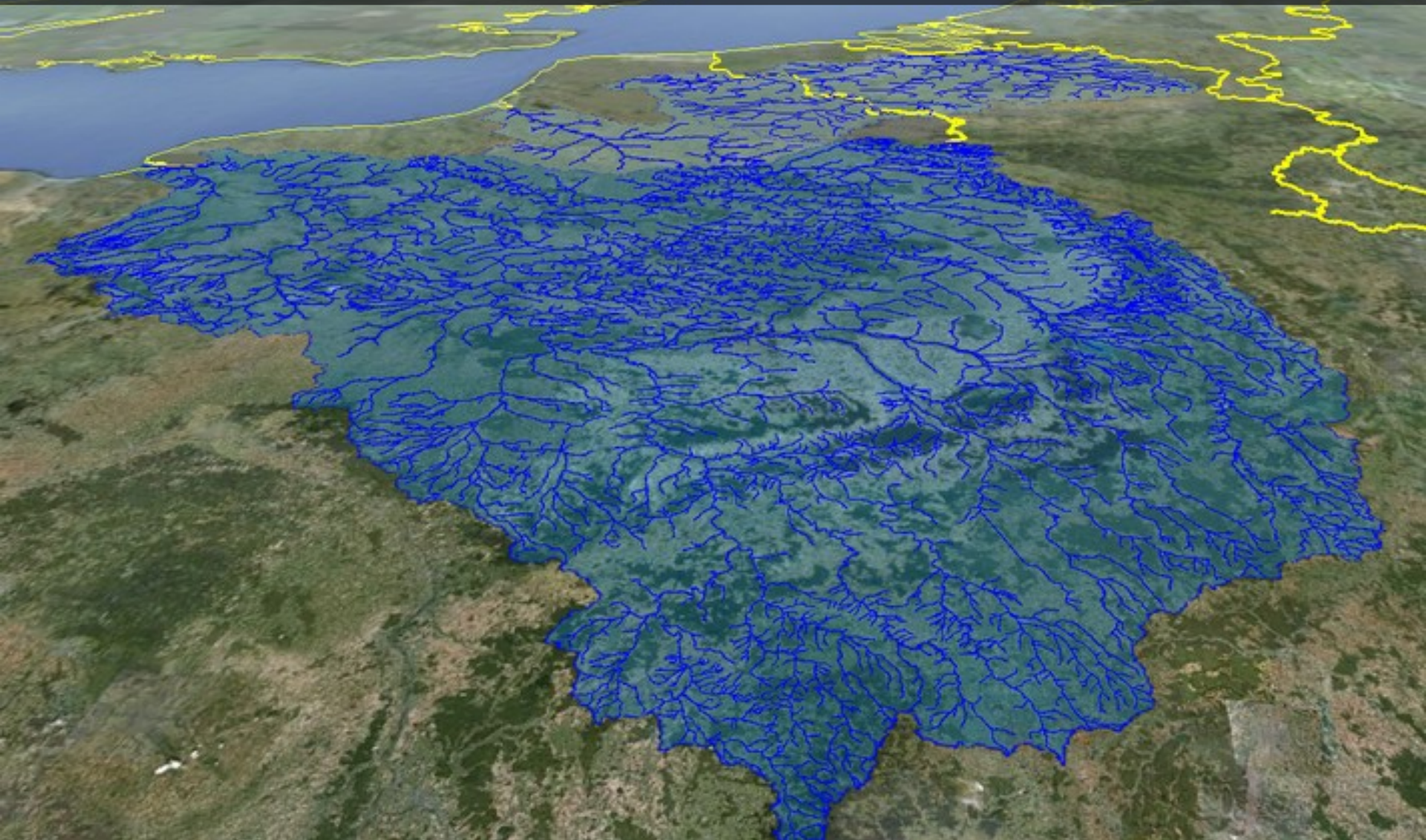


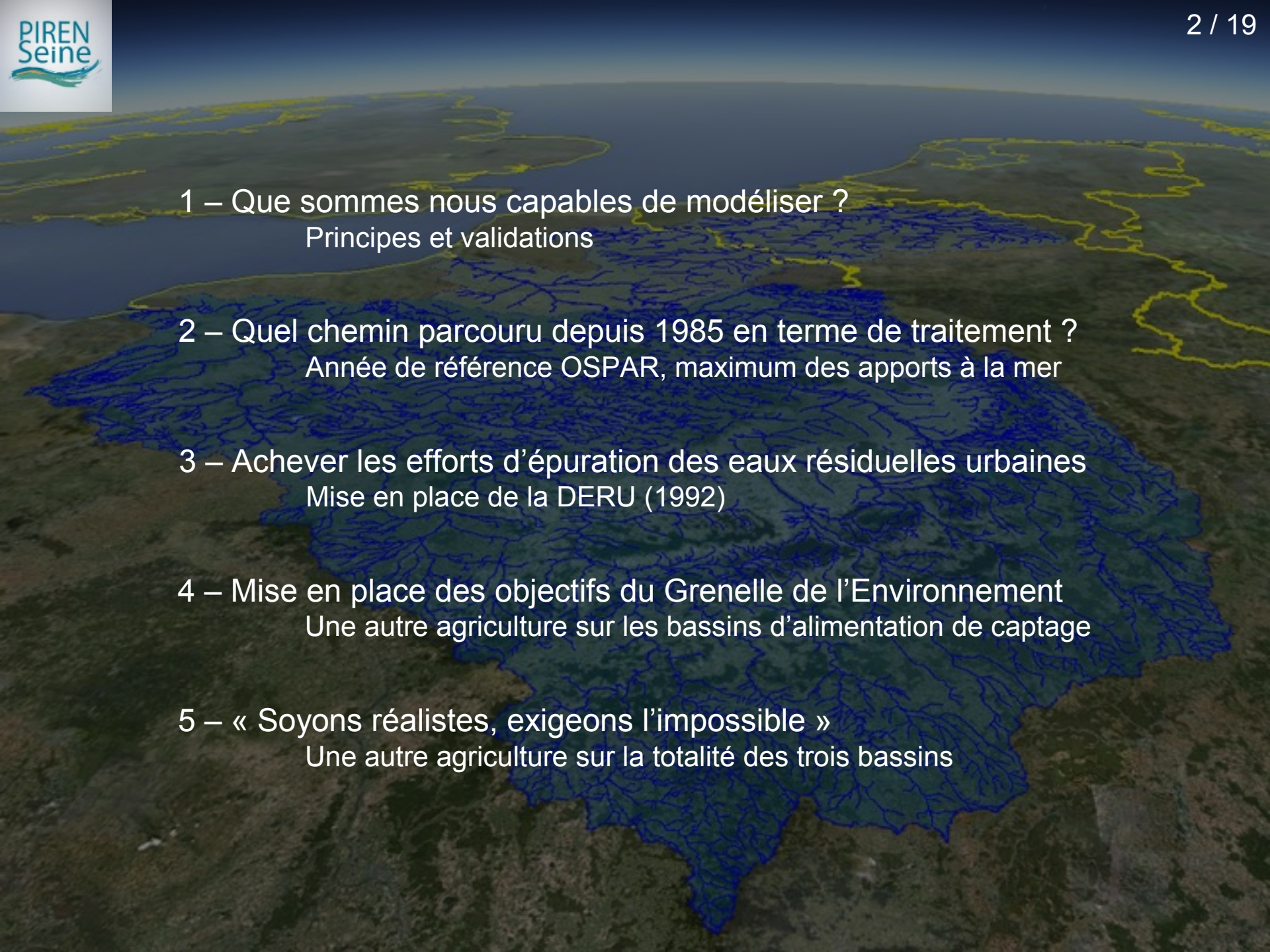


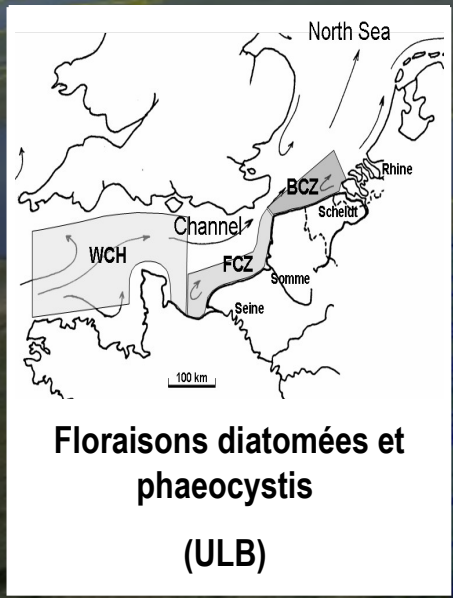
Les apports de nutriments à la mer : de la Convention OSPAR au Grenelle de l'Environnement

PIREN 2011 - Paris, 7 - 8 - 9 février 2011



P.Passy, J. Garnier, G. Billen, M. Silvestre, S. Théry, C. Lancelot, V. Rousseau, N. Gypens

- 
- The background of the slide is an aerial satellite-style image of a river basin. A dense network of blue lines is overlaid on the terrain, representing the river network. The terrain is shown in shades of green and brown, indicating vegetation and land use. The river network starts from numerous small tributaries and converges into larger channels that eventually lead to a body of water at the top of the image.
- 1 – Que sommes nous capables de modéliser ?
Principes et validations
 - 2 – Quel chemin parcouru depuis 1985 en terme de traitement ?
Année de référence OSPAR, maximum des apports à la mer
 - 3 – Achever les efforts d'épuration des eaux résiduelles urbaines
Mise en place de la DERU (1992)
 - 4 – Mise en place des objectifs du Grenelle de l'Environnement
Une autre agriculture sur les bassins d'alimentation de captage
 - 5 – « Soyons réalistes, exigeons l'impossible »
Une autre agriculture sur la totalité des trois bassins



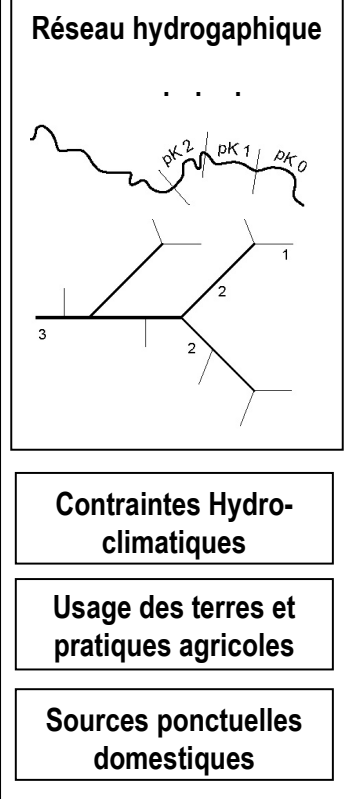
Floraisons diatomées et phaeocystis (ULB)

