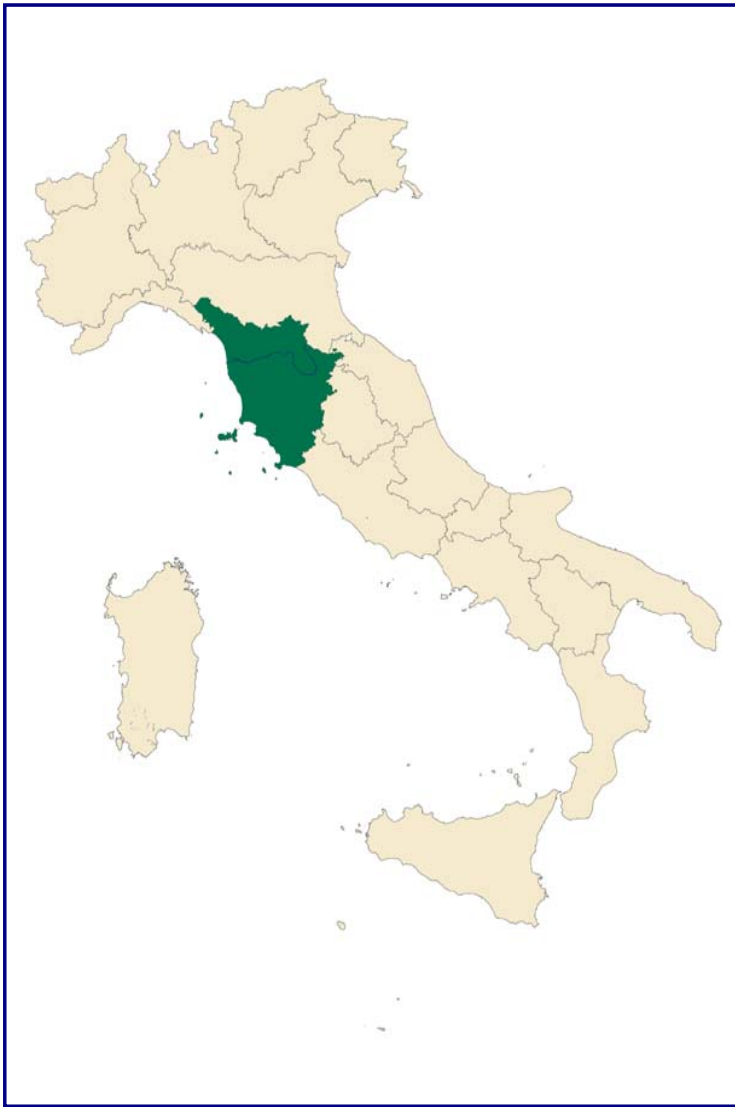
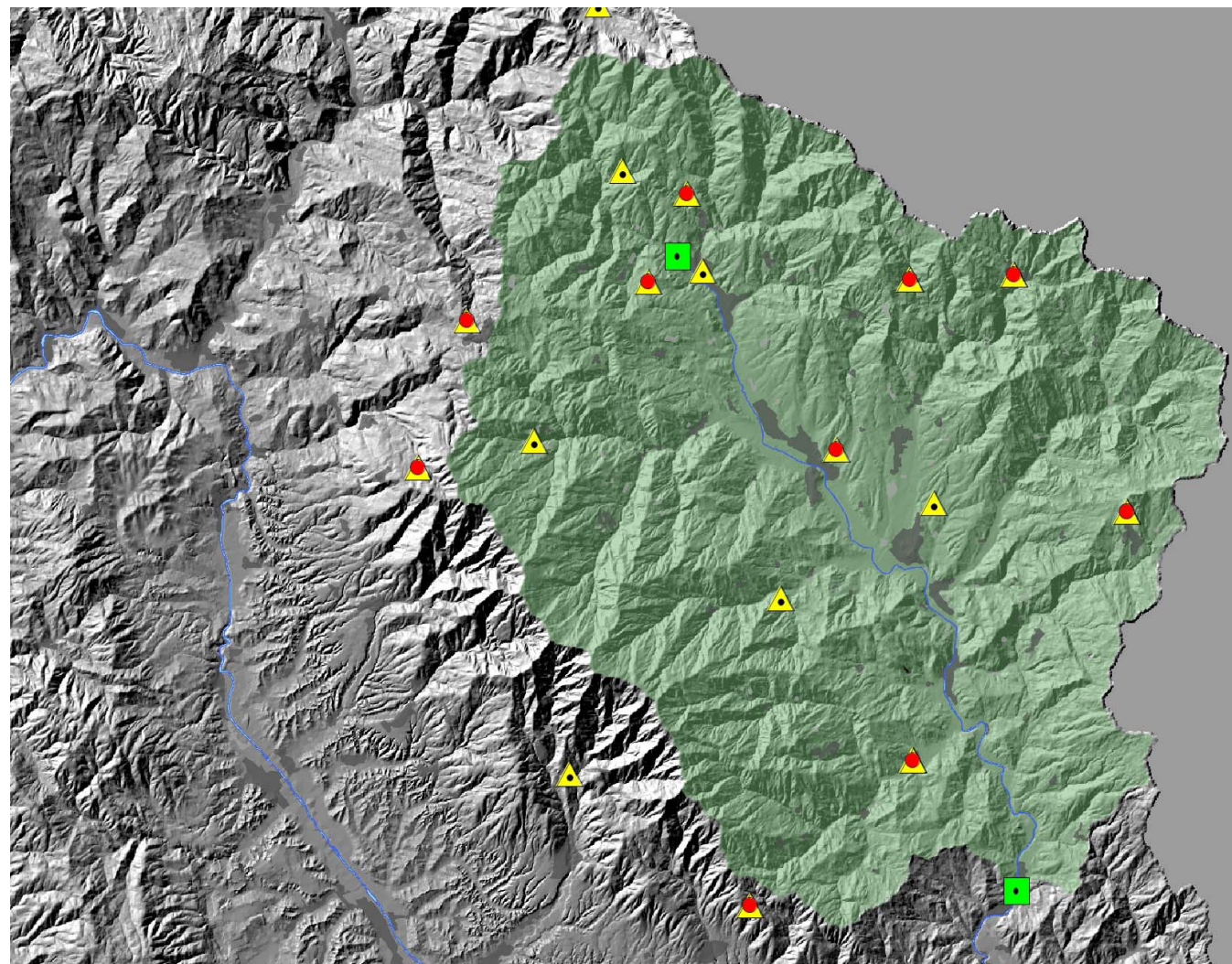


