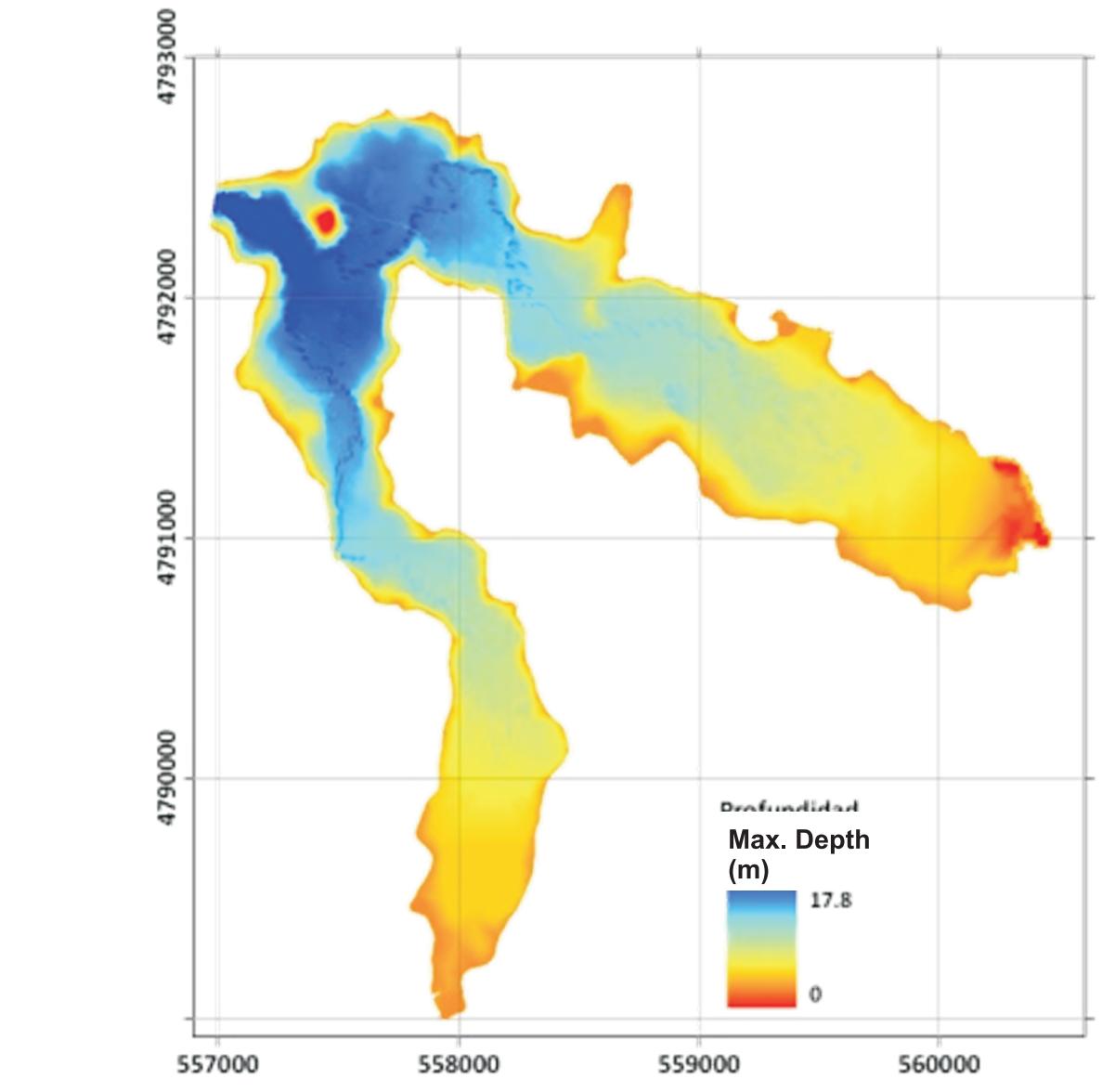
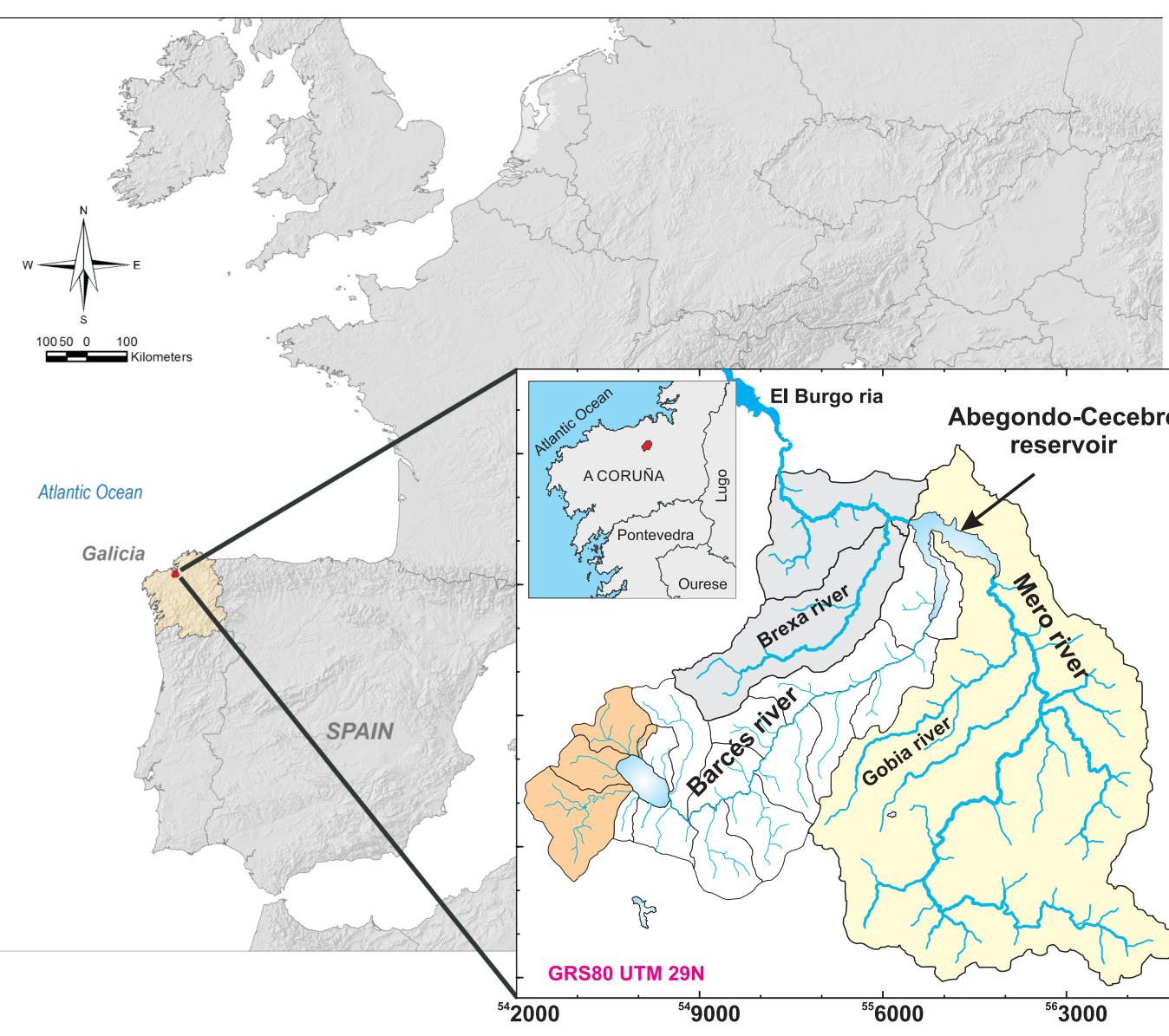