Modèle écologique RS-MIRO



Flux N, P, Si des fleuves à la mer -> ICEP

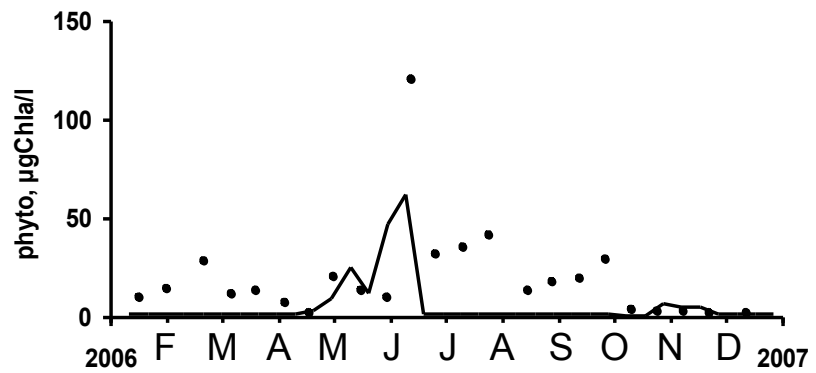
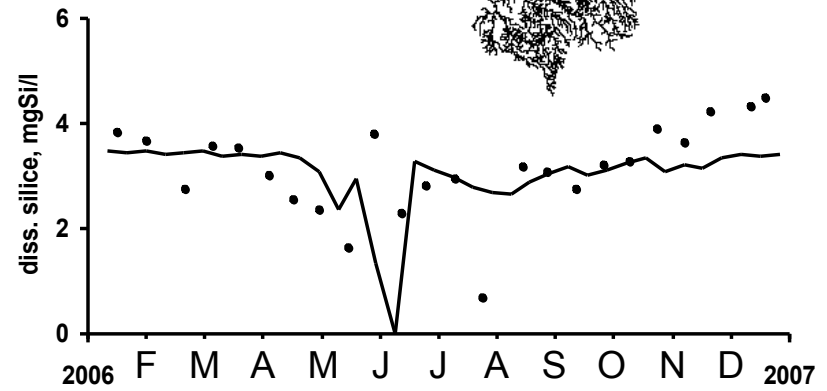
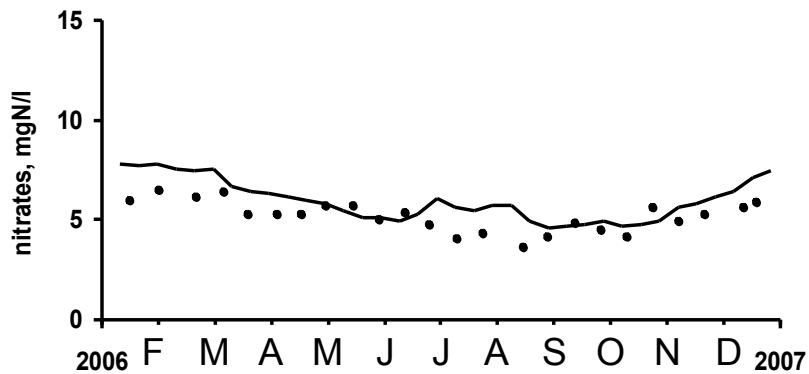
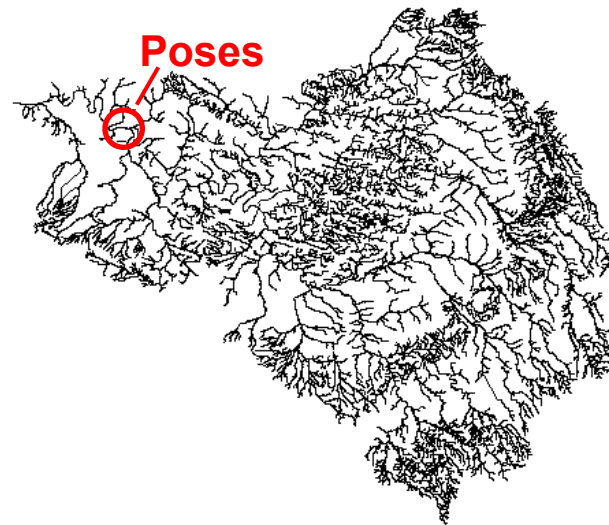
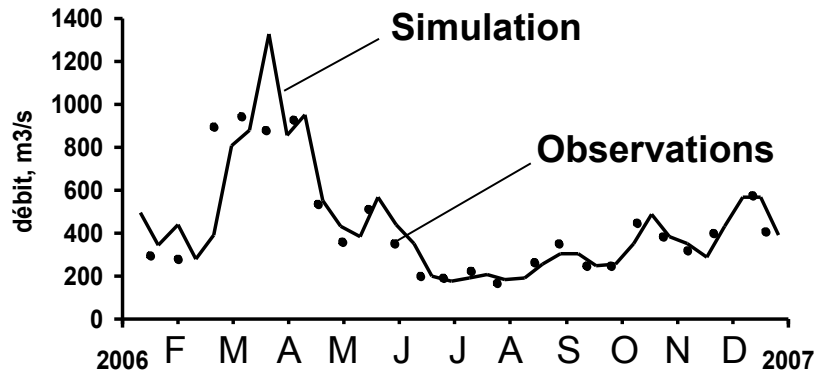
Modèle Senèque-Riverstrahler

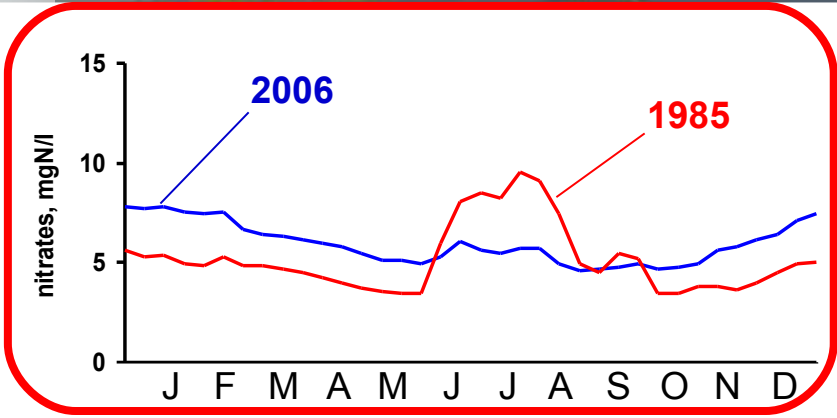


MIRO

Représentation des processus écologiques dans les systèmes aquatiques

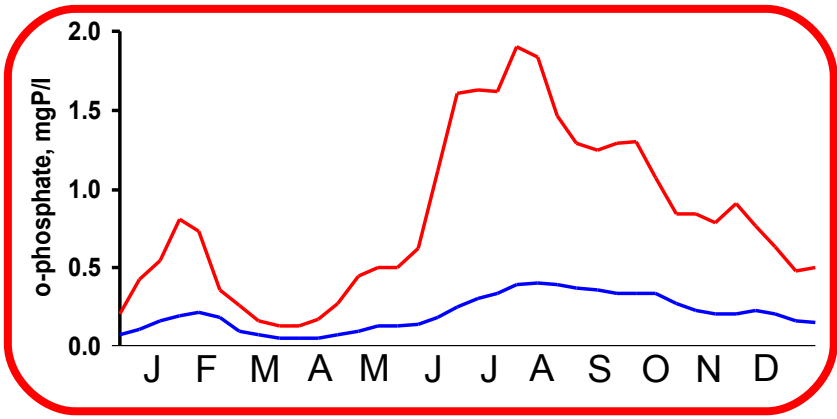
RIVE



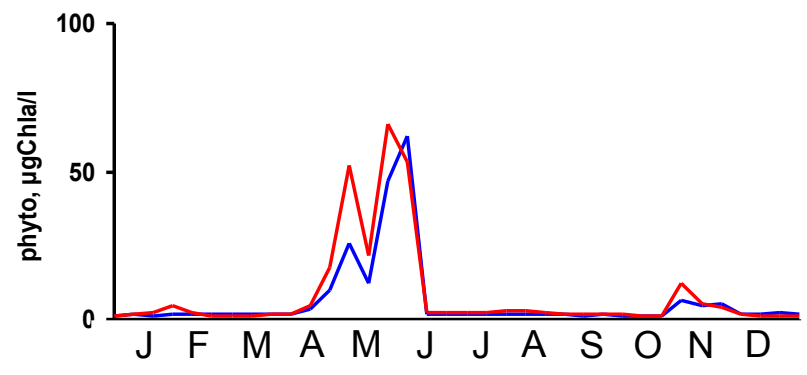
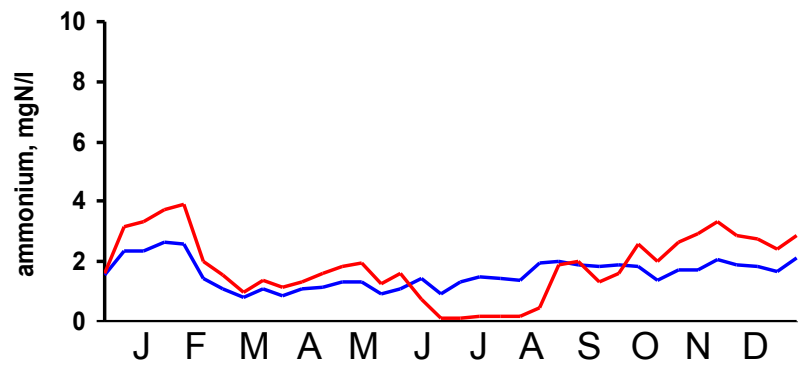
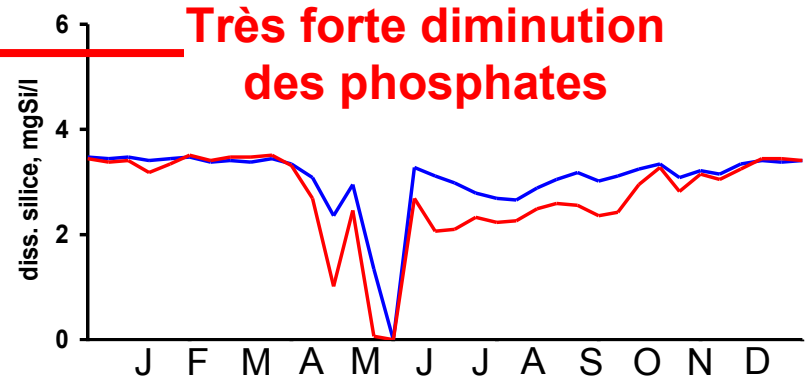


