



High N retention in Mediterranean catchments enhanced by water management practices

Estela Romero, Josette Garnier, Gilles Billen,
Franz Peters and **Luis Lassaletta***



Melbourne, Australia | December 2016 | **Poster #47**





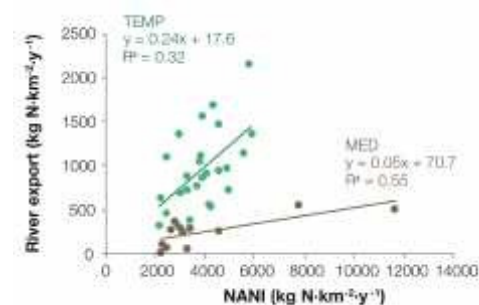
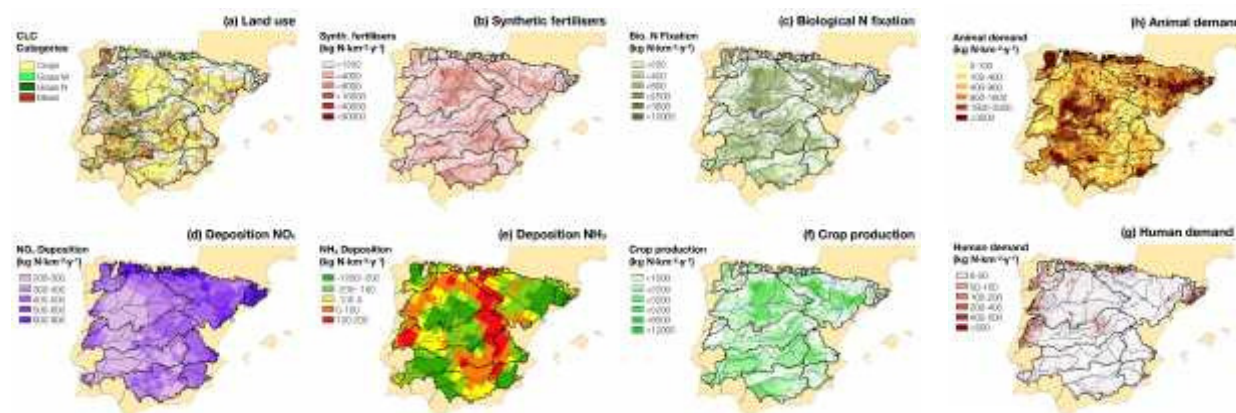
Fluxes and N retention 38 Iberian catchments

Contrasting climates (temperate vs Mediterranean), land uses, water management strategies



Hypothesis: N retention is tightly related to water regulation practices

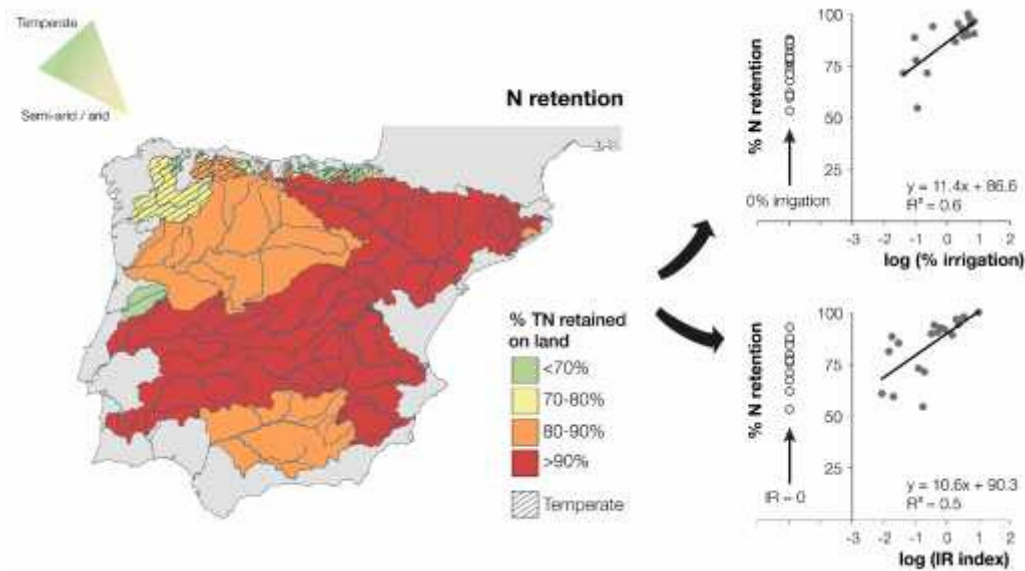
2000-2010 period → **N Retention** = spatialized NANI inputs - river outputs



For similar N inputs, retention is higher in the Mediterranean

Water regulation features

number of dams and reservoirs, water storage capacity
 Impounded Runoff (IR) = f (Hm³ storage capacity, annual runoff)



Reservoirs and irrigation channels account for >50% of the variability in N retention

Above a certain threshold of water regulation, N retention is consistently >85–90%

Future climate projections

decrease in rainfall + agricultural intensification + increased irrigation

= Increased water demand + flow regulation

similar to Iberian Mediterranean catchments