# The arno river





**Arno a Subbiano  
750 km<sup>2</sup>**

CLC 1: 1,7%

CLC 2: 22,7%

CLC 3: 75,6%

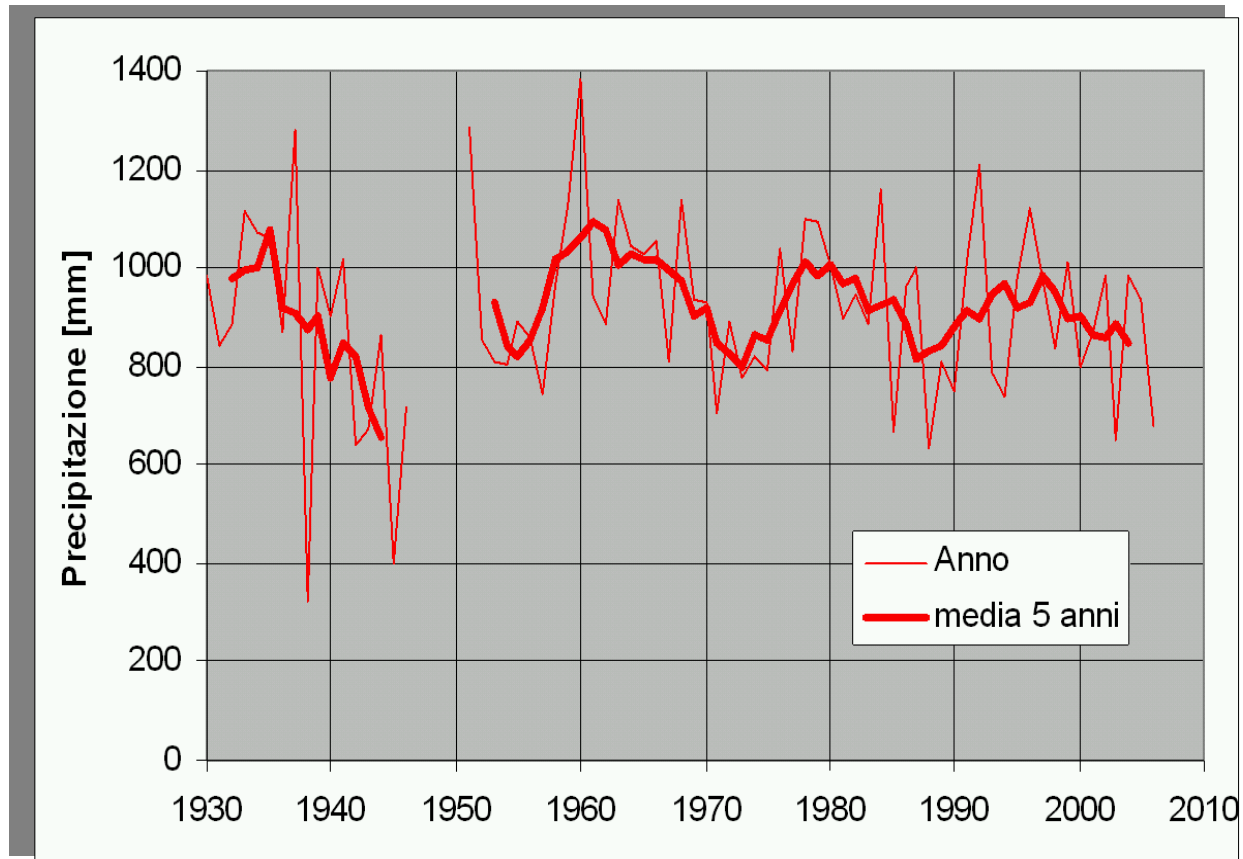
37.000 inhabitants  
50 people/km<sup>2</sup>

