

ALLOSTRATIGRAFI



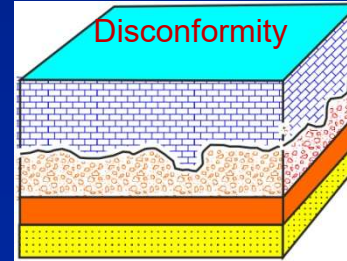
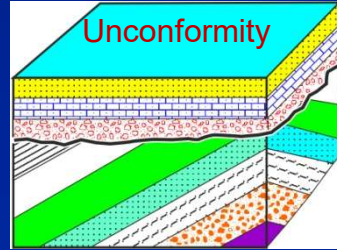
Allostratigrafik birim

Süreksizliklerle belirlenen çökel bir kayaç kütesidir

Litostratigrafi için temel birimdir,
“**allo**” ön eki alır (alloformasyon, alloüye)

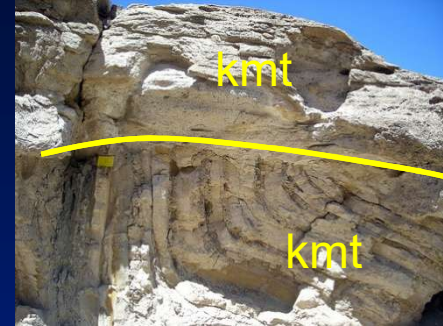
UYUMSUZLUK SINIRLARI

uyumsuzluklar (unconformities),
uyumluluklar (disconformities)
günümüz kara yüzeyleri
şeklinde tanımlanmıştır

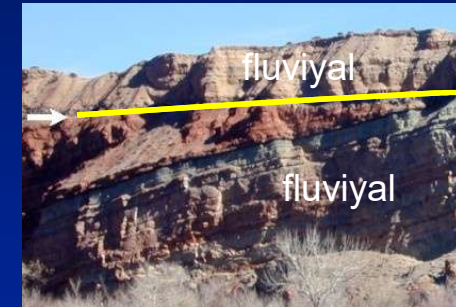


Birimleri ayırt etmek için şunlar tanımlanabilir;

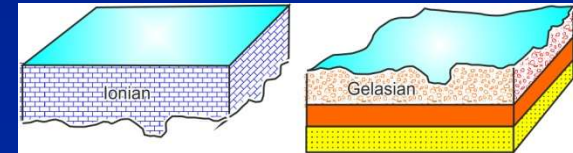
(a) süreksizlikler ile sınırlanmış **litolojik olarak benzer** istifler;