Augmentation des nitrates

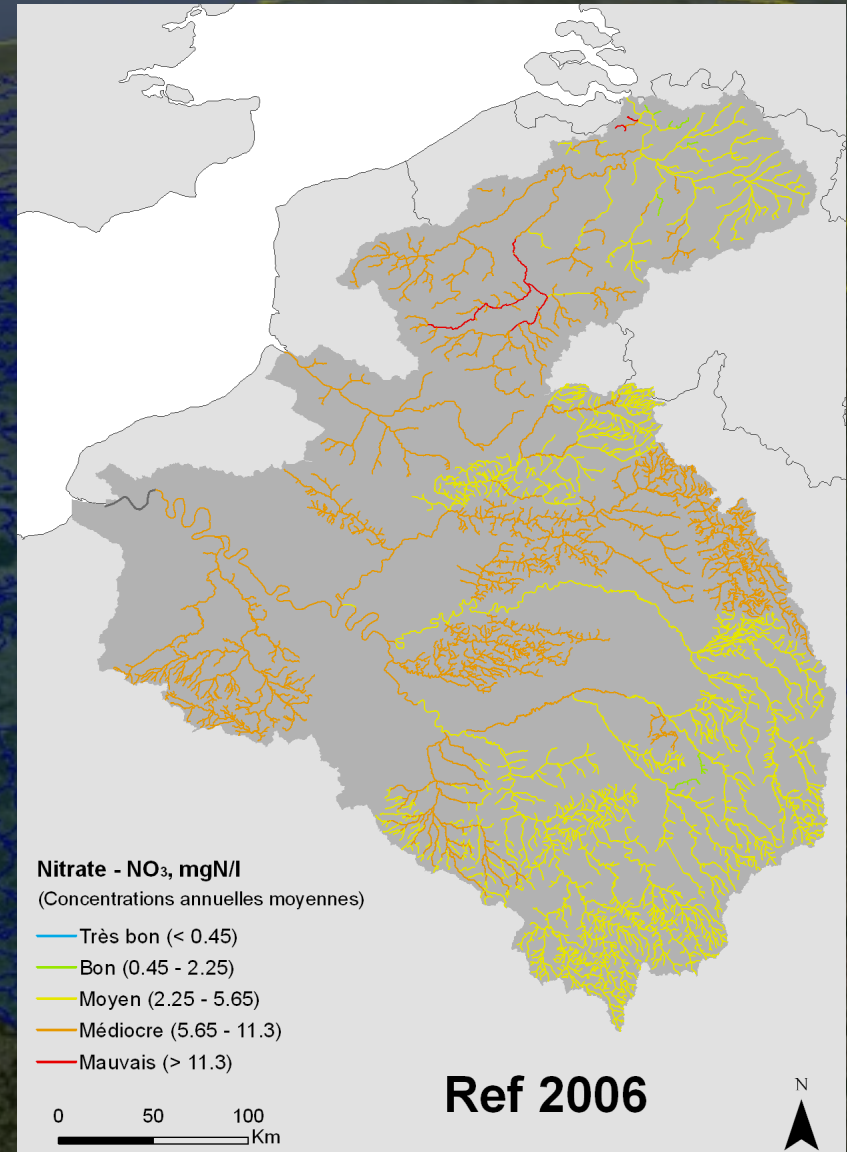
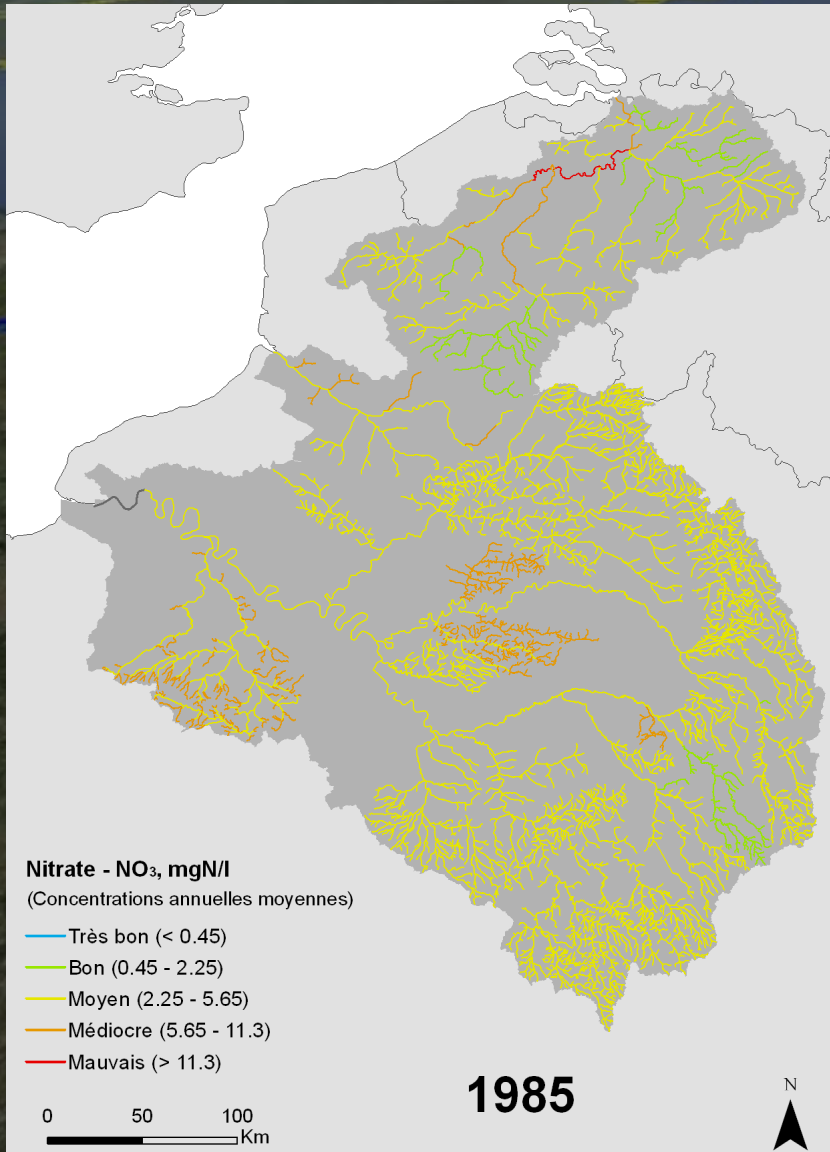
**Comparaison
1985 - 2006**



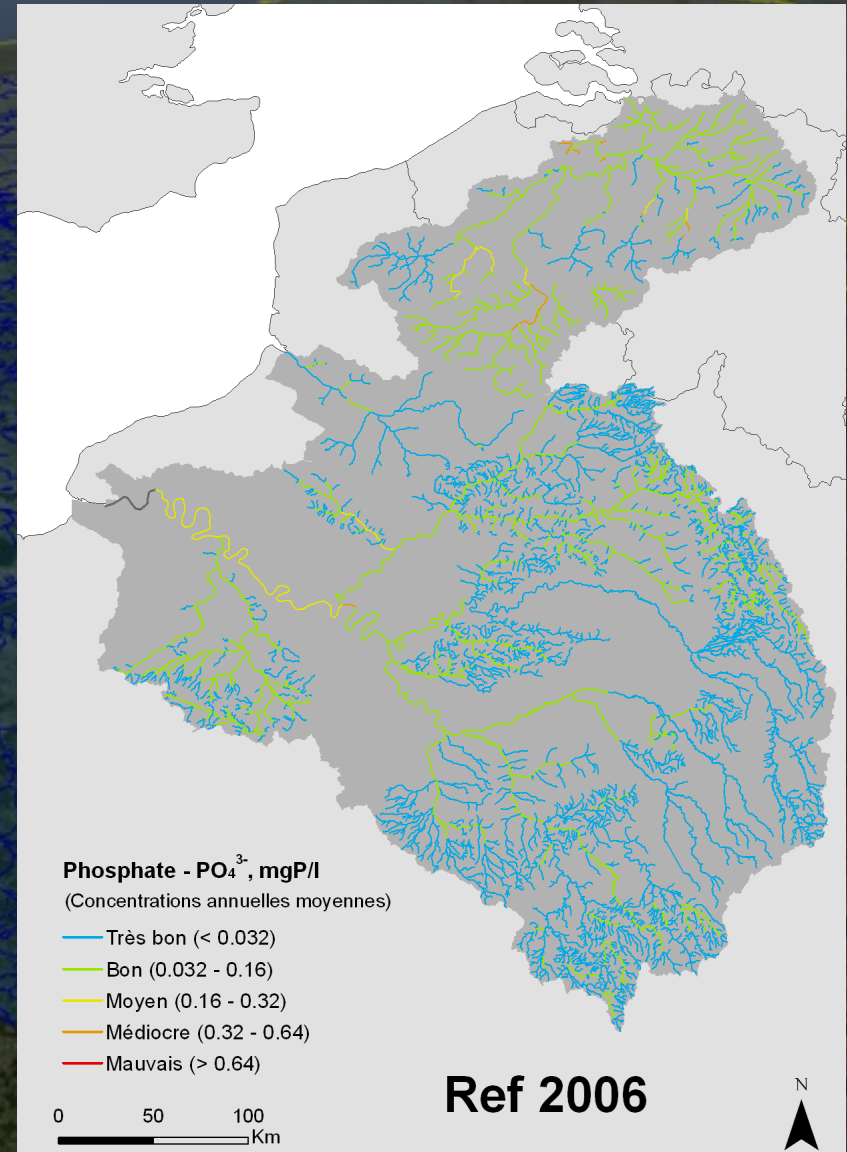
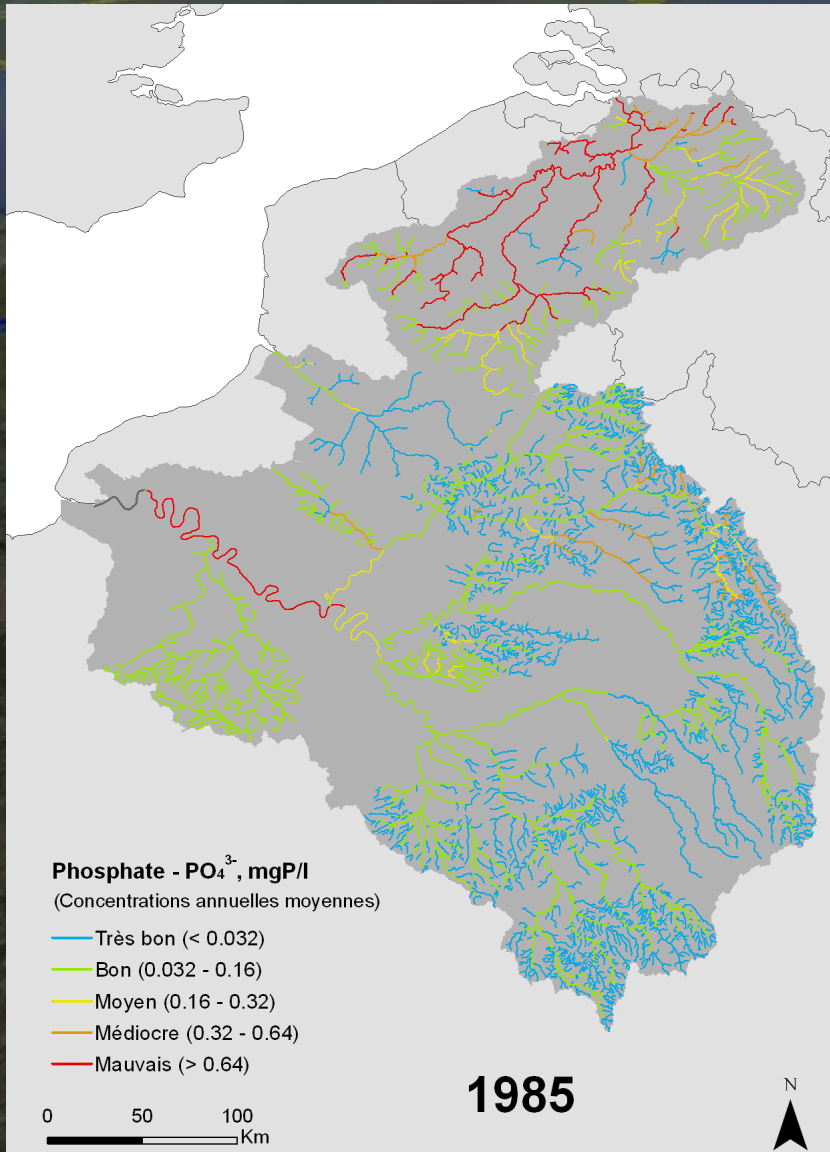
**Très forte diminution
des phosphates**

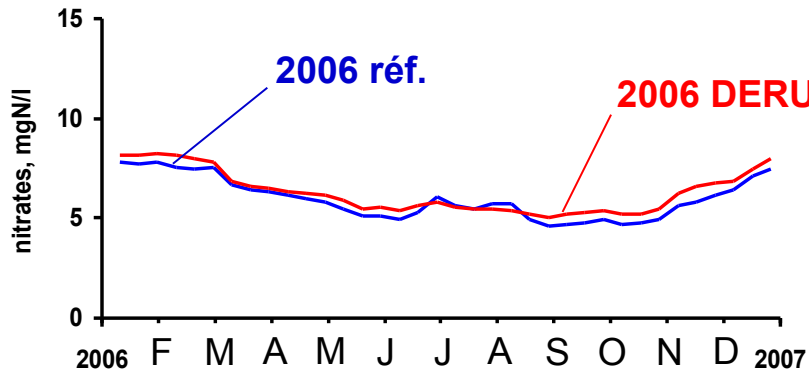


Évolution entre 1985 et 2006 vis-à-vis des **nitrites** dans le réseau hydrographique