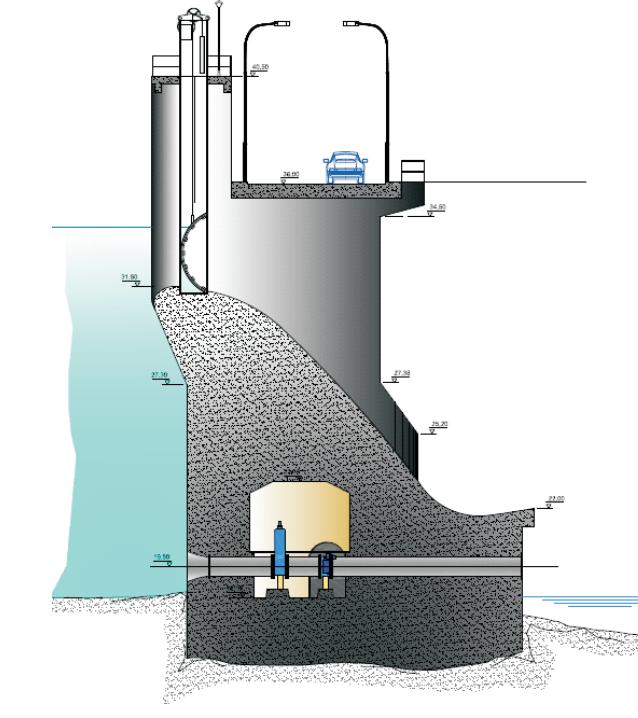


