Iraq maybe of them) , the size of lakes change depend on the rate of rain . Some sediments laminated mud deposits consisting of alternating dark and light layers , Each dark–light couplet is a varve representing an annual deposit Light-colored layer of silt and clay formed during the summer . The dark layer made up of smaller particles and organic matter formed during the winter when the lake froze over

Tharthar
Habbanya
Razaza
Sawa

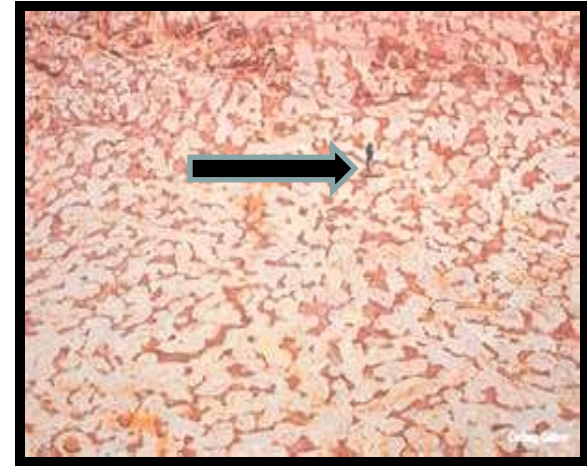


Some times the Lakes can exist with terraces at same place because of its act as secondary base level , so when the water change the river terraces can form .

Paleo soil : form by the change of conditions (warm – cold – warm) or normal – pluvial – normal , that can change the physical and chemical properties of soils after the last pluvial periods .



Before Pluvial



After Pluvial

Loess : very fine calcareous sediment exist with relation and near to the Quaternary and glacial deposits , or move from some deserts . we can find it at USA , Europe , china , in Iraq some places at mid or north west this type there .



Sand dunes : most them of Quaternary periods but exist far a way from Glacial regions , No clear studies can answer the relation between sand dune and glacial regions .



Duricrust : its crust of evaporate material near the earth surface . Formed when the large quantities of water begin to evaporate leave the salts and material ions at soil . At Iraq we have many places can classified as Duricrust areas .



Sabka : Some wet places with shallow salty water formed by the effect of large Quantities of pluvial water . Only some researches study that sabkas and the relation with Quaternary periods



References

Glacial and Quaternary Geology

http://www.colby.edu/geology/GE354/Index_GE354.html

Internet Remote Sensing Lectures sites