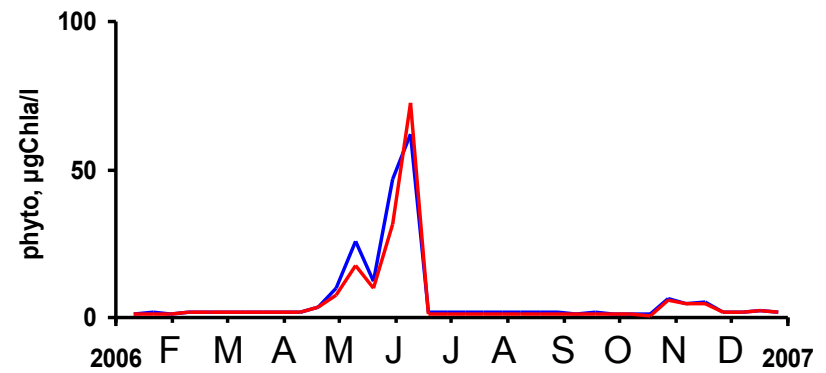
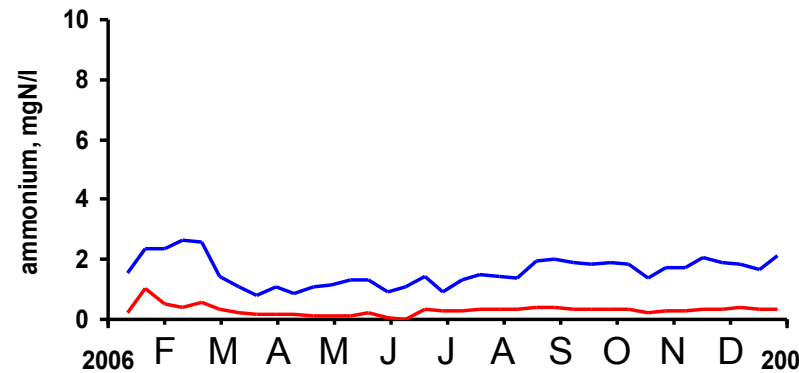
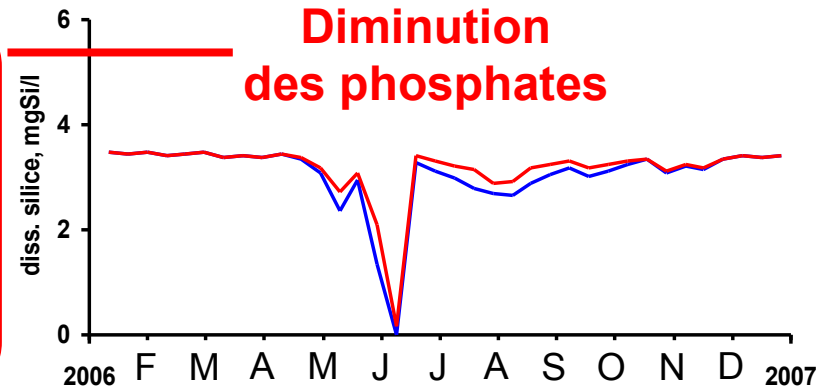
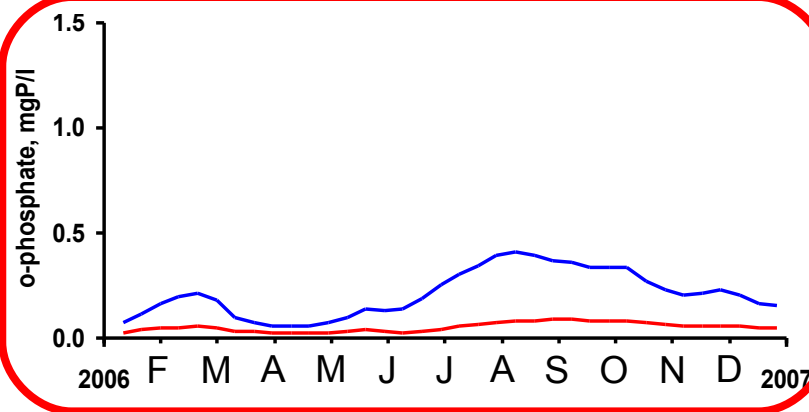


Évolution entre 1985 et 2006 vis-à-vis des **phosphates** dans le réseau hydrographique

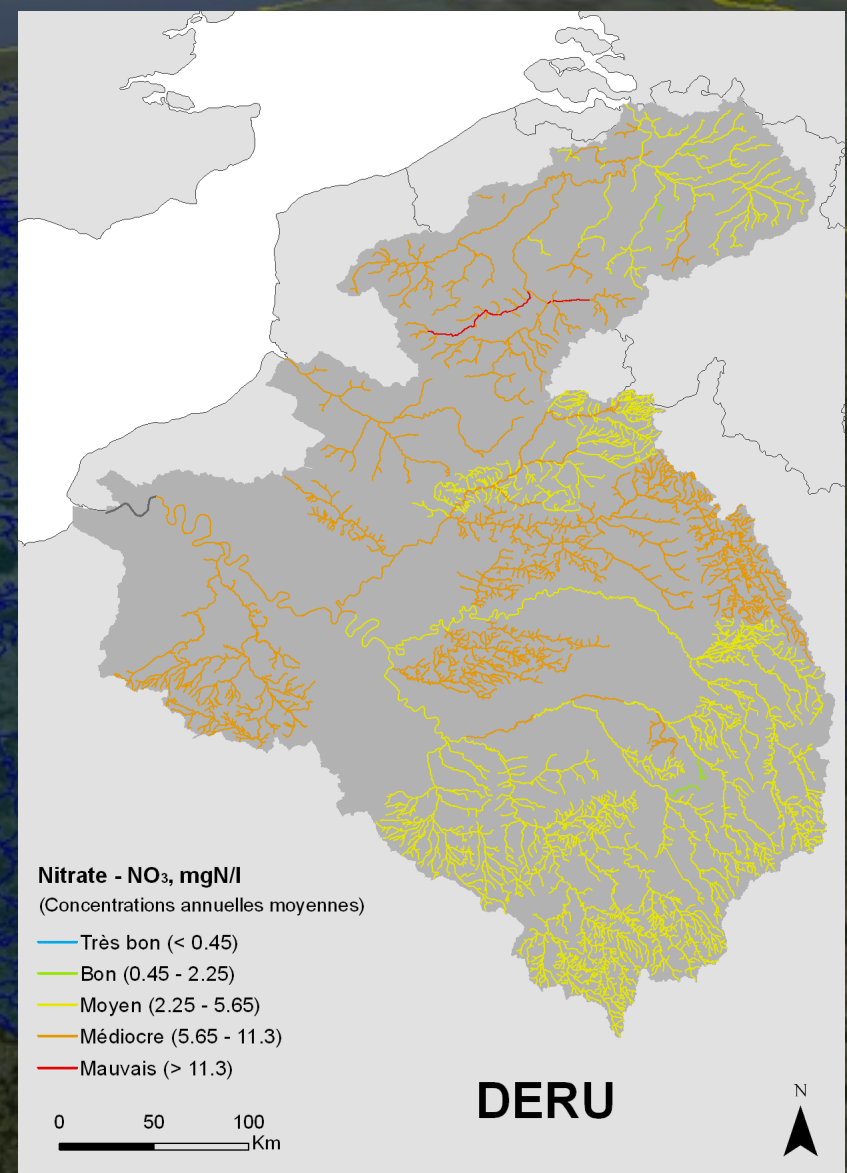
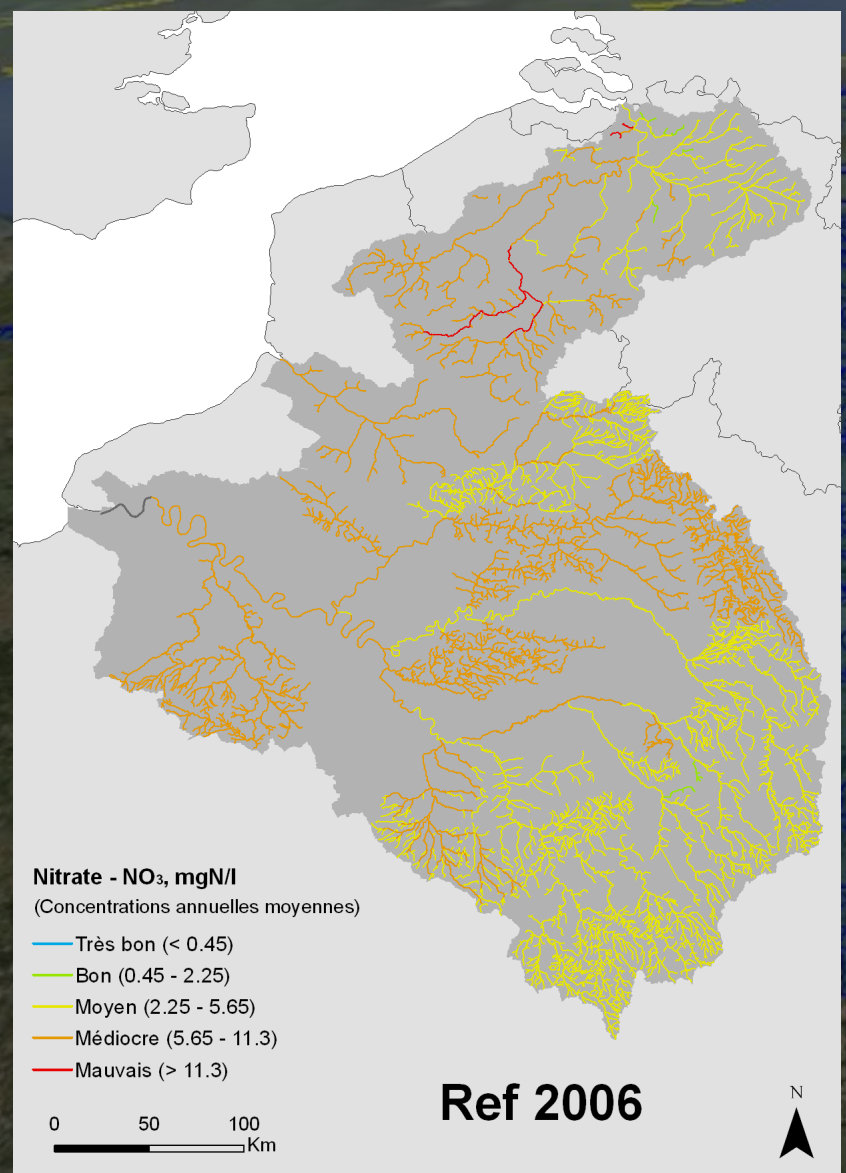