ABEGONDO-CECEBRE RESERVOIR



Principal use Water supply A Coruña City ≈ 400.000 inhabitants

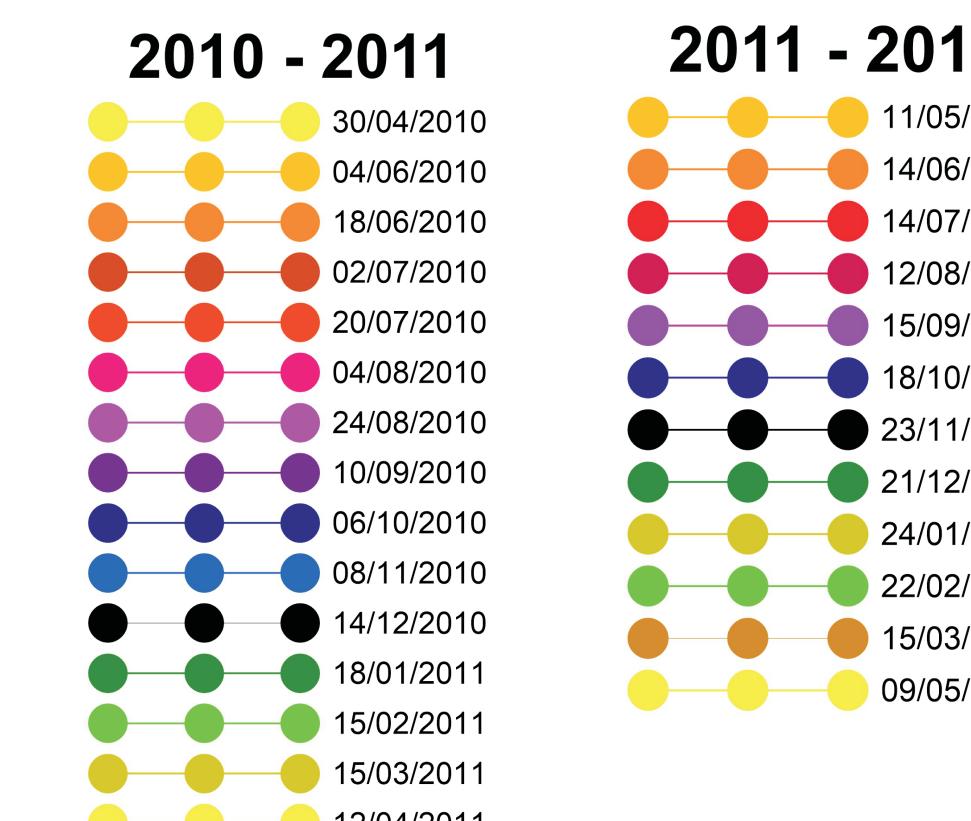
Altitude Max.	35 m.a.s.l.
Altitude min.	17 m.a.s.l.
Nominal capacity	23.0 hm ³
Regulation Capacity	20.6 hm ³
Watertank area	258 km ²
Surface area	3.55 km ²
Max. Depth	17.78 m.
Mean Depth	5.87 m.
Max. Long	3627 m.
Max. Width	1525 m.
Catchment: Lake Area	64