2 Discharge

22 Rainfall

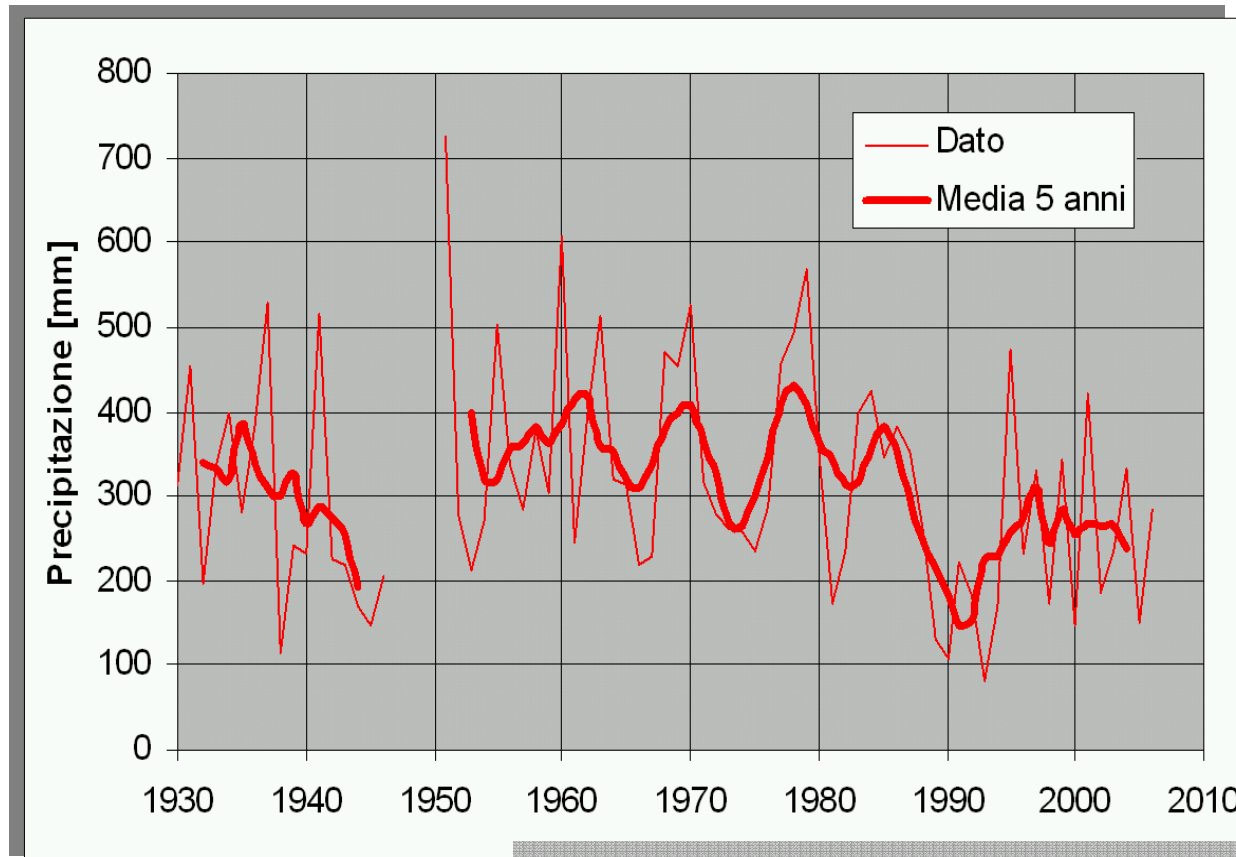
11 Temperature

# Annual precipitation



A slight decrease of annual precipitation in the last decades

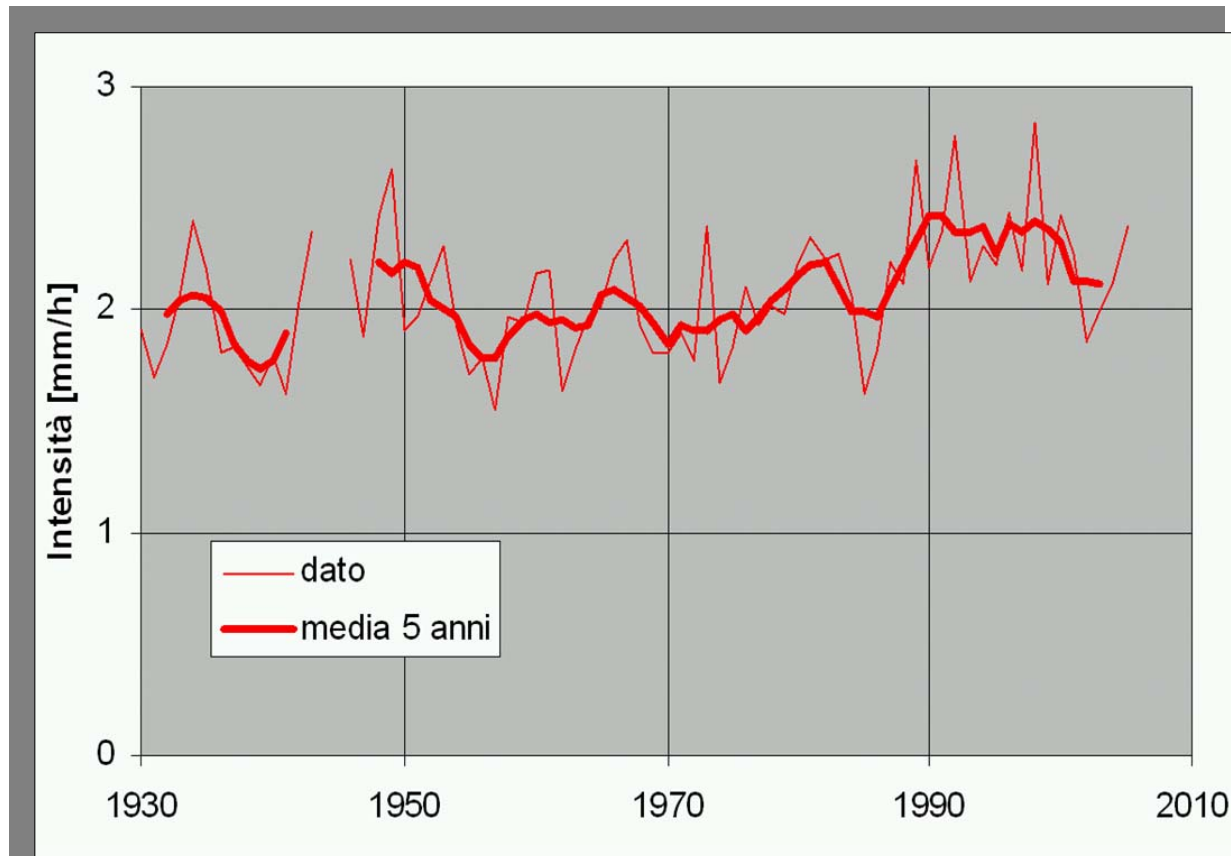
# Winter precipitation



Winter precipitation is strongly decreased in the last decades

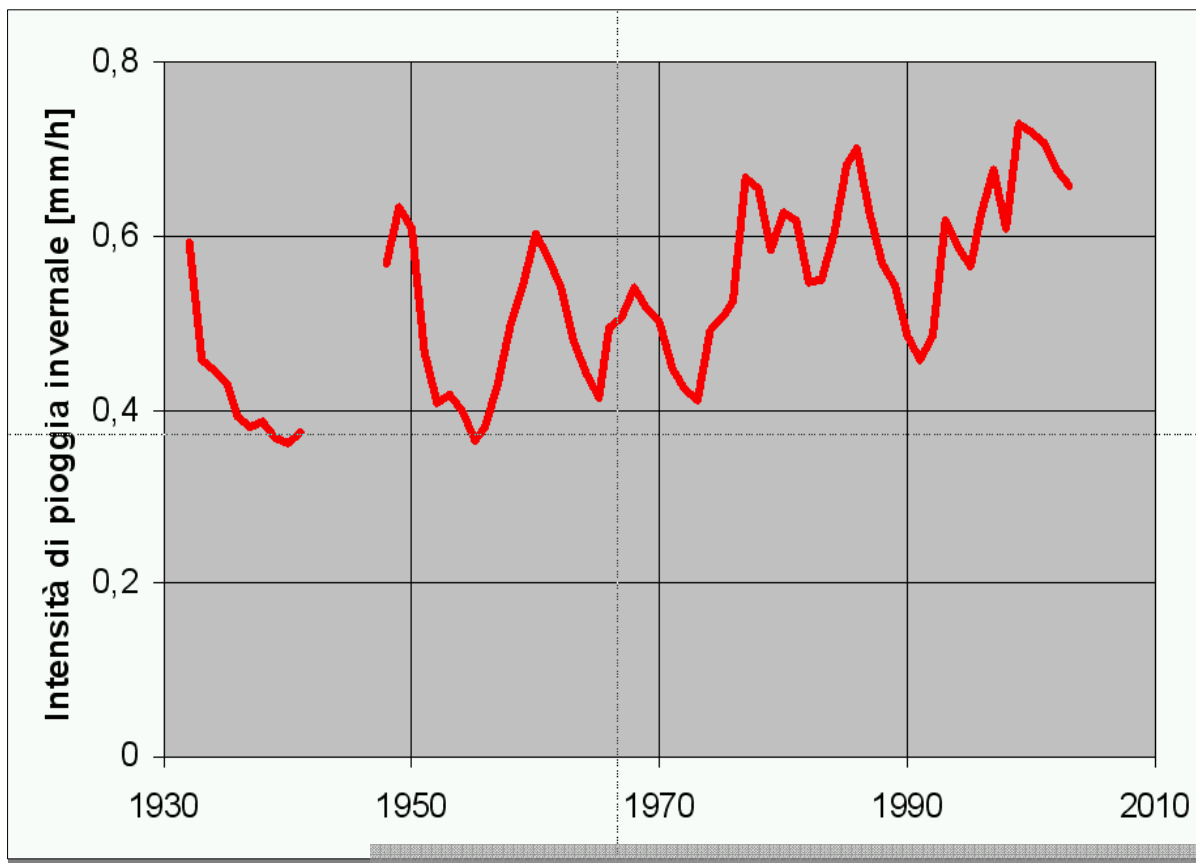


# Rainfall events intensity



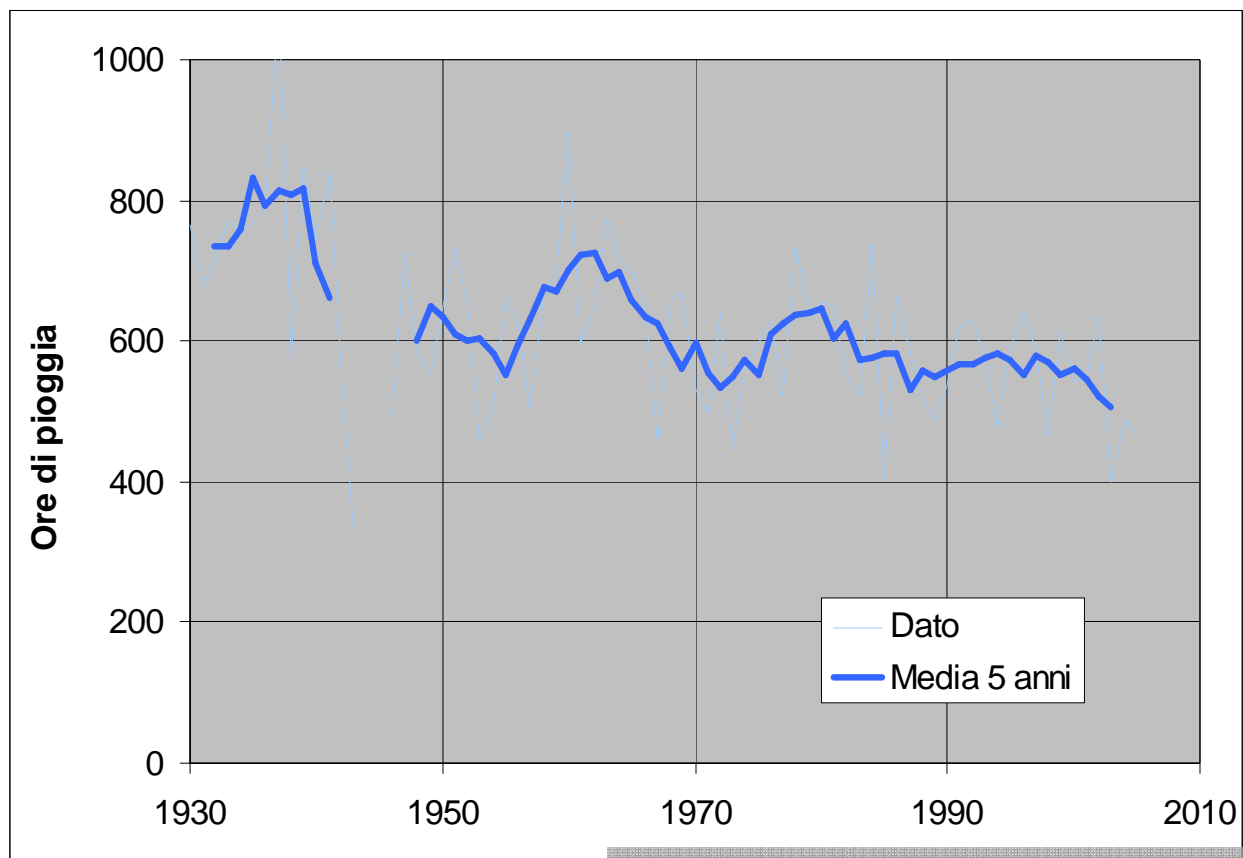
Rainfall intensity has increased starting from 1970