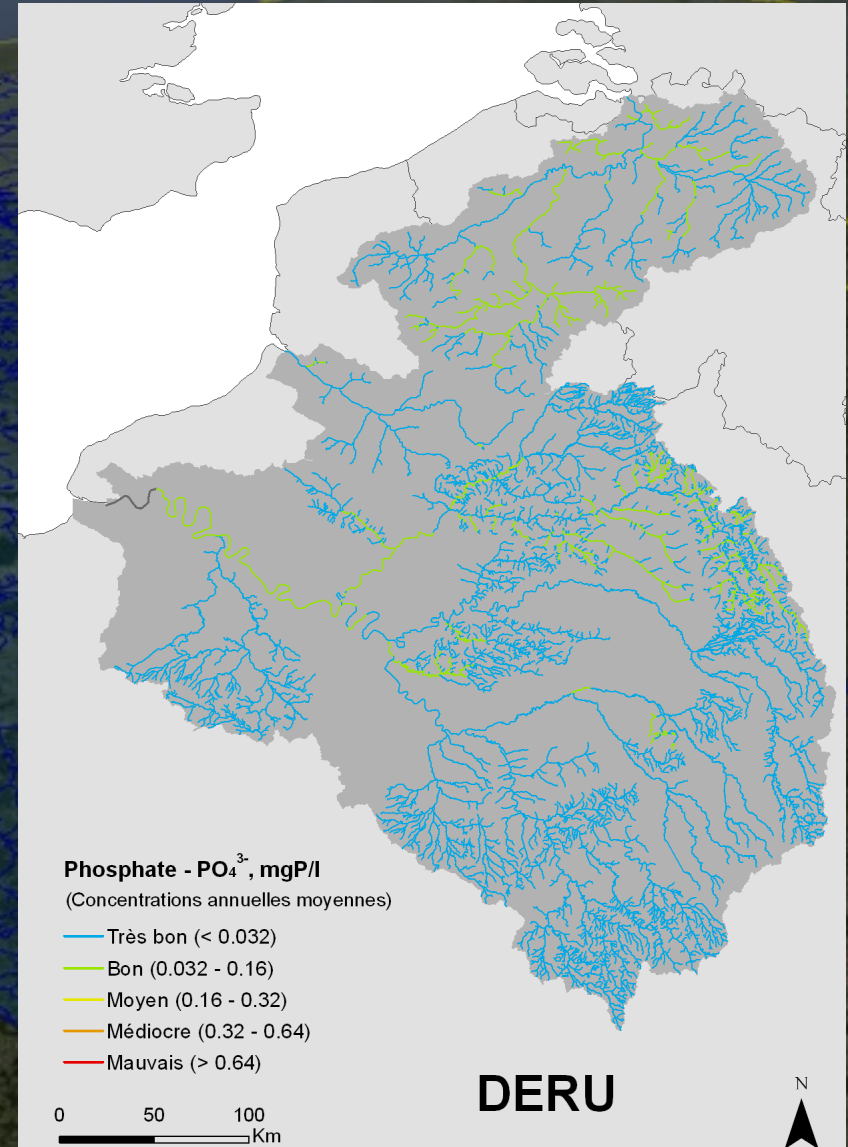
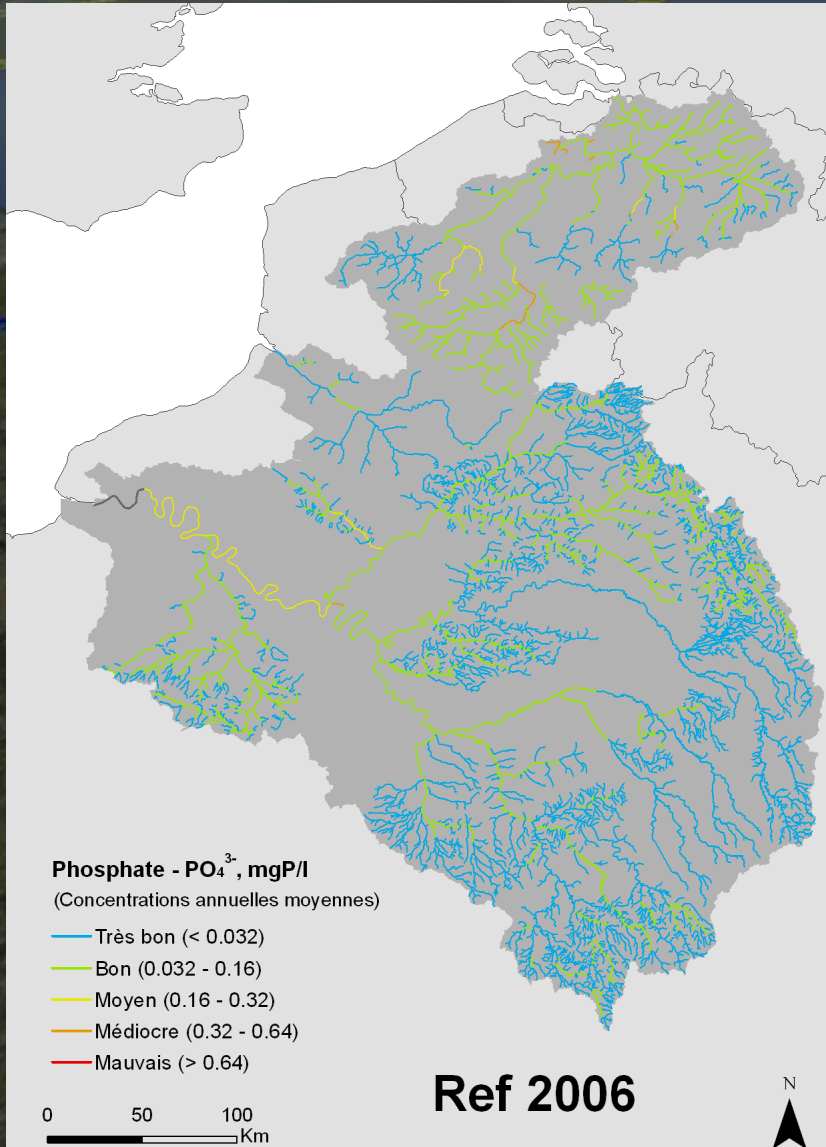
Les effets de la mise en place de la DERU à Poses



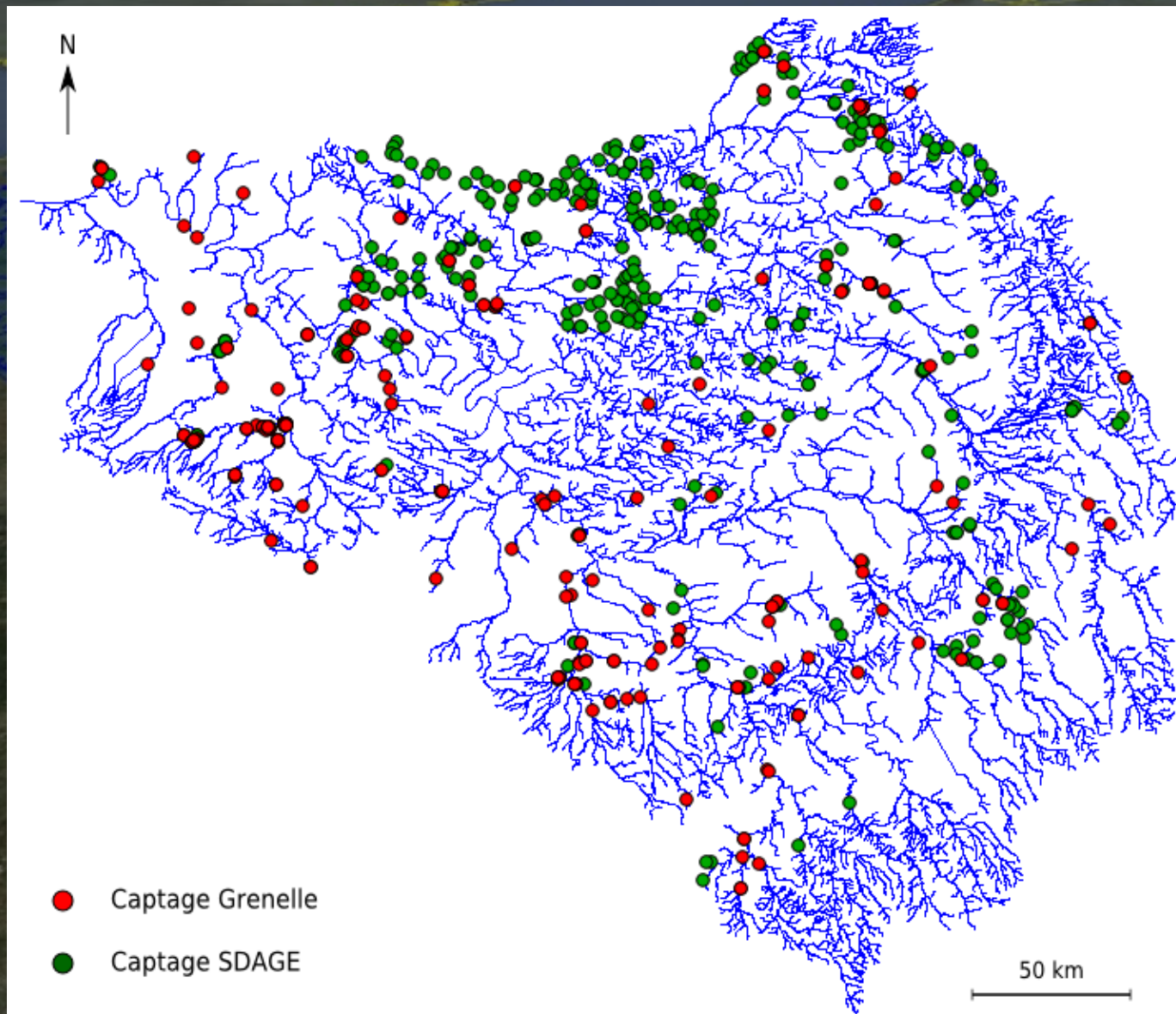
Les effets de la mise en place de la DERU vis-à-vis des **nitrites** dans le réseau hydrographique



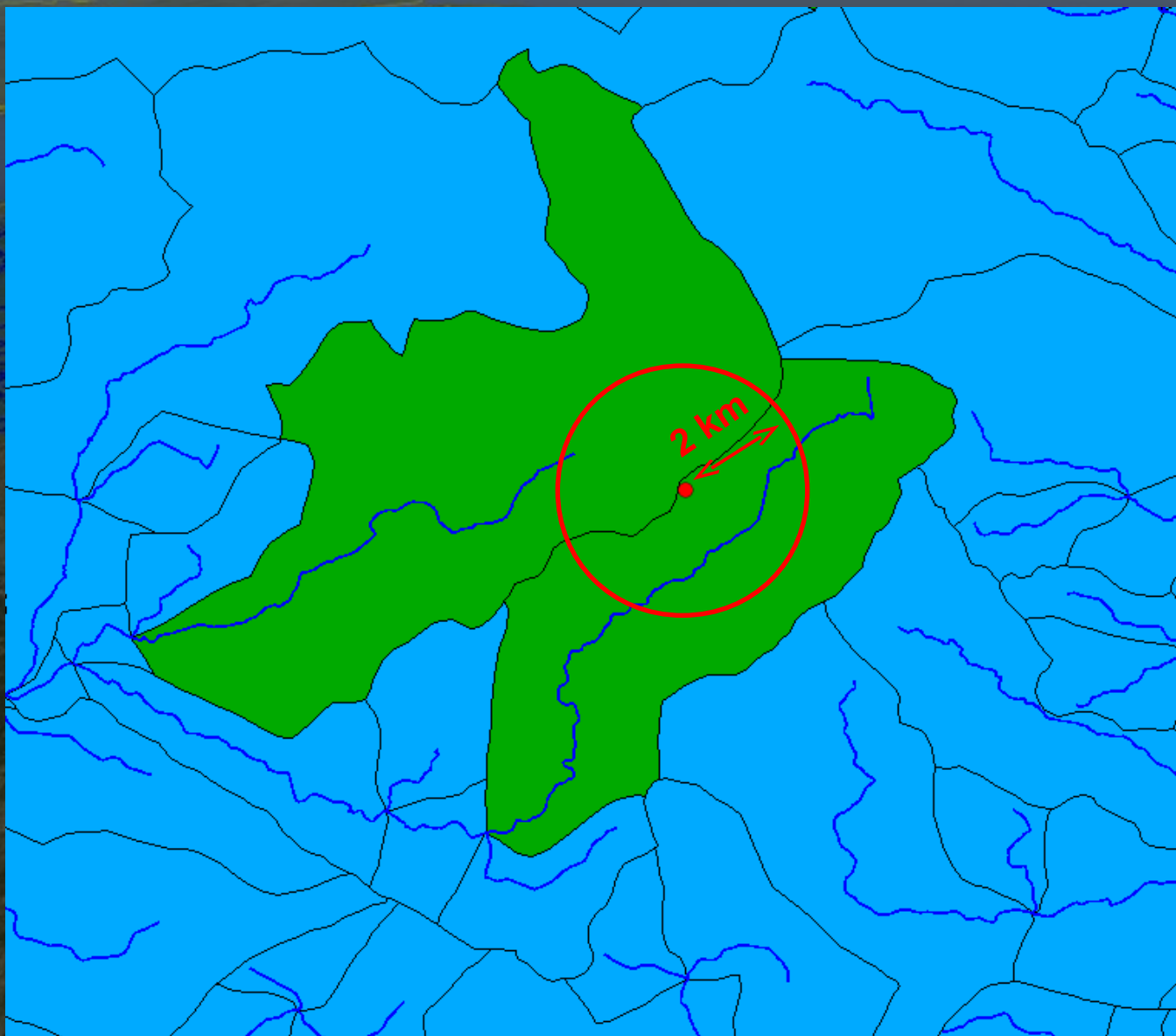
Les effets de la mise en place de la DERU vis-à-vis des **phosphates** dans le réseau hydrographique