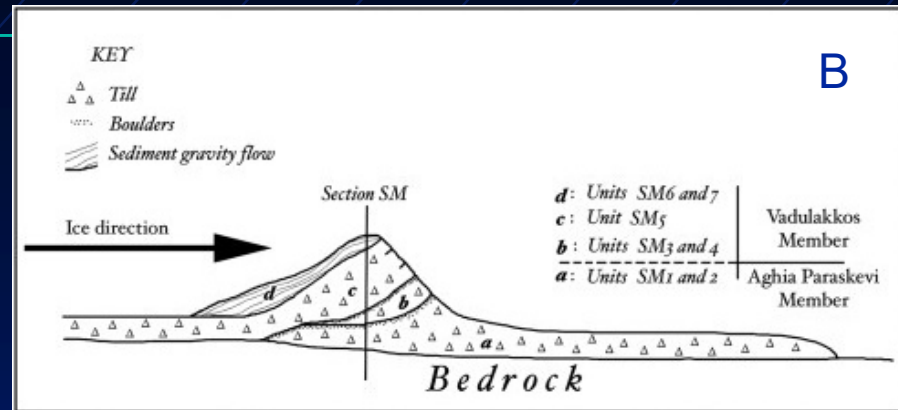
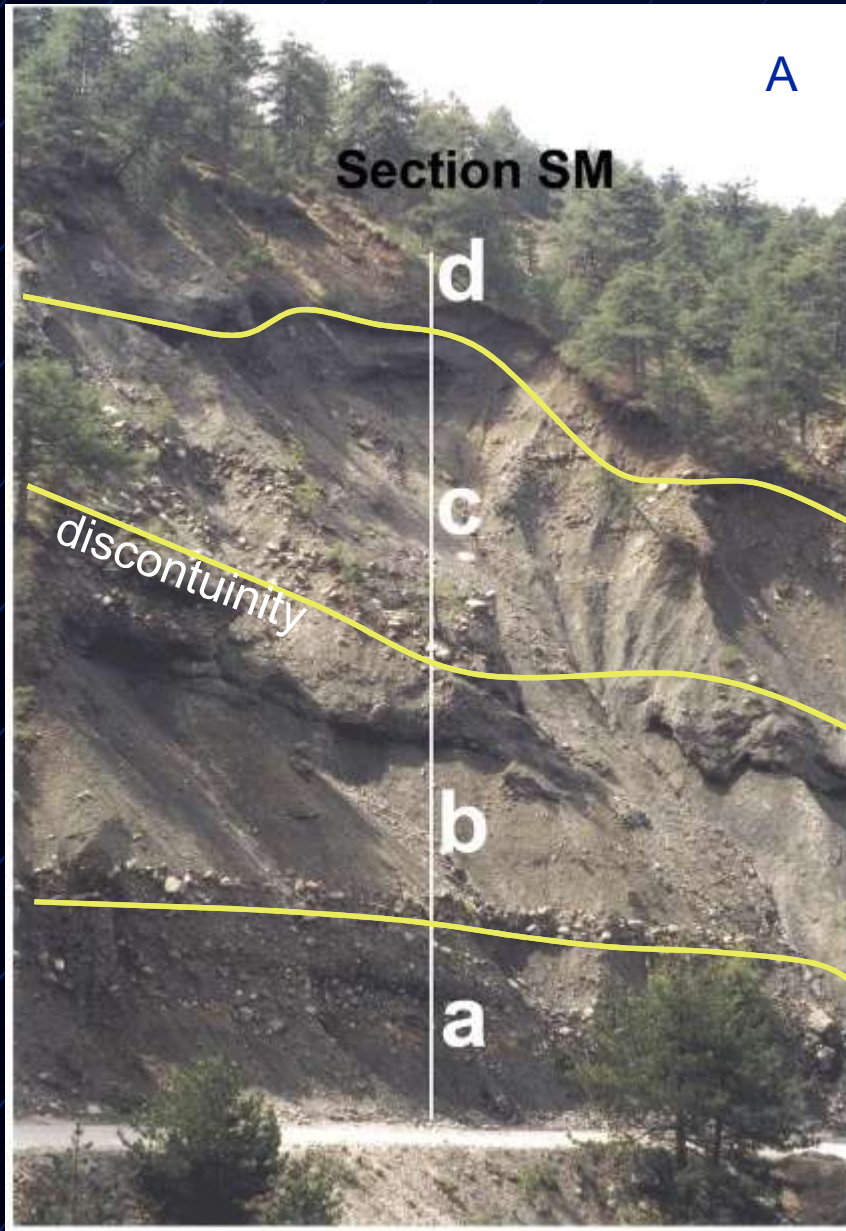


(b) süreksizlikler ile sınırlanmış **kökensel olarak bitişik** heterojen çökeller ve



(c) süreksizlikler ile ayrılmış **coğrafi olarak birbirinden ayrı** birimler





A thick succession (> 30 m) of multiple diamicton units on Mount Smolikas in northern Greece stacked and separated by **discontinuities** (A). These sediments are interpreted as till units and are expressed by a single clear moraine ridge at the surface and the sediment-landform assemblage represents a composite thrust moraine—

see schematic sketch in (B) (Hughes et al., 2006b). Two of the diamicton units (units b and c) are separated by a mappable discontinuity present in glacial successions in other nearby valleys, but their lithofacies are similar. The two till units are the product of the same glacial event and the discontinuity is merely the product of an oscillating glacier front (Hughes et al., p.865).

In this example, the use of discontinuities to subdivide and order sediments (**allostratigraphy**) will lead to the subdivision of sediment units closely related in both process and time (units b and c), leading to erroneous assumptions as to the relative age and relation of units. For this reason lithological criteria should be the primary stratigraphical tool.