## Winter events intensity



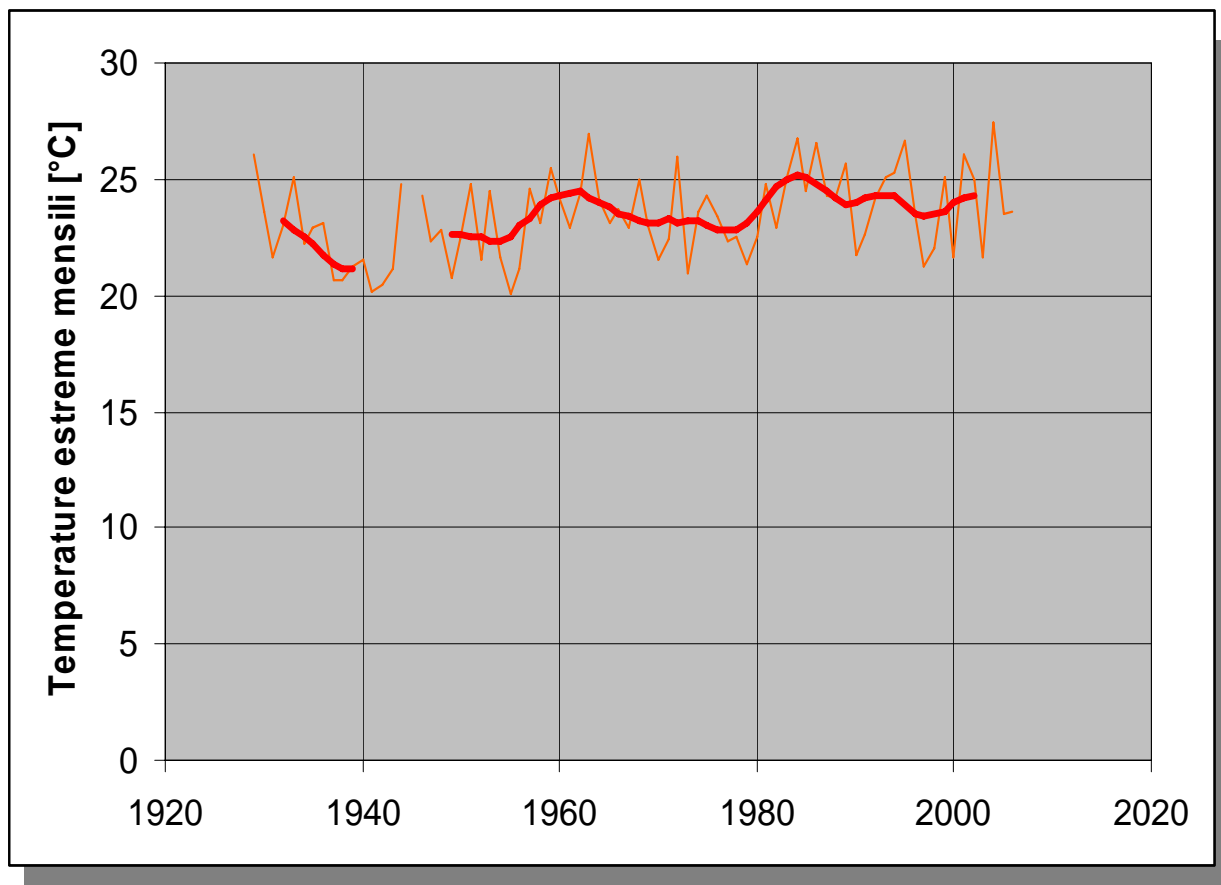
Winter intensity rainfall events  
increases after 1970

# Precipitation intensity



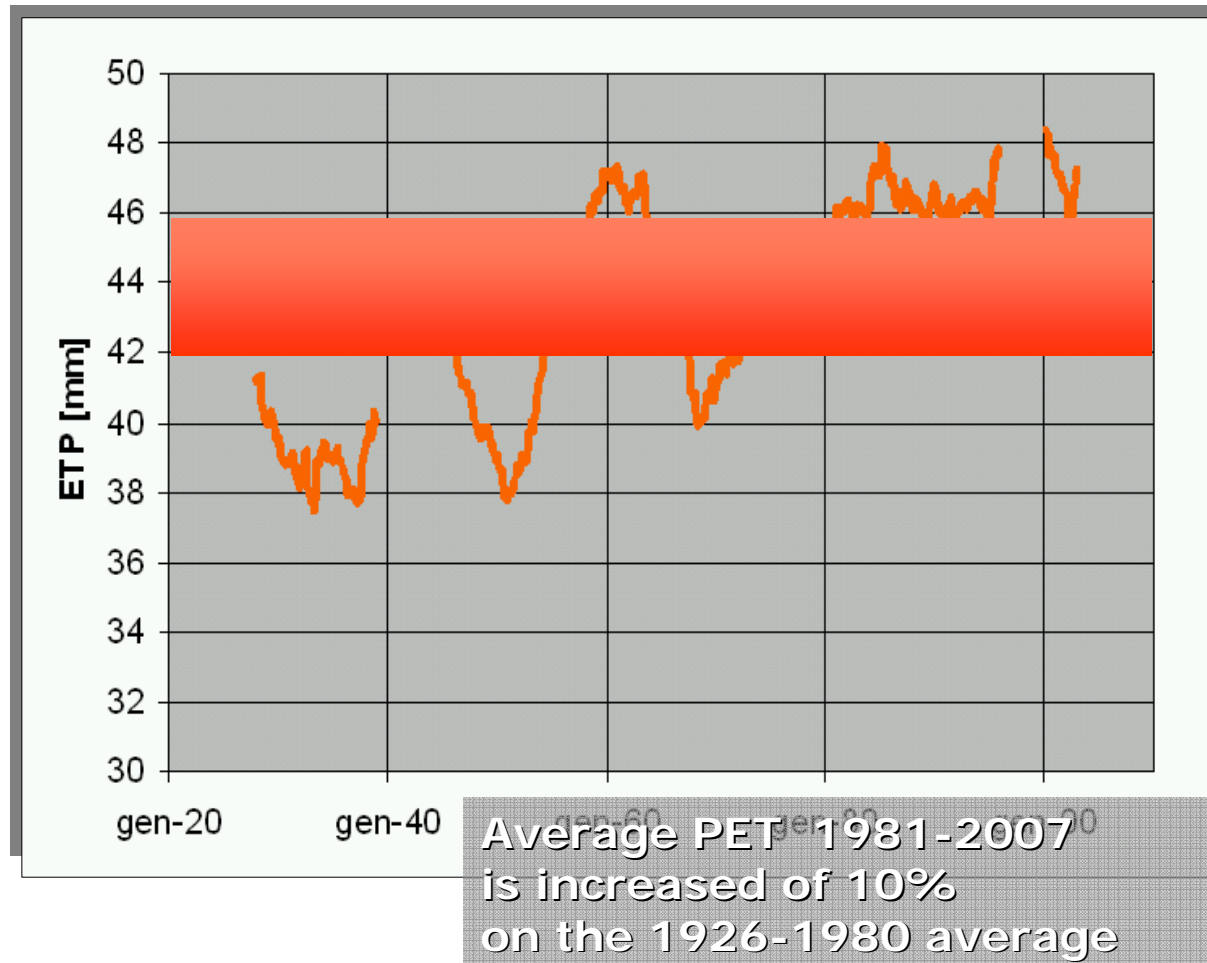
**Rainfall number of hours strongly  
Decrease starting from 1970**