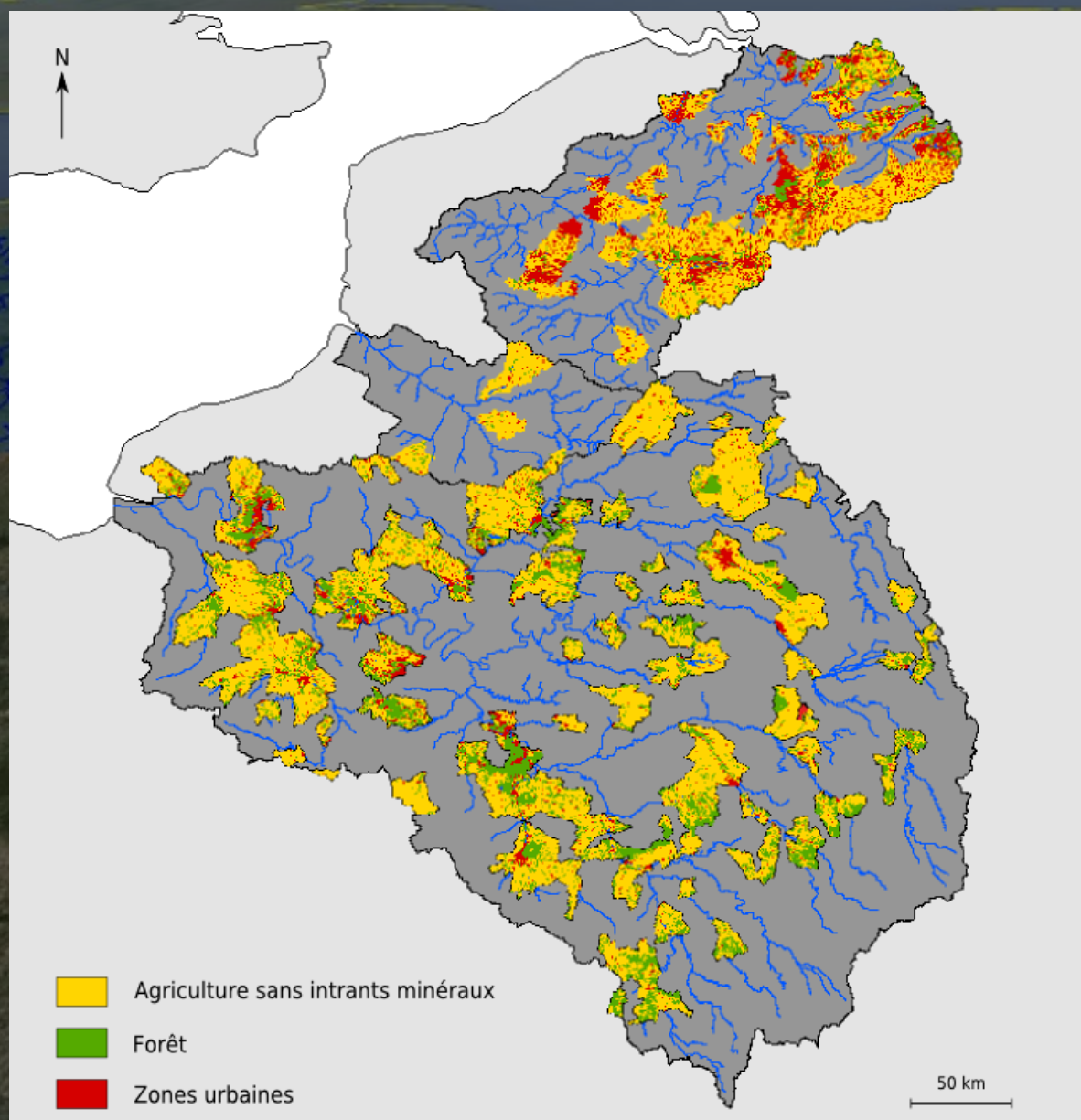
Les bassins d'alimentation de captage : une information encore fragmentaire

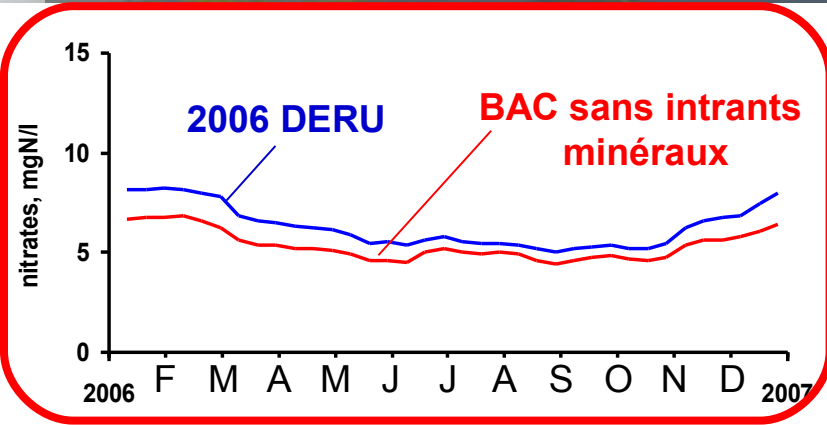


Quels bassins d'alimentation de captage retenir ?

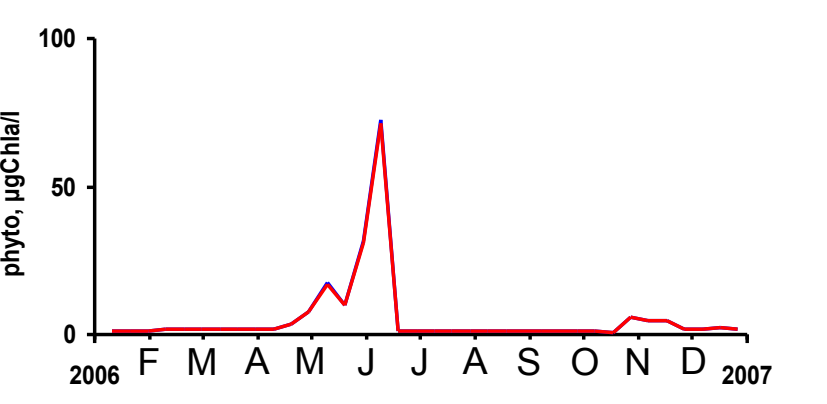
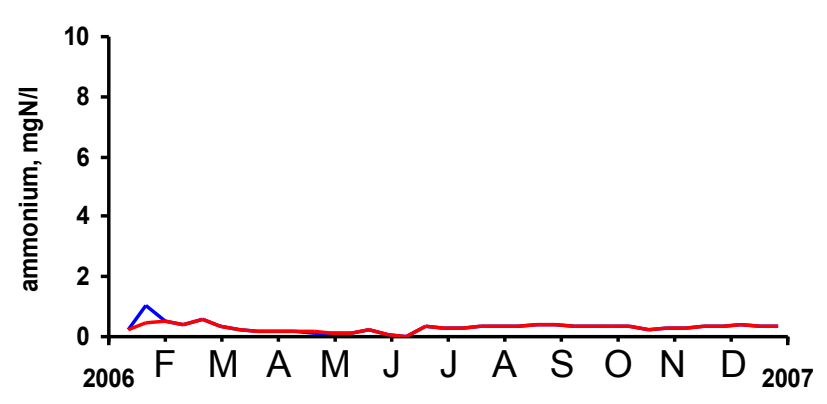
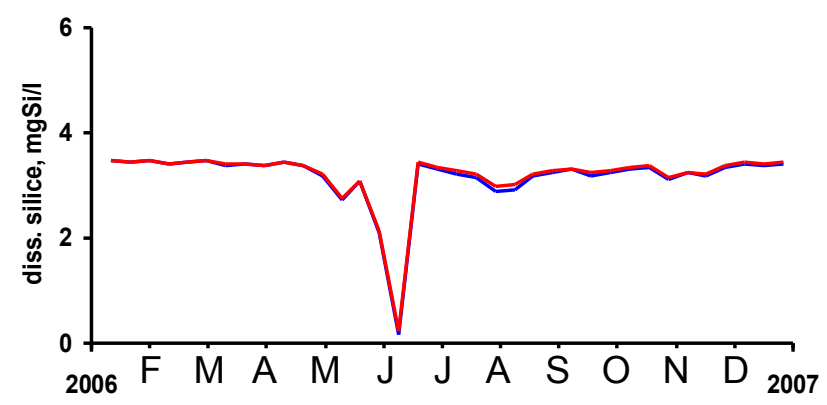
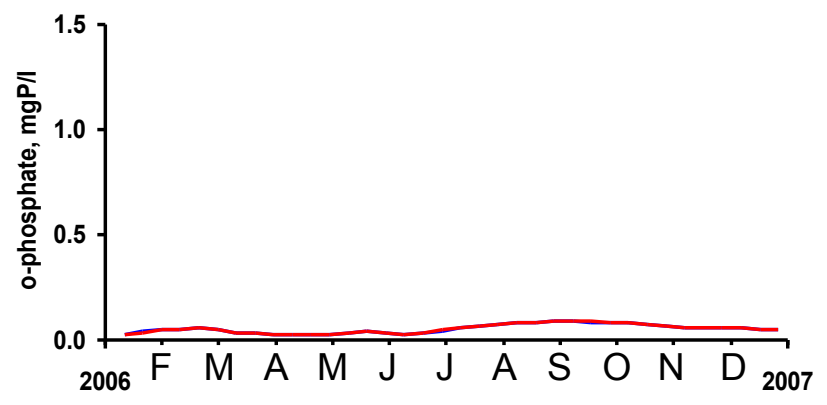