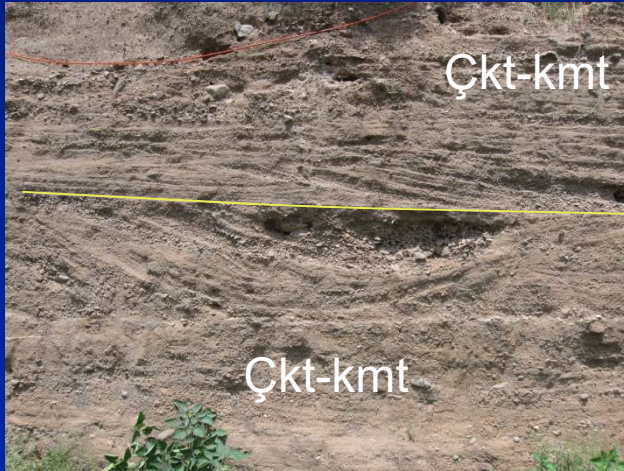
Sonuç olarak,

Kuvaterner yaşı sedimentler istiflerinin çoğu,
morfostratigrafik veya allostratigrafik
yaklaşım kullanılarak bölünebilir

Alüviyal ve Gösel Çökeller

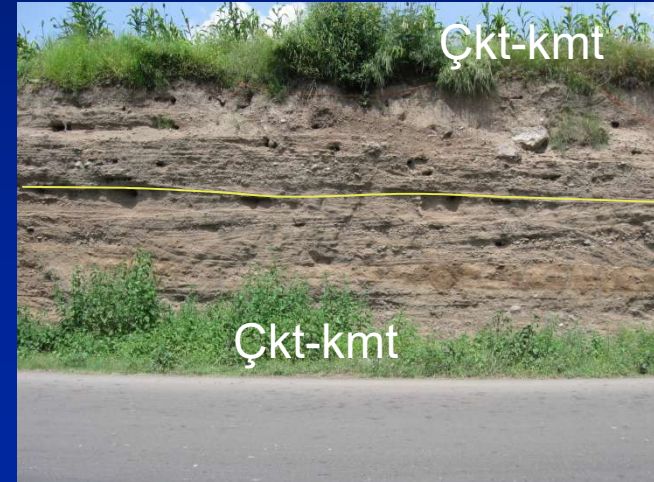
Alüviyal ve gösel çökeller genellikle **süreksizlikler içeren heterojen çökellerdir**

Litostratigrafik yaklaşımda, **gösel killer ve alüviyal çakıllar** ayrı stratigrafik birimler şeklinde ayrılabilir, **ancak süreksizliklerle ayrılmış birden fazla birimin varlığında kabul edilemezler**