# Temperature increase

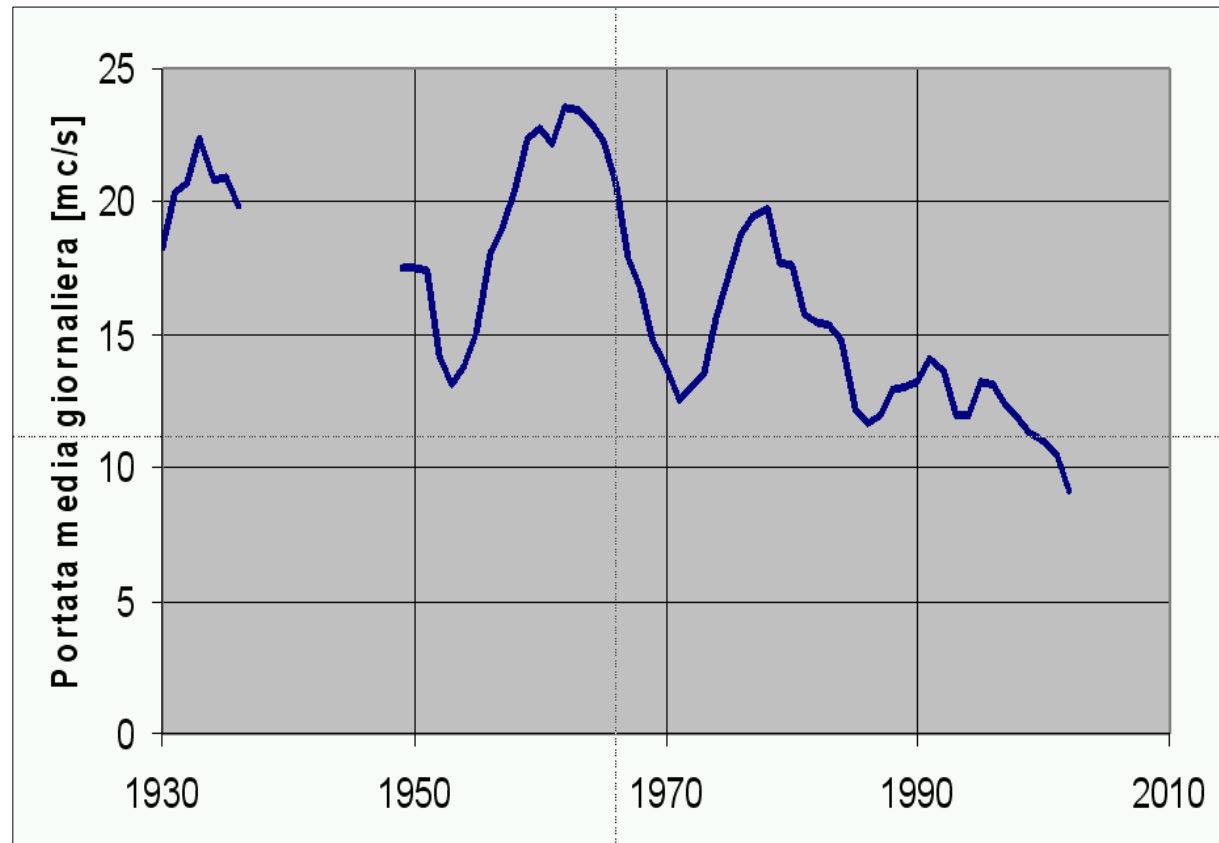




# Potential evapotranspiration

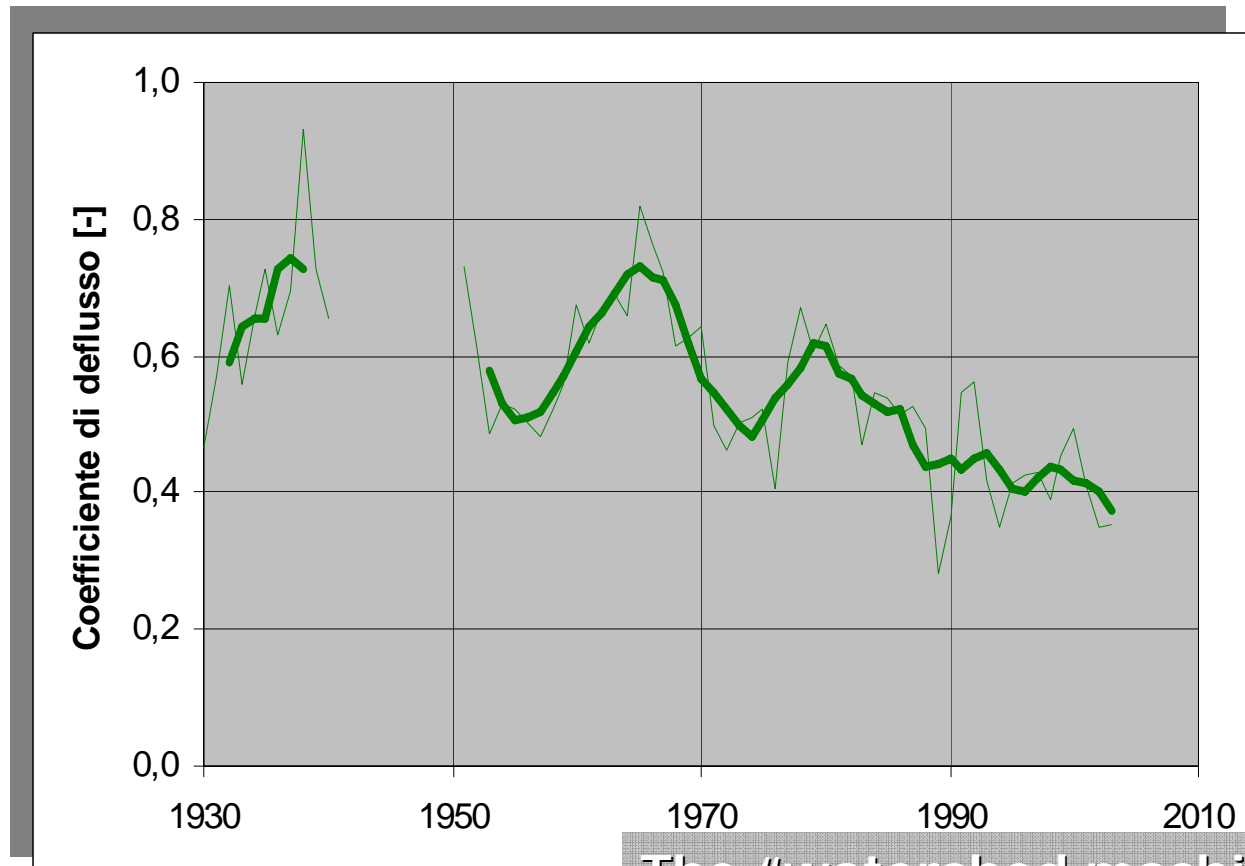


# River discharge



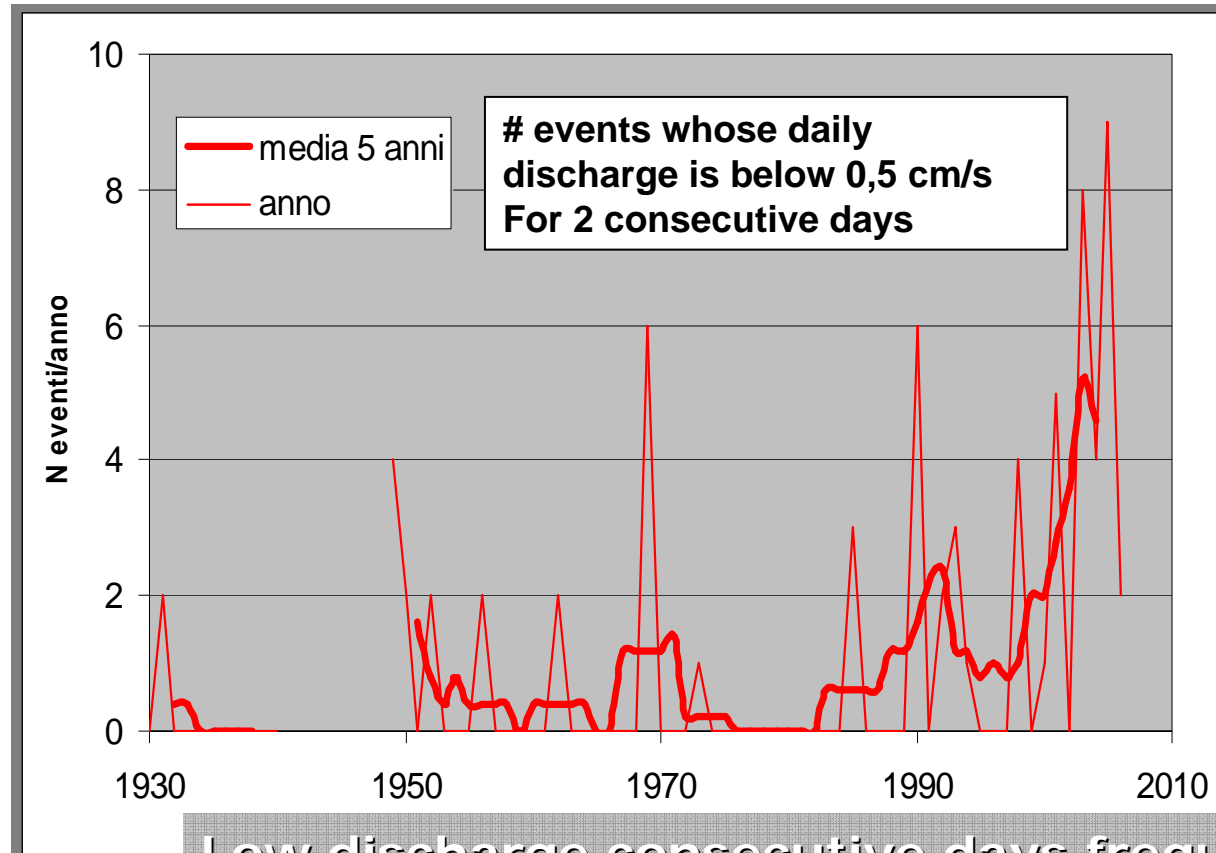