30 % du bassin en aire d'alimentation de captage

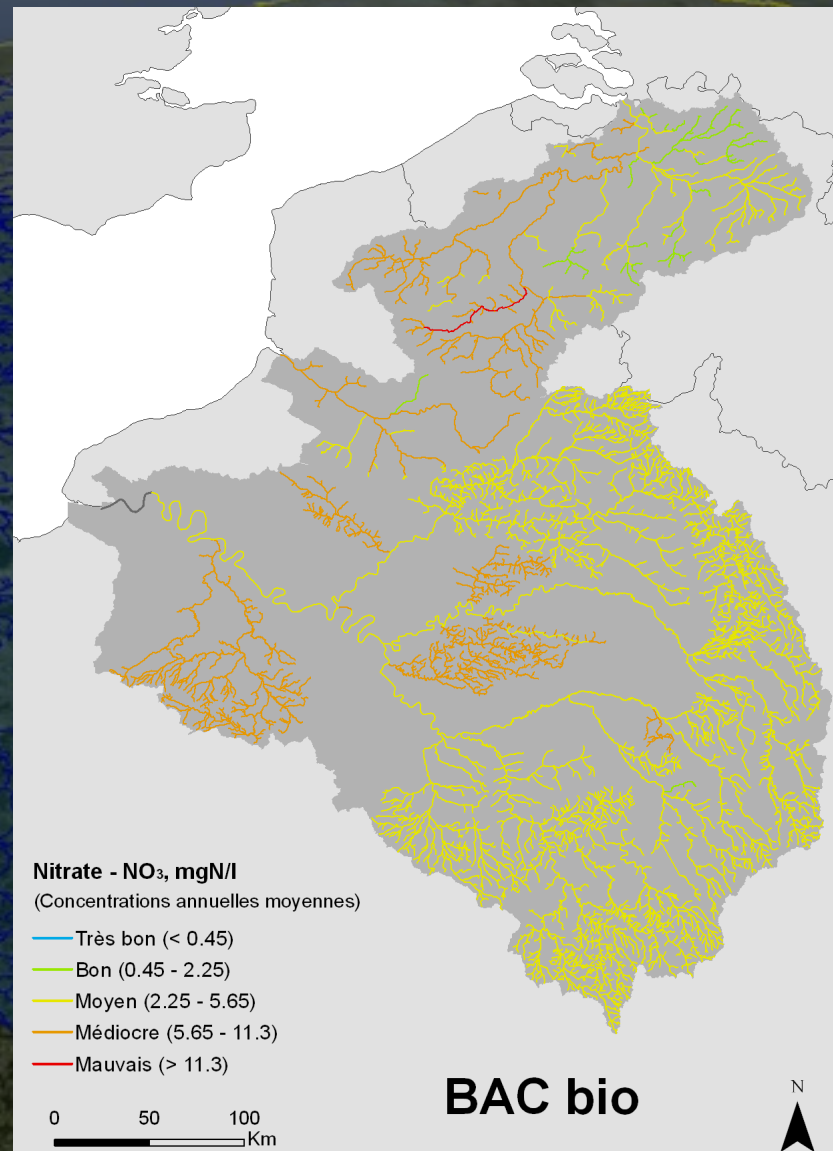
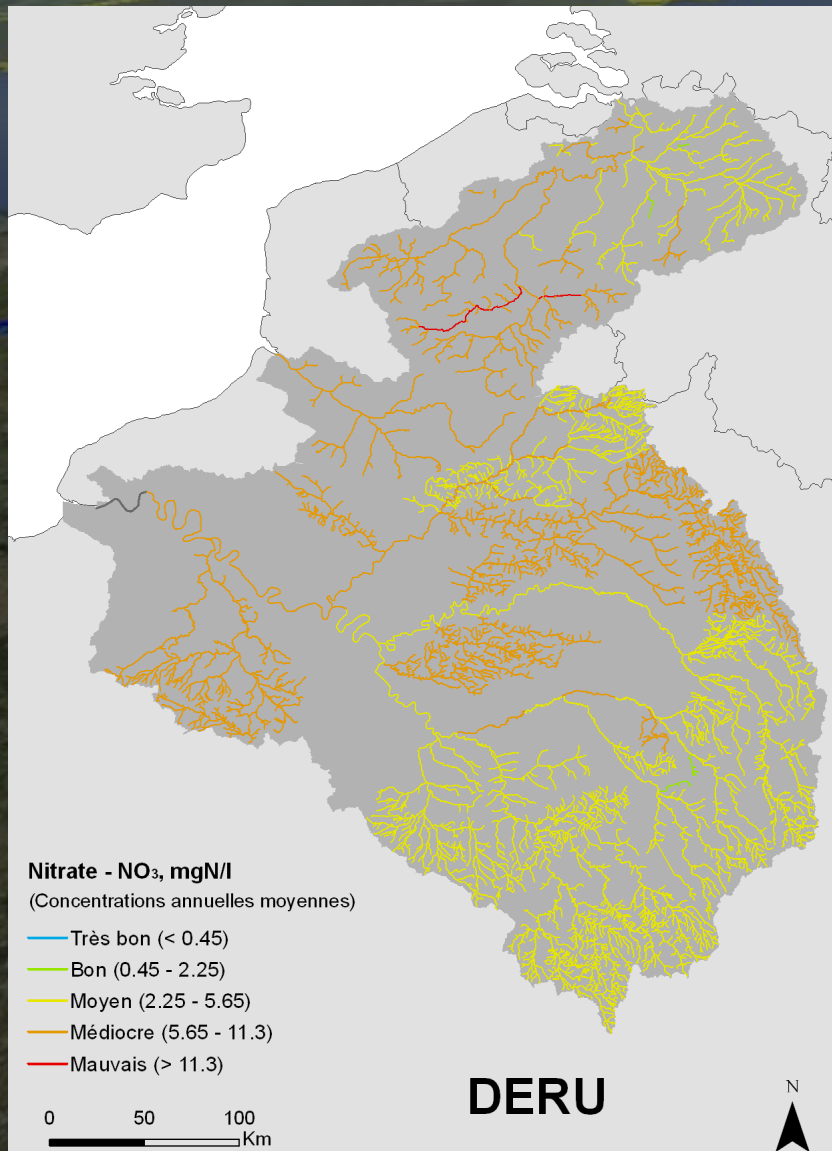




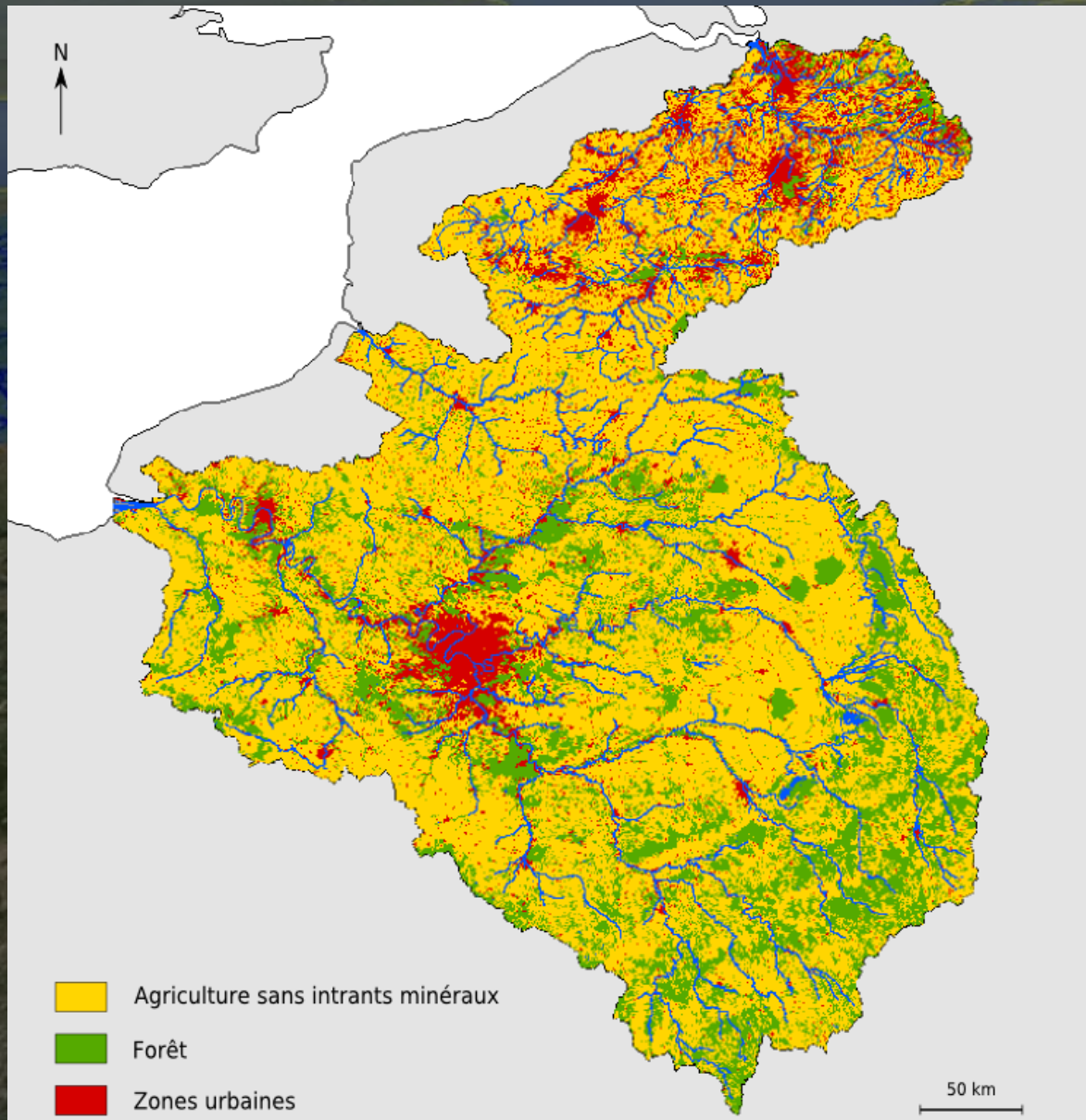
Diminution des nitrates
Les effets de la mise en place du Grenelle à Poses

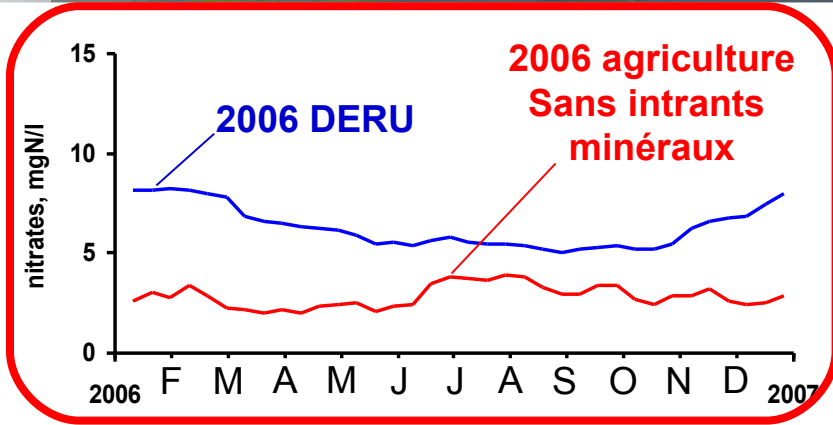


Les effets de la mise en place d'une agriculture sans intrants minéraux sur les BAC vis-à-vis des **nitrate**s dans le réseau hydrographique



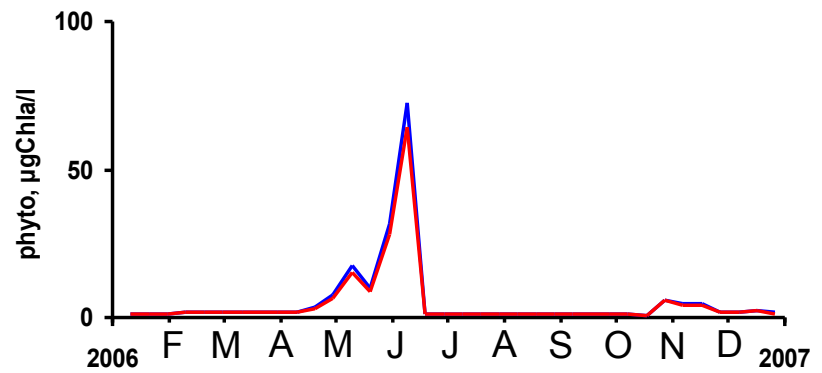
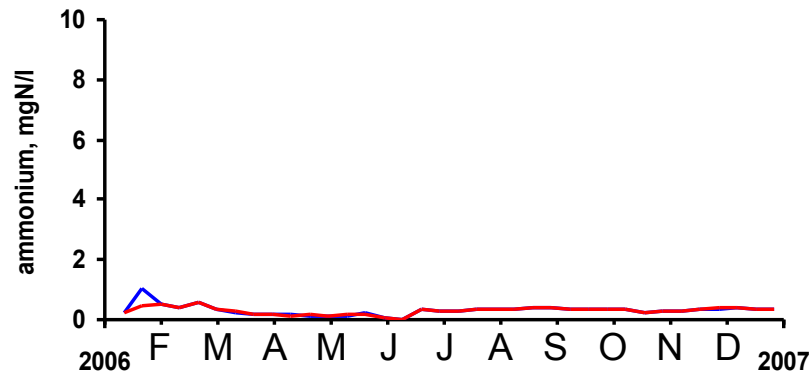
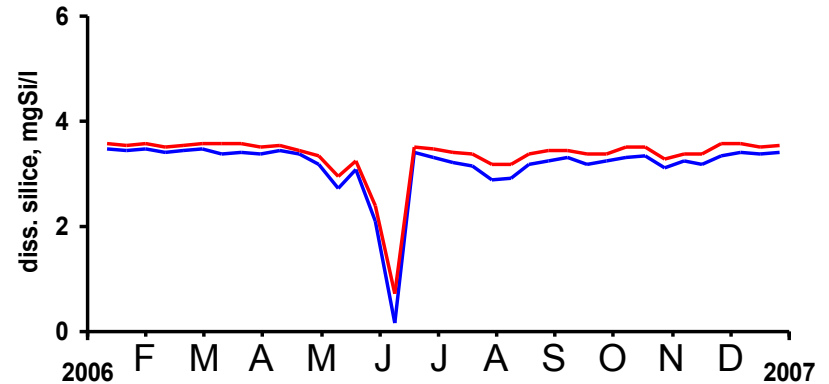
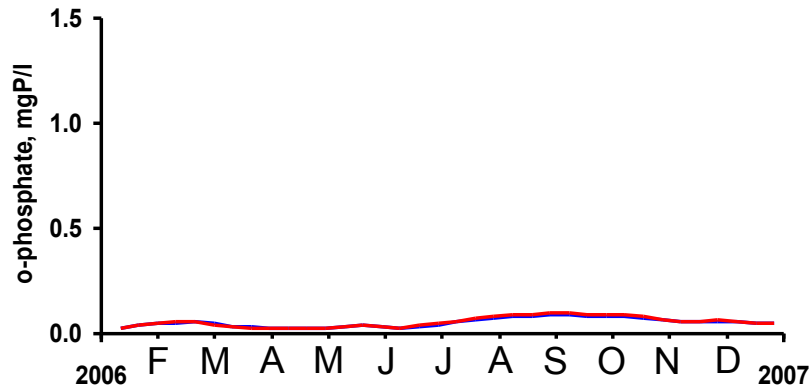
Une agriculture sans intrants minéraux
sur la totalité du bassin