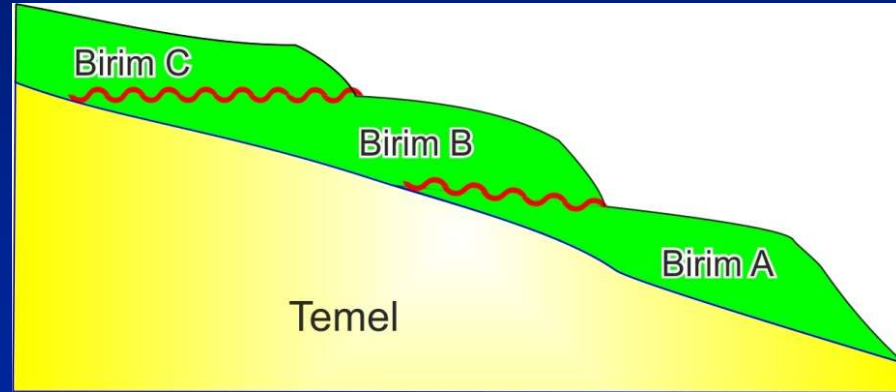


Litoloji aynı
Ancak
ilişki uyumsuz

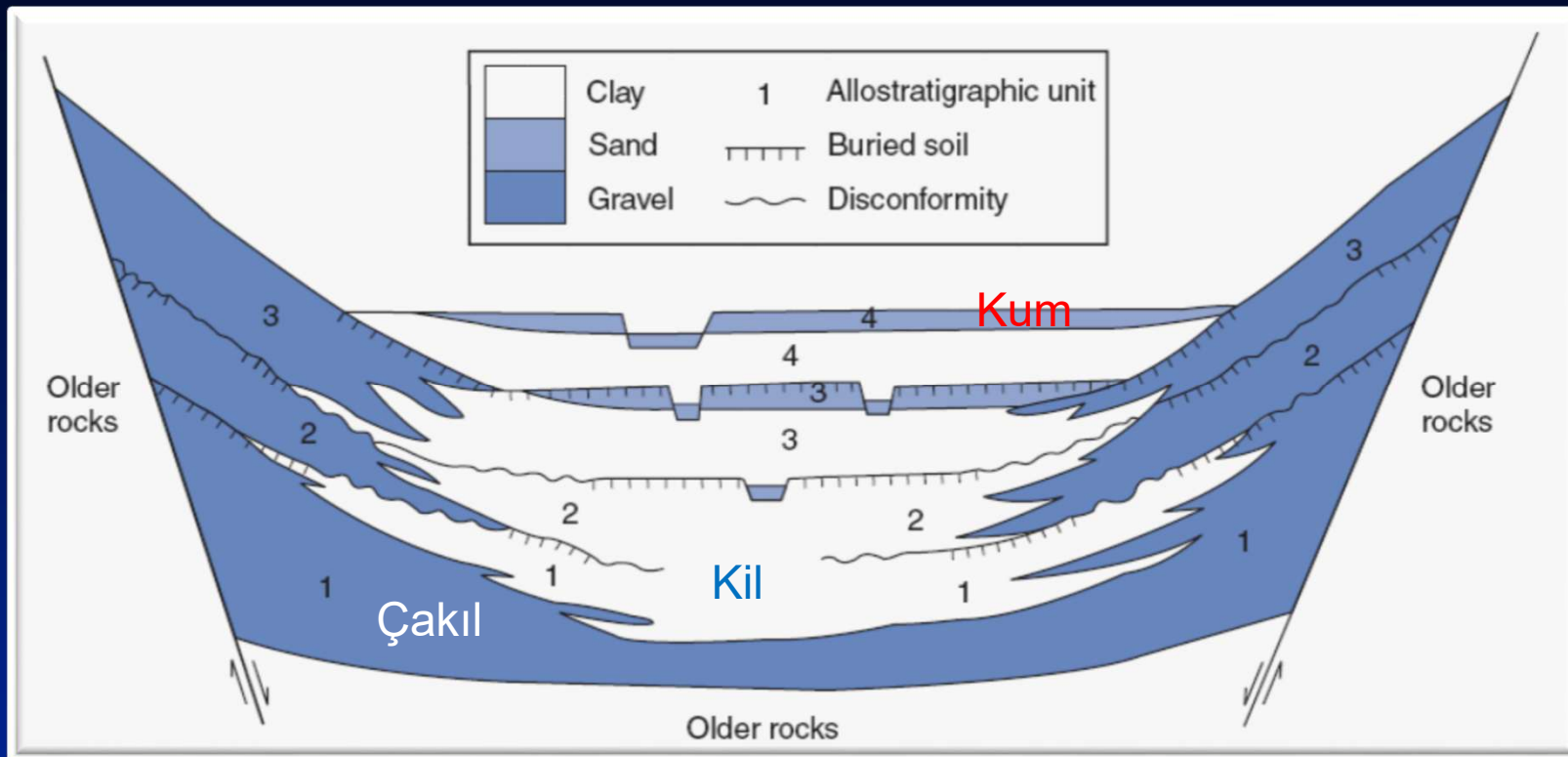
Litostratigrafi ?
Allostratigrafi ?



Alüviyal ve gölsel çökeller için
allostratigrafi güçlü bir araçtır
ve kökensele yorumlama için daha faydalıdır



Uyumsuzluklarla sınırlı dört ayrı birim

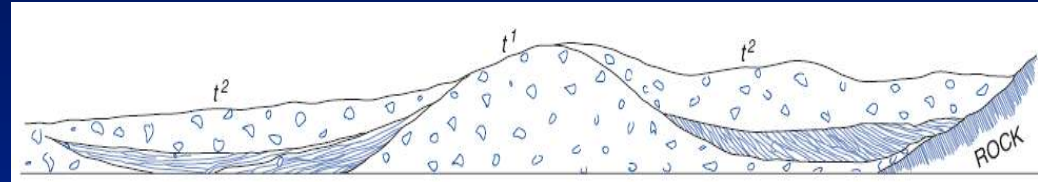
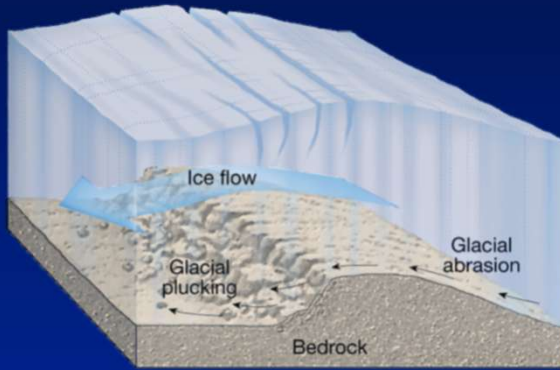


An example of allostratigraphical classification in **alluvial** and **lacustrine** deposits in tectonic sedimentary basin (graben).