MATERIAL & METHODS

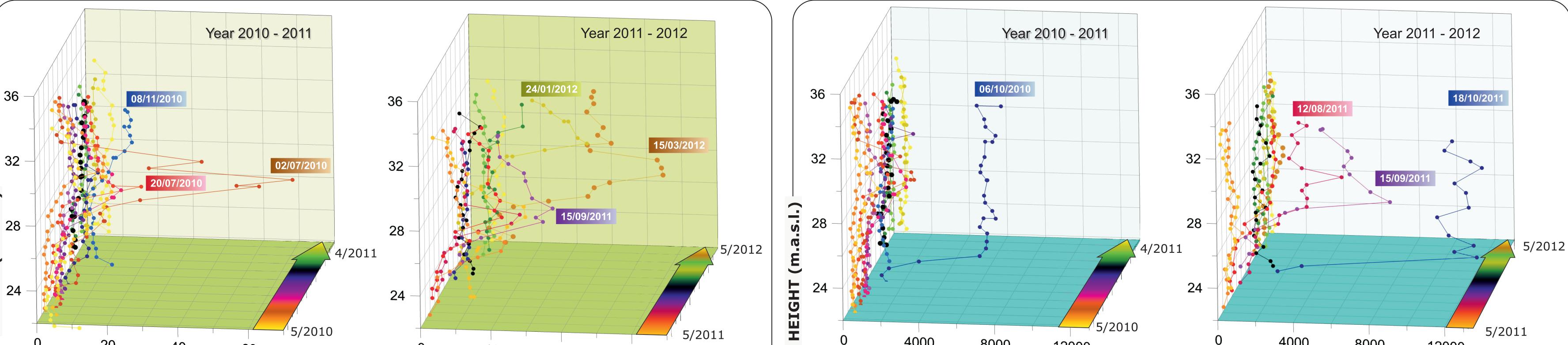