**Daily discharge is reduced up to 40% especially in winter**

# Runoff coefficient



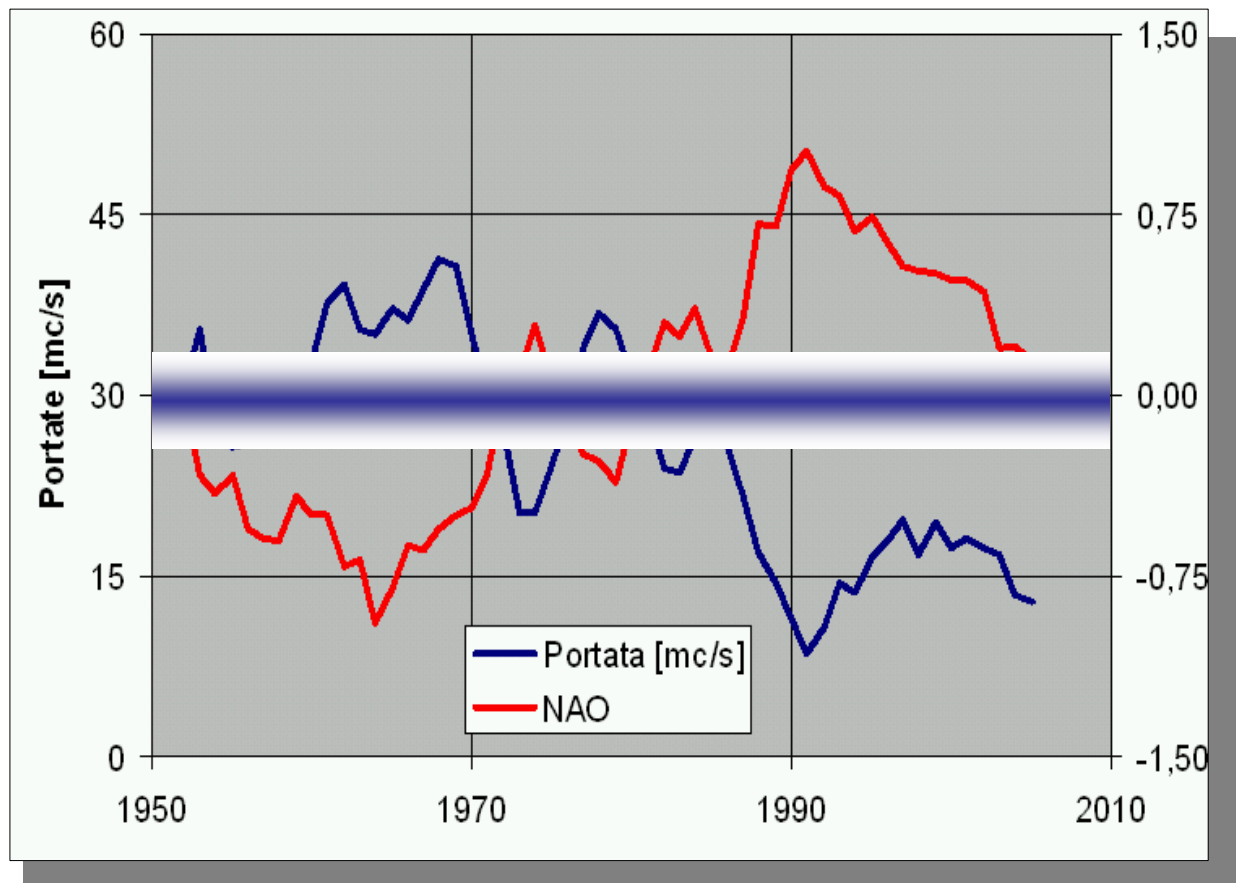
The "watershed machine" is less Efficient in runoff production