Allostratigraphy enables sediment units to be defined on the basis of **discontinuities** and allows the grouping of genetically related but heterogeneous sediments within a single unit. From [NACSN \(1983\)](#). AAPG©1983. Redrawn by permission of the American Association of Petroleum Geologists.

Buzul Çökelleri

Buzul birimleri genellikle **aşınma sınırları** ile ayrılır
Yalnız litolojik özellikler temelinde ayırt edilemezler

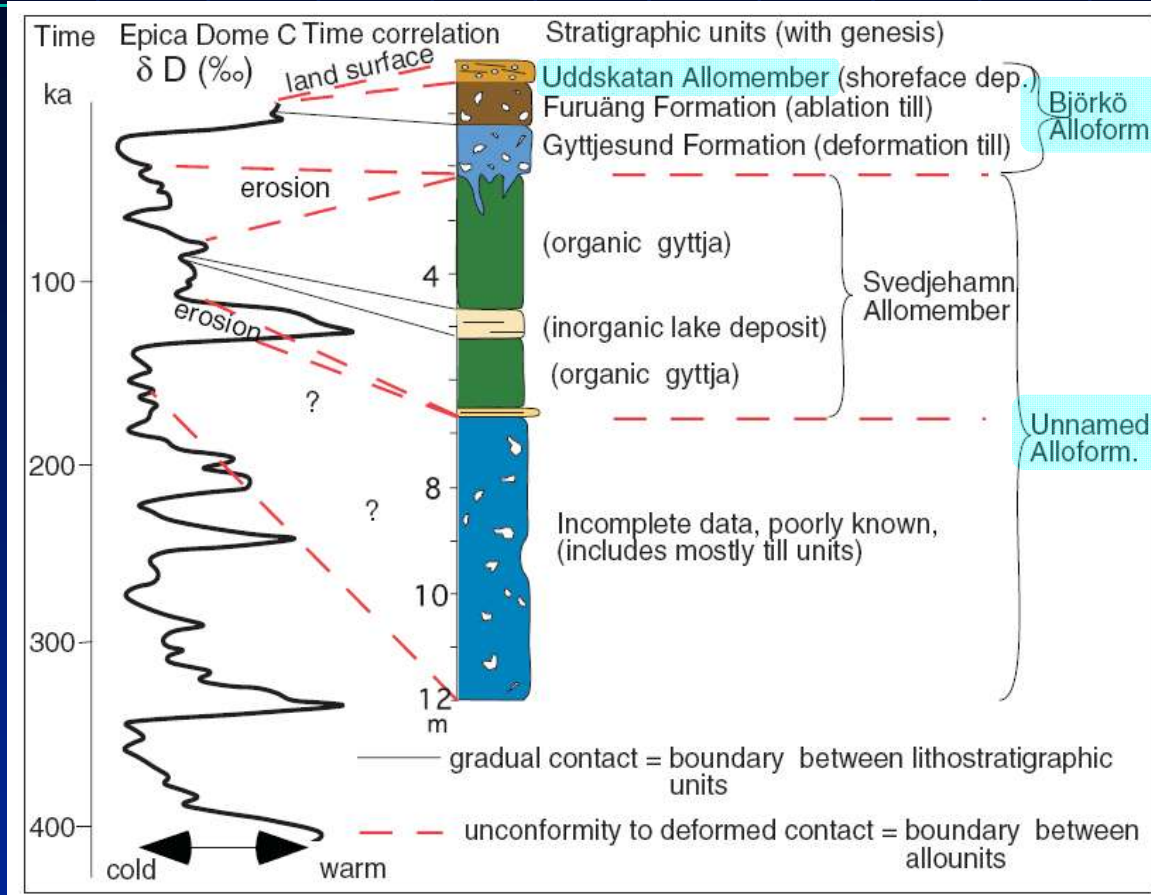


Fossiliferous sand deposits between tills exposed in the Cowden Burn railway cutting at Neilston in Renfrewshire, Scotland. From Geikie, J. (1874).