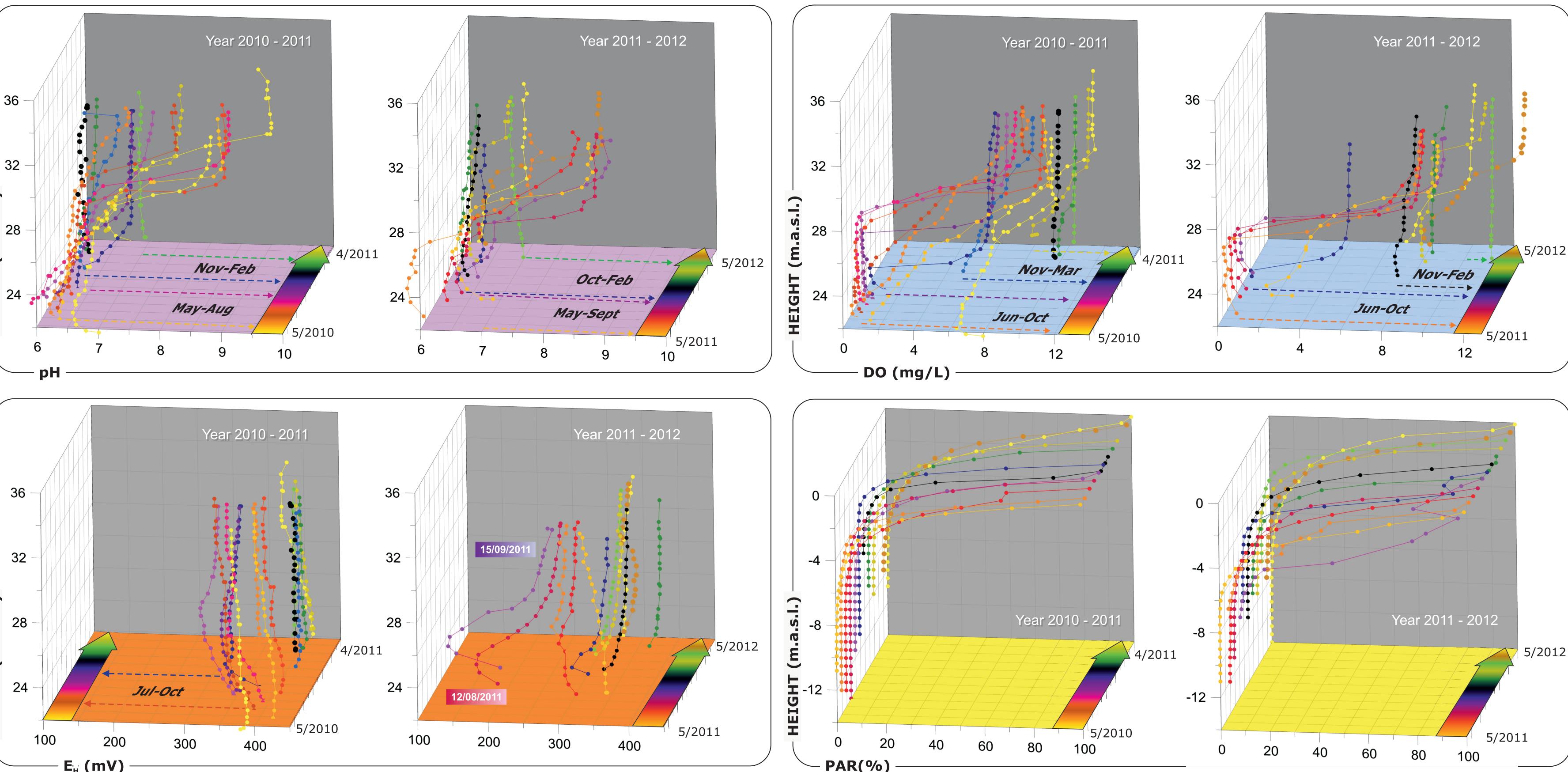
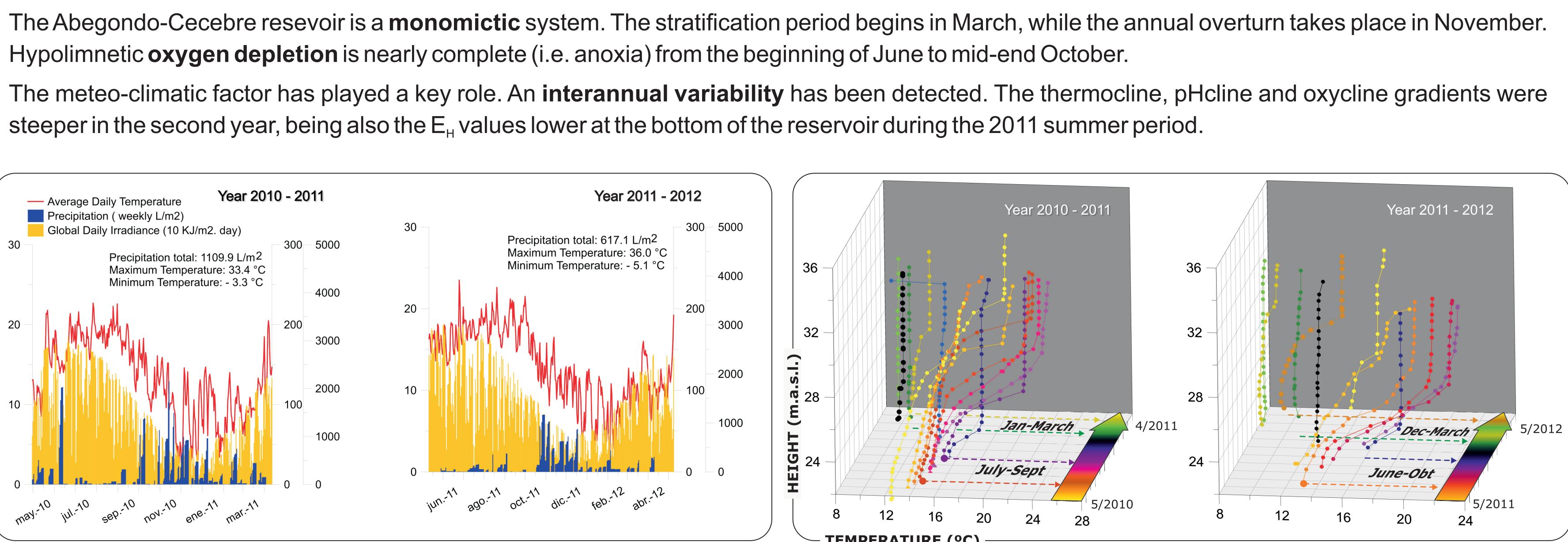


