Ecology and the End of Antiquity: The Archaeology of Deforestation in Southern Coastal Turkey Akkemik Ü., Caner H. Conyers G. A., Dillon M.J., Narlioğlu N., Rauh N., Theller



There is less than 30km of terrain that rises from sea level to a broad highland plateau called the Taşeli.

Our paleo- environmental work embraced a variety of techniques. This includes trench excavations of alluvial deposits along river basins (fig.2), mapping and modelling of river basic erosion over time, carbon and pollen analysis of soil samples (fig. 3), and dendrochronology.





The purpose of the Rough Cilicia Archaeological Survey Project is to examine the process of Roman provincial acculturation through the lens of the Rough Cilician material and cultural remains. It's narrow cache basins (fig.1) supplied limited means of subsistence. However, research indicates that it's population generated surplus commodities far exceeding the regions carrying capacity¹. In particular, the area was celebrated for its verdant stands of cedar trees used extensively in shipbuilding ². The ancient cedar forests of the Rough Cilician highland had vanished, raising questions of sustainability of the regional economical practises at the height of the Roman Empire.

This poster represents the paleo-environmental aspect of the Rough Cilician Survey Project. It reflects the approximate scale and timing of forestry and resource production during antiquity, and leads to the determination of whether or not urban population growth led to resource depletion and economic collapse at the end or the Roman Era (ca. 600 CE).

Methods and Results

Alluvial deposits from 2001 to 2004 show that deposition rates between premodern and Totals modern rates refer to the deposition rate of the basin, and does not necessarily isolate the deforestation of the Taurus Mnts. However, the Totals results are significant in that the available data shows that the Gazipasha river basins have experienced significant landscape deformation to commensurate with deforestation prior to the modern era.

Preliminary pollen data from trench 8 in the Maha Yayla offer distinct patterns: As cedar pollen counts decline, juniper and black pine increase. This indicates the changes from a mature (cedar) forest to a forest of colonisers (juniper and black pine) and back again.

Caution is required when generating a general conclusion as the many results are yet to come. However, preliminary data indicates that initial deforestation coincides with regional site abandonment and population decline at the end of antiquity.



Purpose



Conclusion

References:

1. Rauh et al. 2006. Viticulture, oleoculture, and economic development in Roman Rough Cilicia. Müns. Beitr. Fur Ant. Handel. 2. Meiggs 1982. Trees and timber in the ancient Mediterranean Oxford University Press

| Deposition in RCSP Geomorphic | |
|-------------------------------|-----------------|
| | |
| Deposition/m | Rate/100 years |
| 015 | 0.05/100yrs |
| 0.75 | 0.48/100 |
| 1.0 | 0.14/100 |
| 2.0 | 0.12/100 |
| 3.35 | 0.146/100 |
| 4.0 | 0.157/100 |
| 12.65m | 0.128/100 years |
| | |
| Deposition 0.15 | Rate/100 years |
| 0.75 | |
| 1.9m | 0.08/100 years |
| | |
| Deposition | Rate/100 years |
| 2.0 | |
| 6.75 | 0.135/100years |
| | |

Fig 2: The geomorphic trench data of the lowlands showing alluvial deposition along river basins.