Her buzul ilerlerken tabanını aşındırır

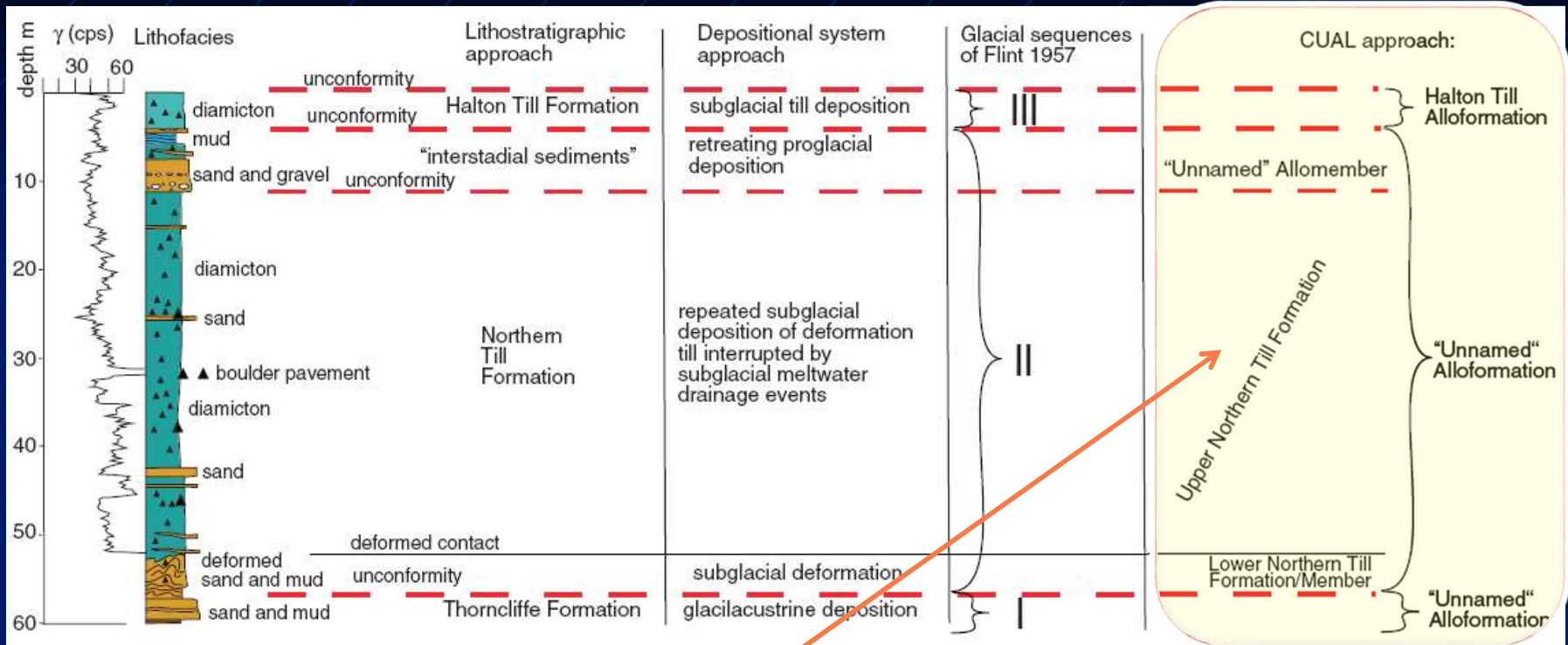
Buzul çökellerinin litolojisi benzerdir
Allostratigrafik sınıflama en uygundur

Buz Karotundaki İstif



A principal example of correlating stratigraphic units with **ice-core geochemical stratigraphy with high-resolution chronology**. Stratigraphic units (modified from Auri, 2006) at a location in the central area of the Scandinavian glaciation are tentatively time-correlated with the ice-core chronology from Antarctica (EPICA community members, 2004). The δD (‰) (D is deuterium) values of the EPICA Dome C data are interpreted as reflecting global temperature changes during the past 400 k.y. In this case, the stratigraphic units are interpreted to have deposited in the course of the **cool stadials** and **warmer interstadials**. The correlation is rough, and the diachronism of climatic and glacial processes has to be taken into account in these types of correlations. Organic gyttja—organic lake deposit.