5 Sampling points during 2 YEARS
27 samplings (May 2010-May 2012)



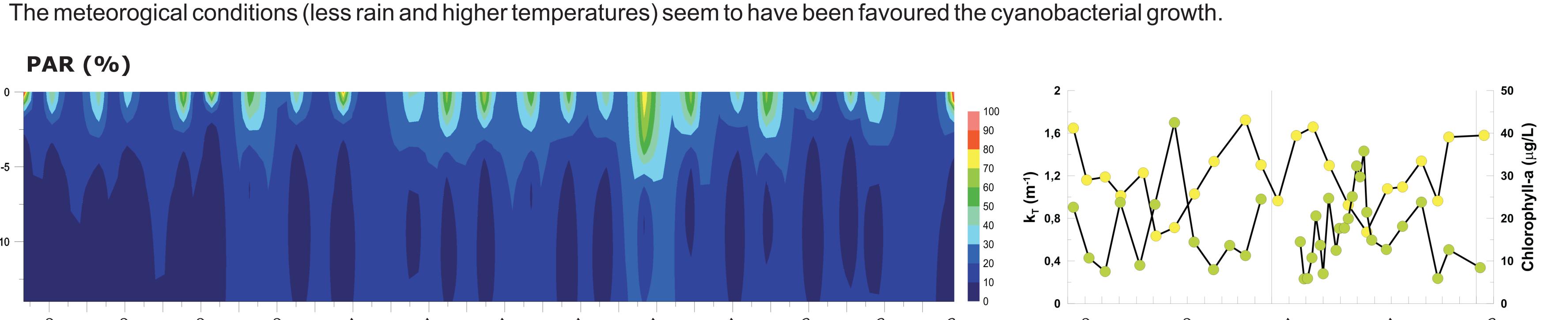
Sampling points	Sampling frequency	Sampling points	Sampling frequency
Chemical & Biological parameters (in lab)			
PRS, PRP, OR, SR, CB, CM	quarterly	PR, OR, SR	monthly
Major constituents: Na, K, Ca, Mg, F, Cl, SO ₄ , NO ₃ , PO ₄ , CID, Cong (dissolved and particulate)		T, pH, EC, EH, DO, turbidity, Chlorophyll-a	
Metals - Metalloids: Fe, Mn, Al, As, Ba, Be, Cd, Co, Cr, Cu, Hg, Ni, Pb, Se, Zn.	quarterly	Phycocianin, Secchi Depth	monthly
Nutrients and Indicators: P ₁₀₇ , N ₁₀₇ , Chlorophyll-a, Alkalinity	monthly	PAR radiation	monthly
Pollutants: NO _x , NH ₄ , Pesticides, HPA's, COVs, PCBs, Phenols, detergents	quarterly	T, pH, CE, E _H , DO	monthly
Biological parameters: DBO ₅ , Total Coliforms, E. coli, faecal Enterococci, Cl. Perf.	monthly	CM, CB	Depth profiling
Biological parameters			
DBO ₅ , Total Coliforms, E. coli, faecal Enterococci, Cl. Perf.		Surface water sampling	

TIME-SERIES ANALYSIS. IDENTIFICATION OF KEY PERIODS



The phytoplankton biomass (as Chla) was maximum at 6 m. depth. During the first year (2010-2011), the maximum values were detected in summer and early autumn, while in the second year (2011-2012) Chlorophyll-a maxima were detected in late summer and winter. Cyanobacterial biomass was regularly distributed along the epilimnion, being higher during the second year.