# Drought event intensity

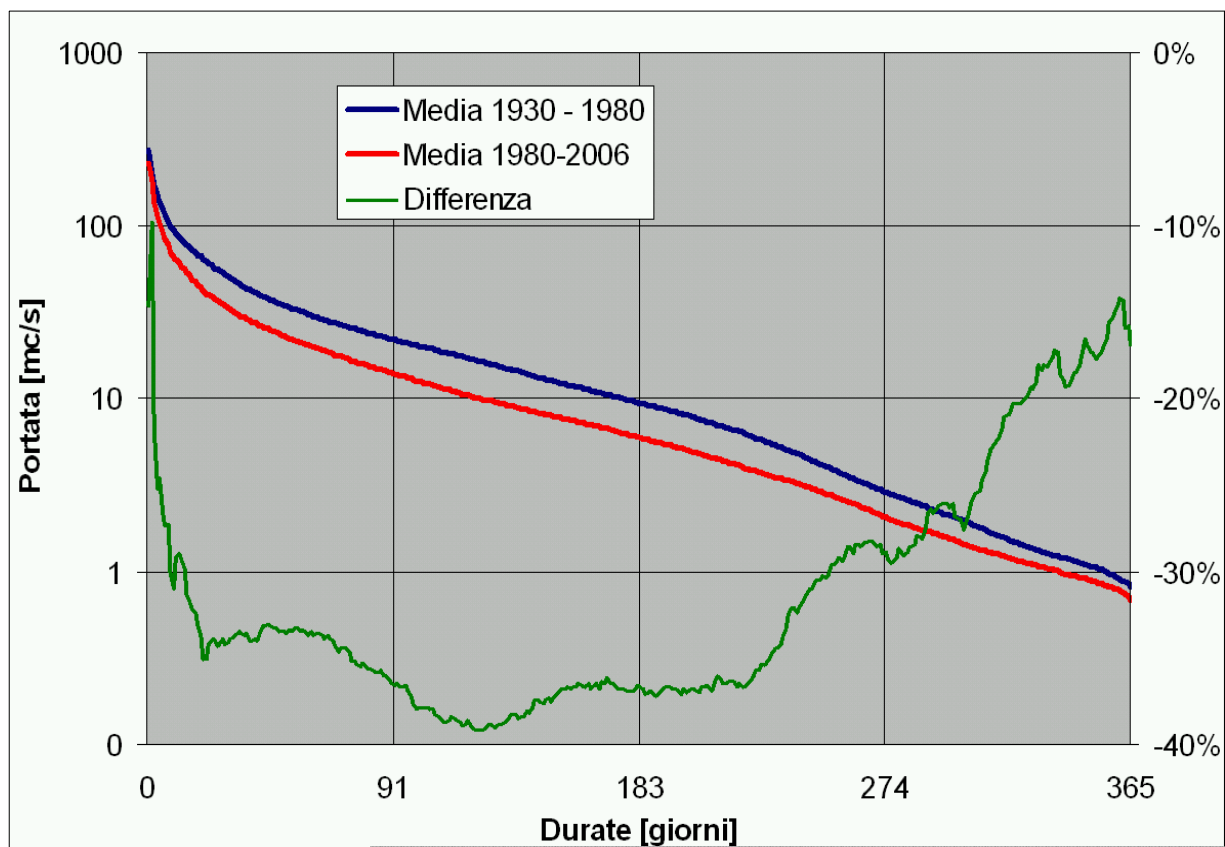


Low discharge consecutive days frequency has increased of over 100% in 20 years

# NAO winter index



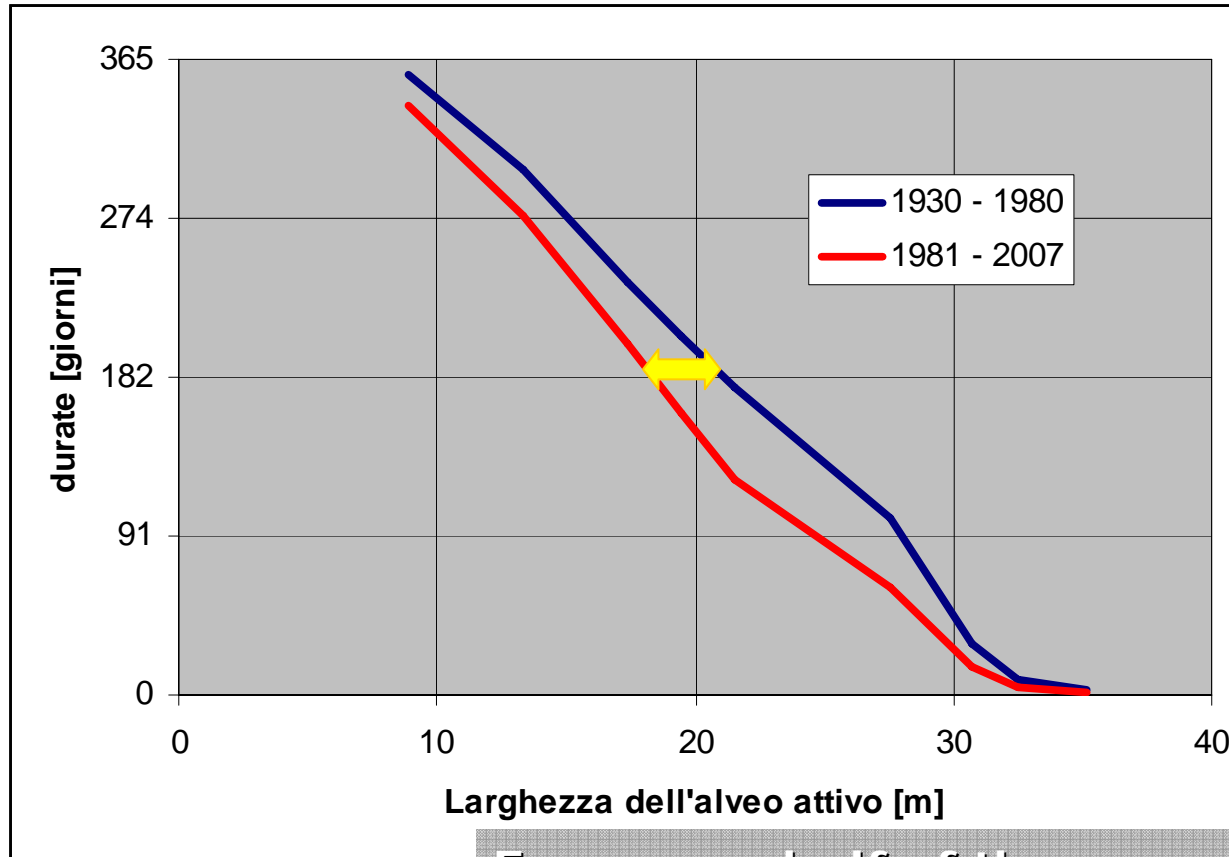
# Loss of river regime



For over two thirds of the year  
Water discharge is reduced of about 30%

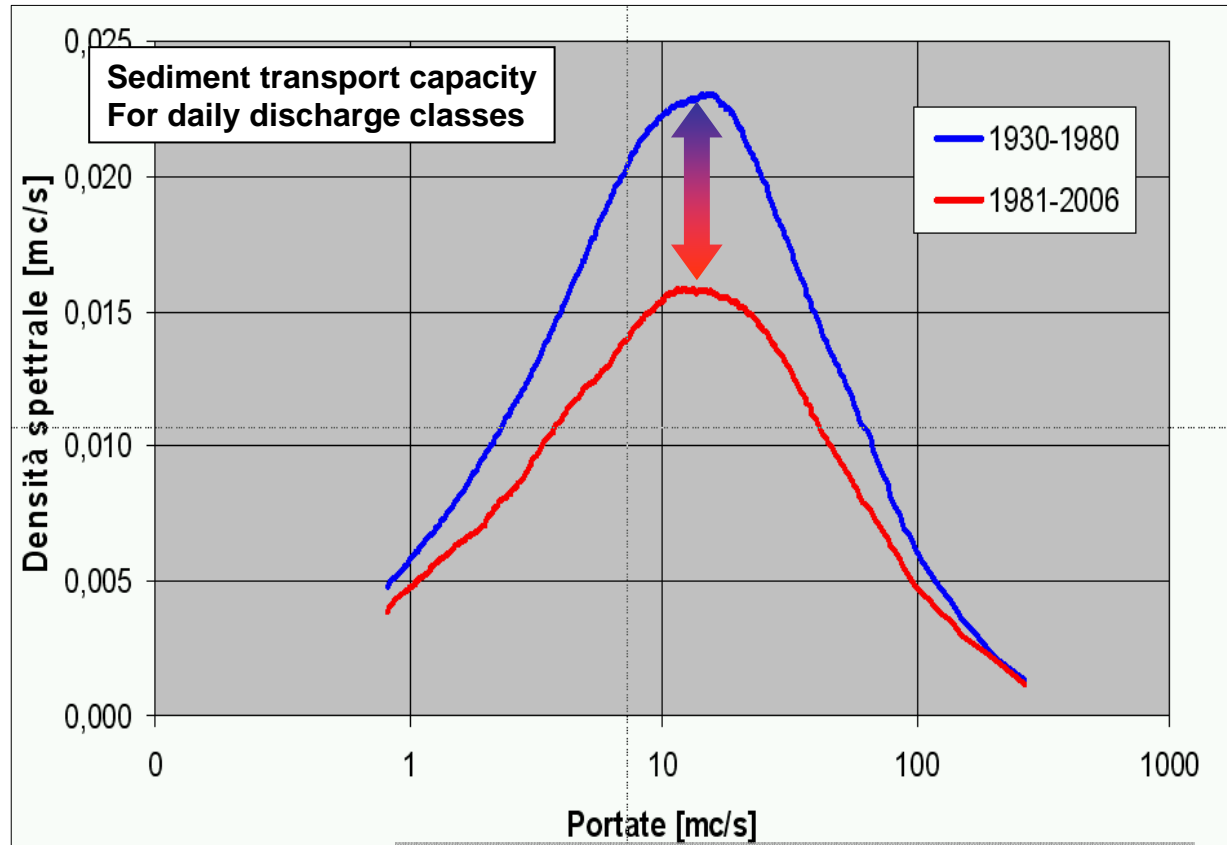