Allo ve litostratigrafinin birlikte kullanıldığı örnek



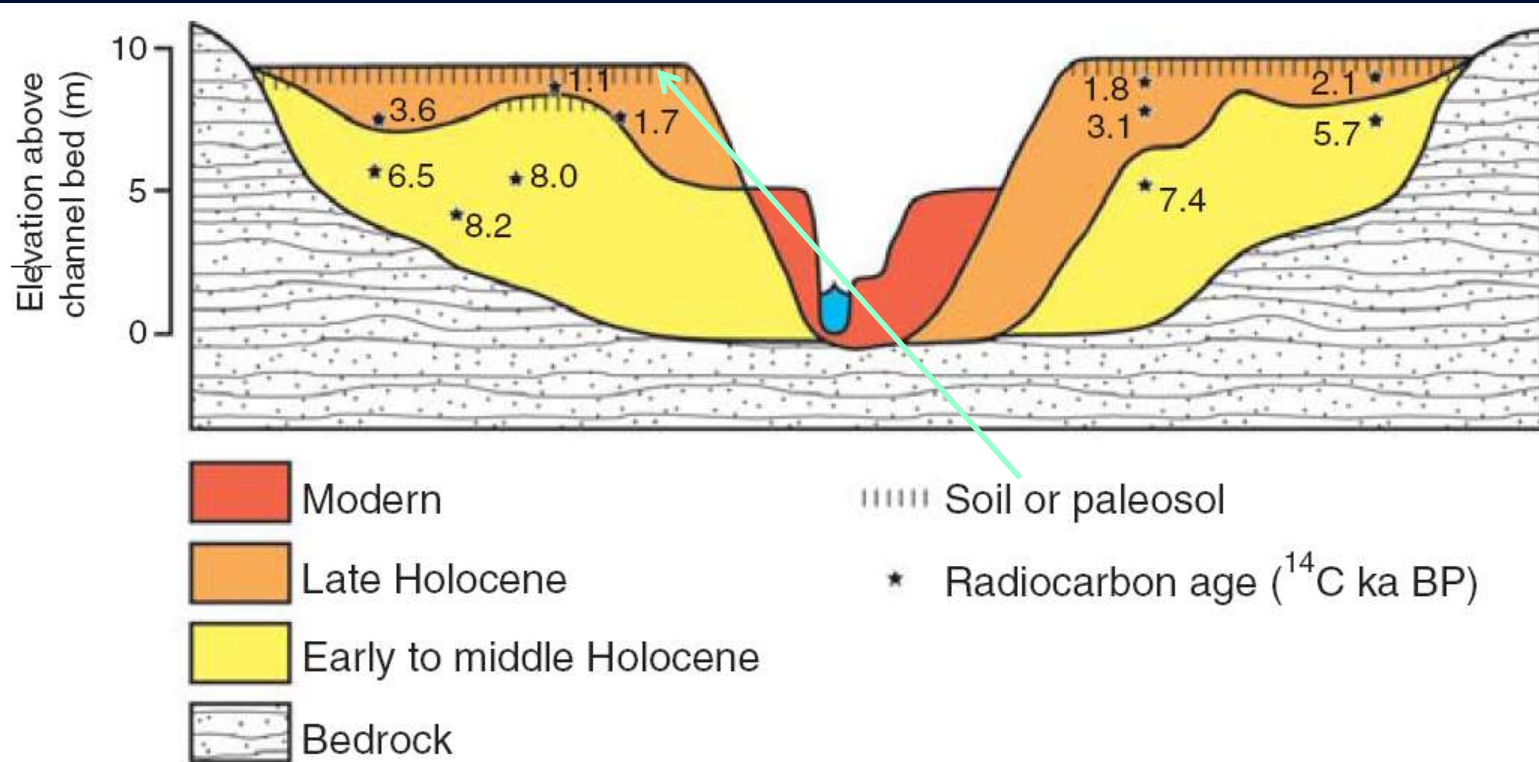
Application of the “combined use of allostratigraphy and lithostratigraphy” (CUAL) approach to a Quaternary glacial sequence in the Toronto area, Canada. The figure demonstrates the basic principles of CUAL classification in relation to the lithostratigraphic, depositional system, and glacial sequence approaches. The figure shows the natural gamma-ray emissions (cps—counts per second) and a simplified lithofacies column together with the positions of the major unconformities and deformed contacts within the section (modified from Boyce and Eyles, 2000), providing a basis for the CUAL classification. This tentative CUAL classification shows only the categories of the units (lithostratigraphic/allostratigraphic) and their hierarchy, with the most obvious possible names, deliberately leaving most of the units unnamed. The allounits are bounded by unconformities, while the lithostratigraphic units are separated by gradational or deformed contacts.