The meteorological conditions (less rain and higher temperatures) seem to have been favoured the cyanobacterial growth.



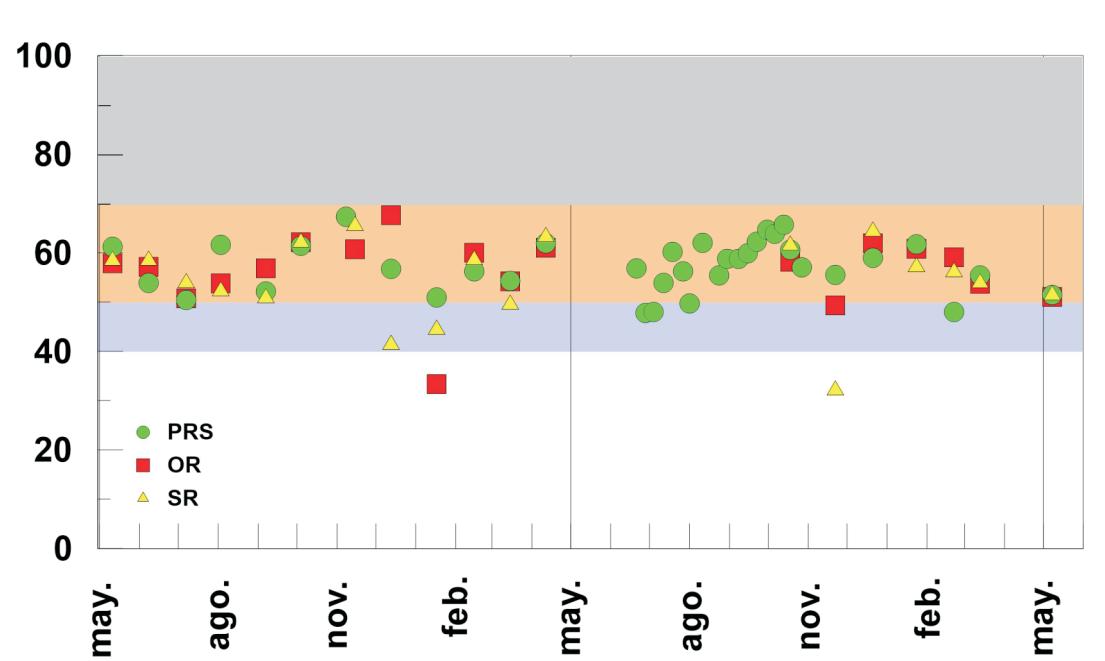
The depth of the euphotic zone (1% of surface PAR) is usually in the 3 - 6 meters depth interval, reaching minimum values during 2010 in the period of late summer - early autumn (1-2,75 m.).

The transparency of the water column (vertical attenuation coefficient, KT) is directly related to the phytoplankton biomass.

TROPHIC STATE OF ABEGONDO-CECEBRE RESERVOIR

The Abegondo-cecebre reservoir is an eutrophic system according to the Trophic State Index (TSI) (Carlson, 1977). The trophic state indicators didn't show interannual variability.

