

# Rainy Season Erosion

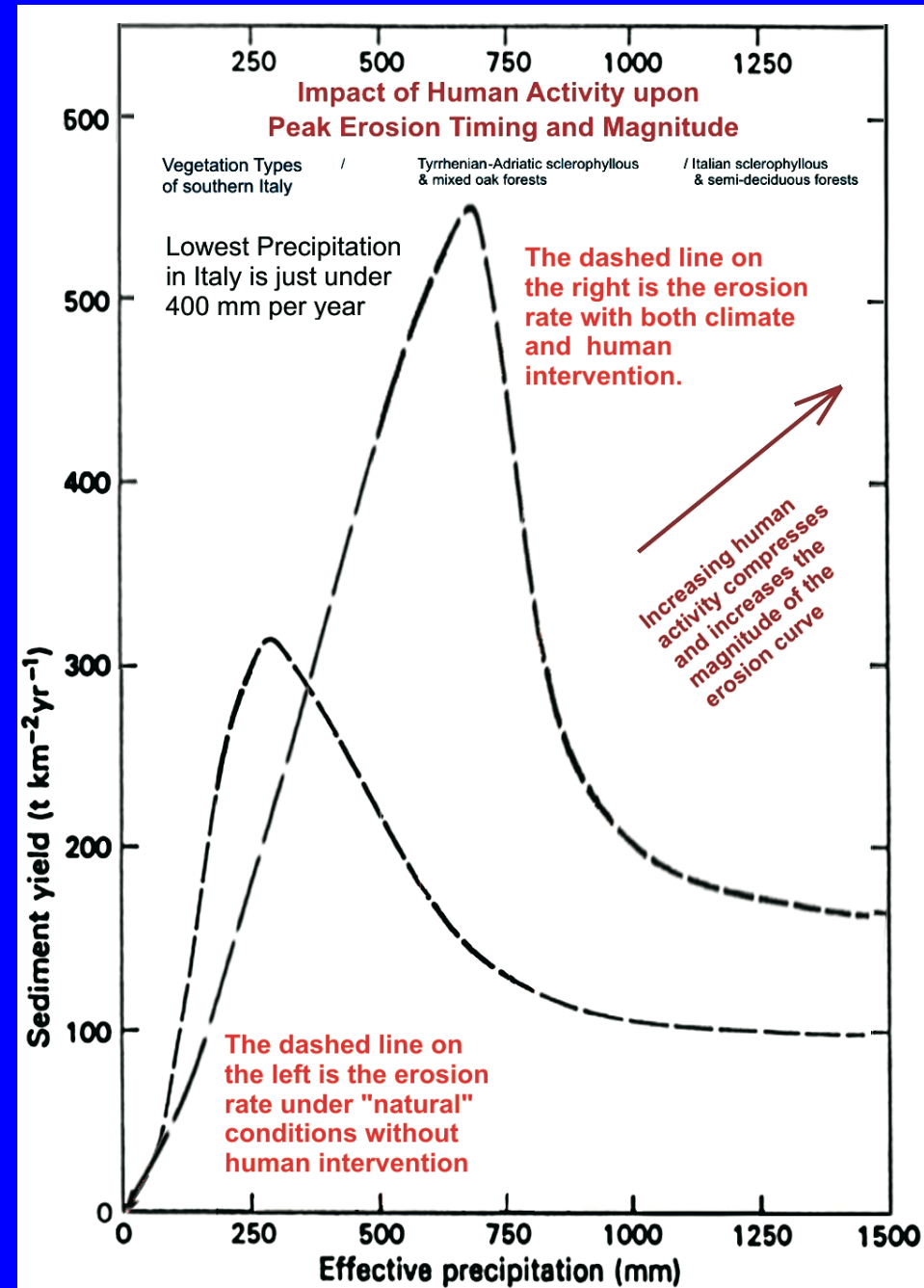


- The summer rains follow closely upon the plowing and field burning.
- the fine sediments of the region are then subject to massive erosion, especially during torrential rainfall events.
- 1950's concrete lined irrigation canals built with U.S. foreign aid, intended to reduce field flooding instead keeps water velocity high and carries large volumes of sediment downstream.
- this causes up stream erosion above the ends of the concrete lined channels.
- greater than 2 m of slope erosion on the upper slopes resulted.
- the channels have filled with sediment and vegetation.
- the government now wants to clean the drainage canals. A very bad idea.



# Langbein & Schumm Erosion Model under Increased Land use

- The Langbein & Schumm model can be adjusted as vegetation cover is decreased by land use, but without any decrease in precipitation.
- The erosion curve is displaced to the right and upward, indicating that under human impact erosion rates can increase without a change in precipitation, because the protective vegetation is removed as a result of human activity.





# Applied Palaeoecology: Past Analogues for Present Applications

- Create and test a climate and land use based landscape dynamics model for southern Italy during the Holocene
  - ✓ Will enable not only the determination of the contributions of climate and people to landscape change.
  - ✓ Will allow prediction of future trends in landscape change there, and in other regions of the world as well.
- We believe that at times climates and human impacts may have been similar to those we see today.
- In both cases climate, and human land use practices may have acted together to result in a regional economic collapse.
- That seems to be where southern Italy and other regions of the world are heading today, as well.

# Educate the Public about Climate Change

- Public Education through:
  - ✓ Publication of global change research results on the internet
  - ✓ Linking our website to other educational resources
  - ✓ Presentations at schools, universities and other educational institutions
  - ✓ Public lectures
  - ✓ Meeting with local land owners and land users
  - ✓ Presentation of findings and results of landscape modification at workshops and scientific conferences.

Please note that tomorrow night BBC1 will have a program on Climate Change:  
Sir David Attenborough: Climate Change: The Facts (Thursday, BBC1, 9pm)





# Organize Local Action Groups

- Form volunteer groups for the purpose of:
  - ✓ Educating the public
  - ✓ Identifying and organizing local resources
  - ✓ Formulation of plans of action to address climate change issues



# Formulation of Action Plans

- Determine future impacts of global change
- Determine what action will be needed to address these impacts
  - ✓ Write a mitigation plan
  - ✓ Obtain public input to these plans
  - ✓ Organize volunteer groups
  - ✓ Determine the resources that are available and those that will be needed
  - ✓ Determine the roles of the various participants in the plans