# Morphologic diversity loss



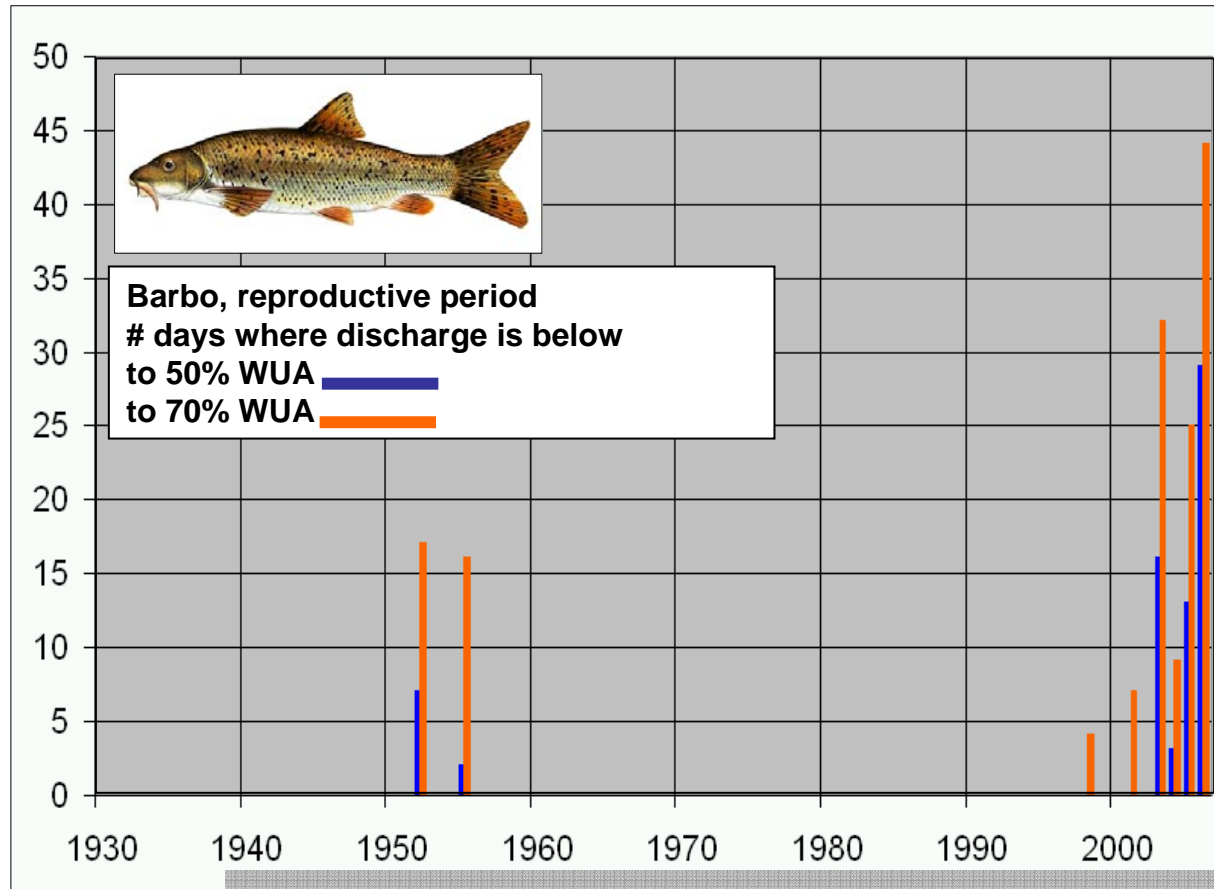
For over a half of the year  
The active river width channel  
has been reduced of 15%

# Morphodynamic loss



**Sediment transport capacity  
Is reduced of about 30%**

# Biodiversity loss



The low WUA number of days  
in the year tends to be strongly reduced