Flüviyal Çökeller

Nehirler, derine kazıma nedeniyle **süreksizlikler ile sınırlı teraslı çökel birimler** üretir



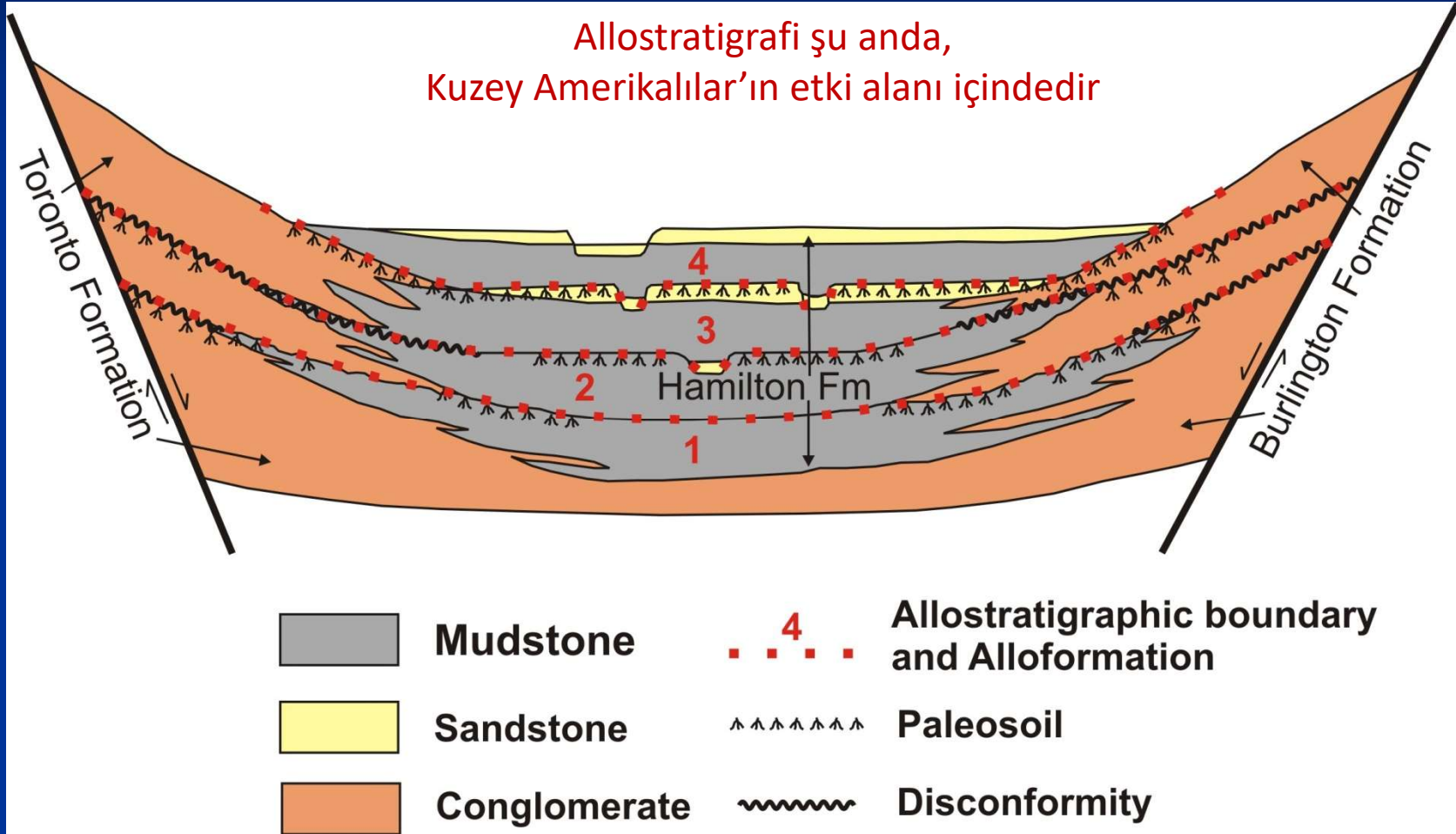
Bu çökellere hem **morfolojik** hem de **litostratigrafik** yaklaşımlar uygulanır



Three Holocene **allostratigraphic units** along the upper Colorado River, central Texas (after Blum et al., 1994).

Allostratigrafik ve litostratigrafik birimler

Allostratigrafi şu anda,
Kuzey Amerikalılar'ın etki alanı içindedir



SONUÇ

Litolojik olarak ayırmak
imkânsız iken,
süreksizliklerle sınırlanmış birimler
litostratigrafi ile birlikte
başarılı bir şekilde sınıflanır

Morfostratigrafi
sadece
Kuvaterner jeolojisinde önemlidir