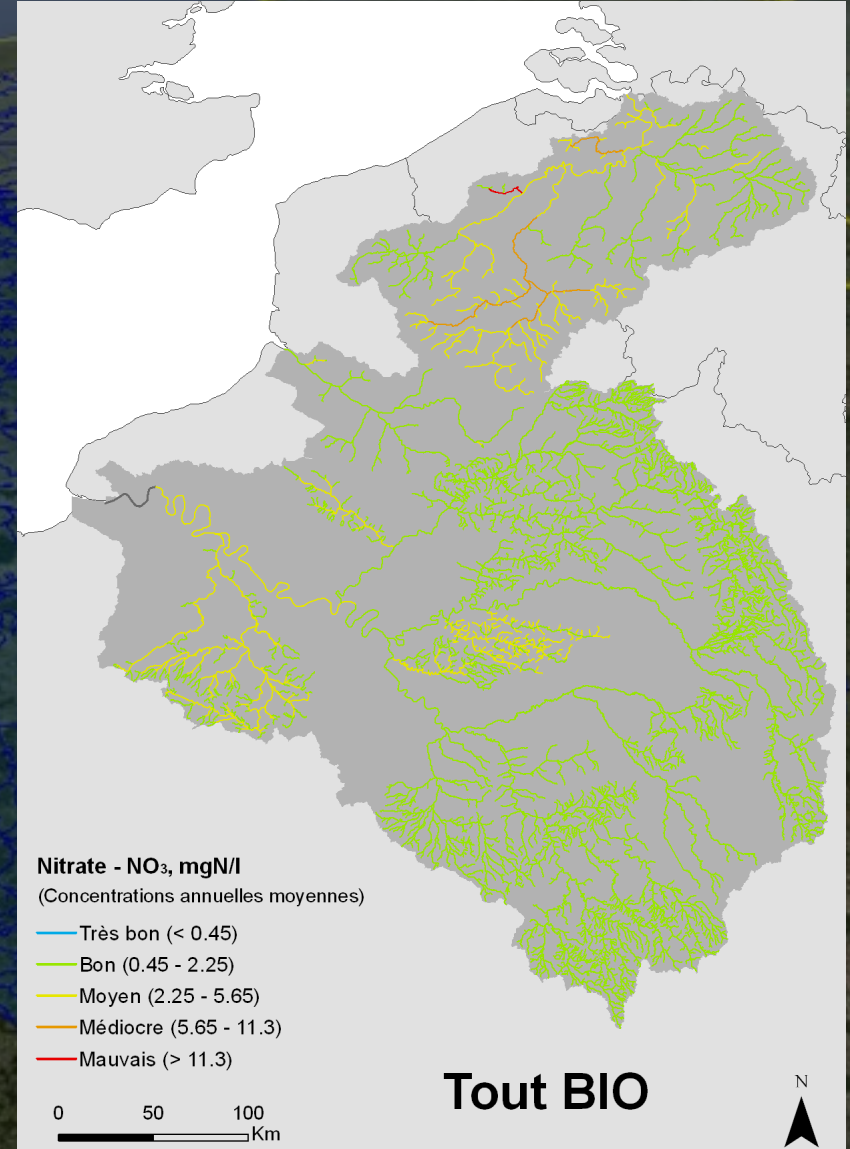
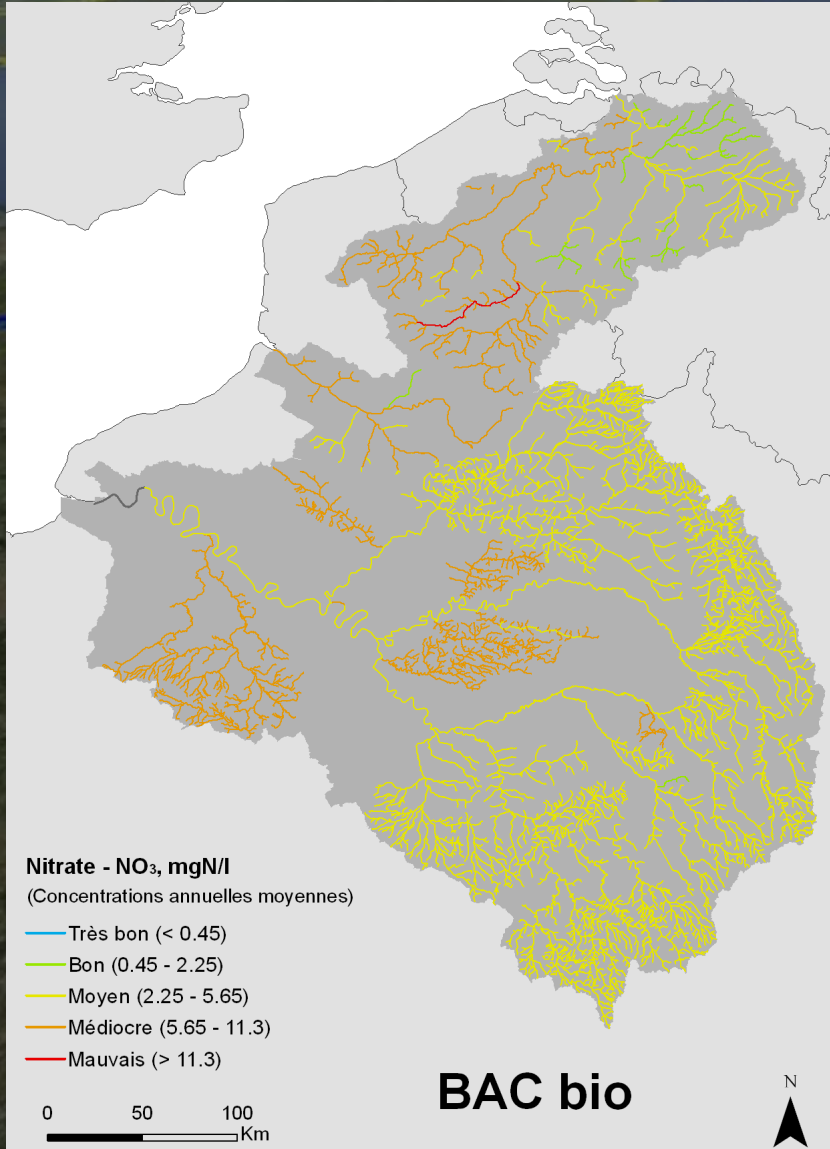


Forte diminution des nitrates

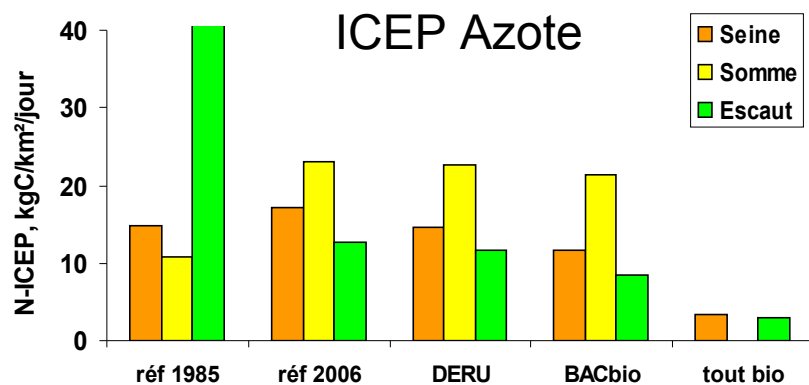
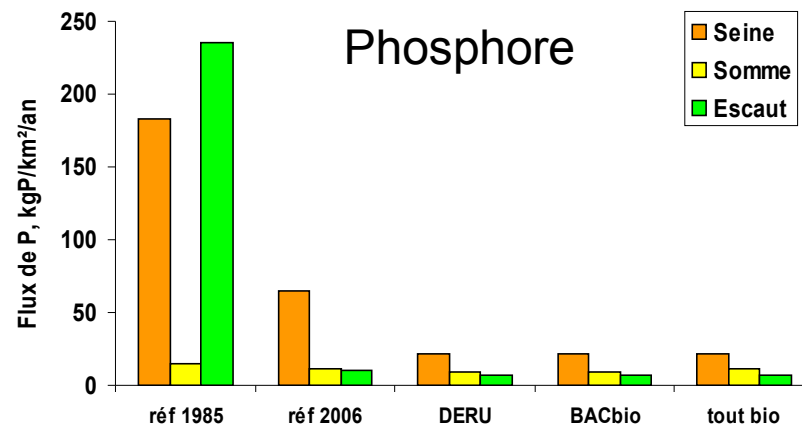
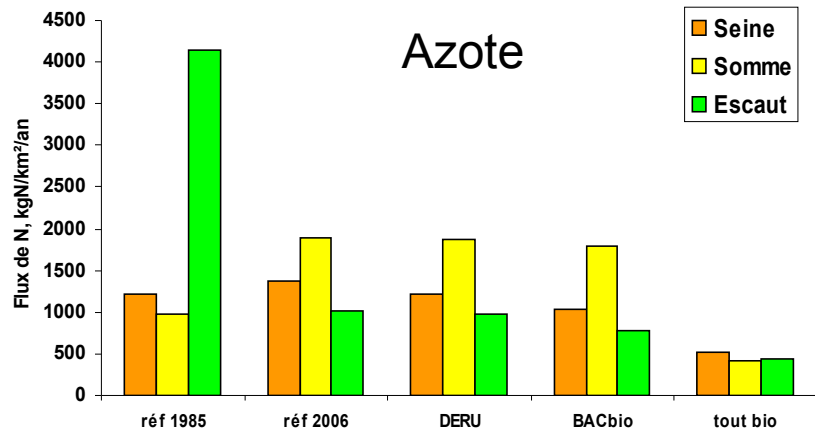
Les effets de la mise en place d'une agriculture sans Intrants minéraux sur tout le Bassin à Poses



Les effets de la mise en place d'une agriculture sans intrants minéraux vis-à-vis des **nitrate**s dans le réseau hydrographique



En termes de nutriments délivrés à la mer



Phosphore → **Problème (quasiment) résolu**

Nitrates → **Encore de (très) gros efforts**

Quelques questions ?