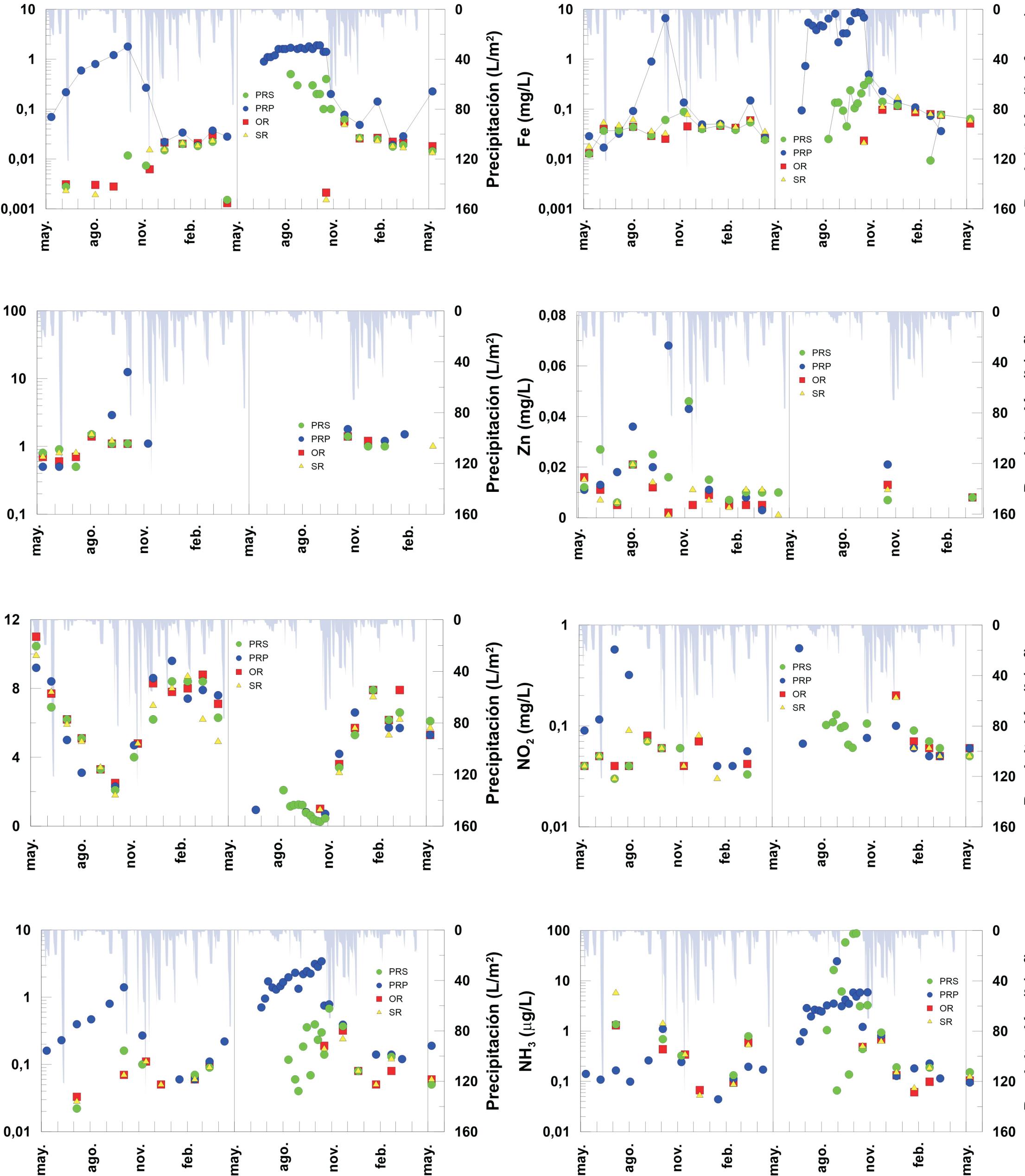
Legend:
 Hypereutrophic (grey)
 Eutrophic (orange)
 Mesotrophic (blue)
 Oligotrophic (white)



HYPOLIMNETIC PROCESSES

During anoxic periods, there was an internal loading from the sediments, showing a net release of P, Fe, Mn, As and Zn.

Nitrogen compounds also showed a seasonal behaviour related to hypolimnetic oxygen depletion. NO₃ concentrations were lower during anoxic periods, when NH₄ and NO₂ rose. Fe and NH₄ release were higher during the 2011 summer period.



AQUA PLANN PROJECT

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