

*Forcing for the Open Boundary Conditions & Runoff  
in ECOSUPPORT simulations*

Robinson Hordoir

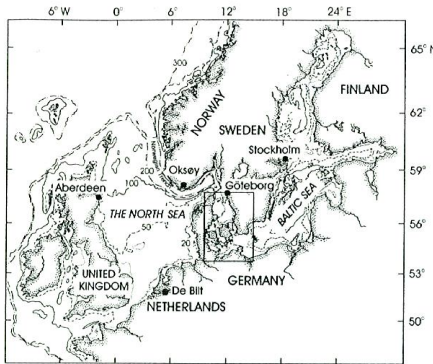
ECOSUPPORT Meeting, October 15<sup>th</sup> 2010



- 1 *The SSH at the Open Boundary Conditions in ECOSUPPORT*
- 2 *Runoff in ECOSUPPORT*

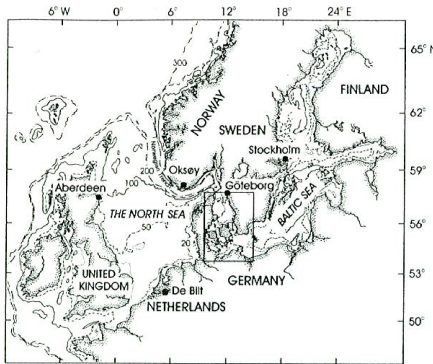
## Outline

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- 2 Runoff in ECOSUPPORT



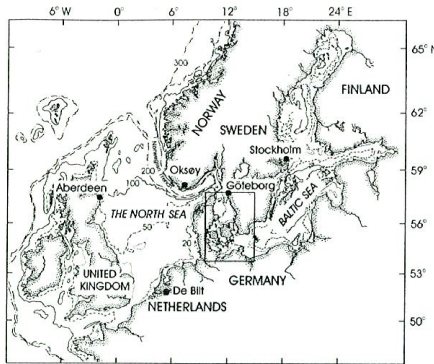
- Based on a statistical correlation between the meridional pressure gradient between two point of the North-Western European Shelf

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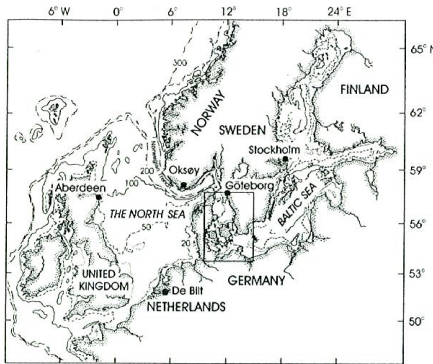
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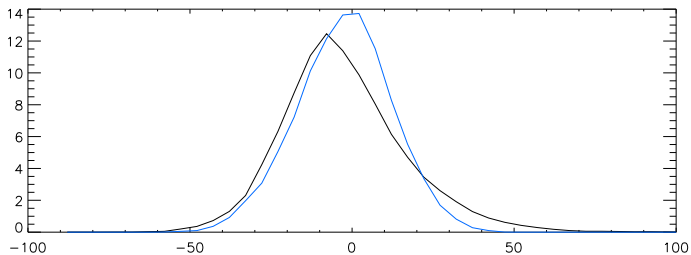
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- But it does not work...

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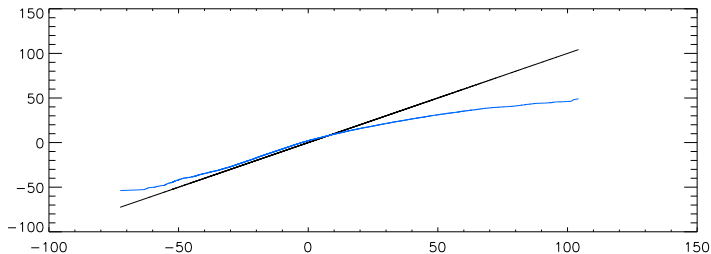
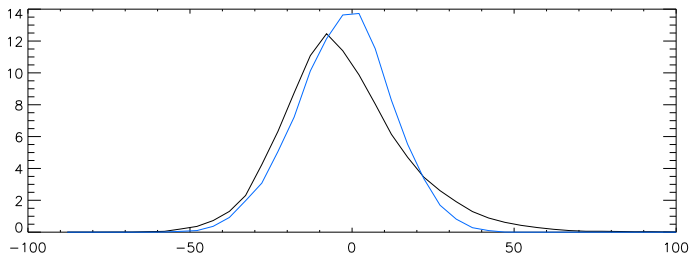
**Why ?**



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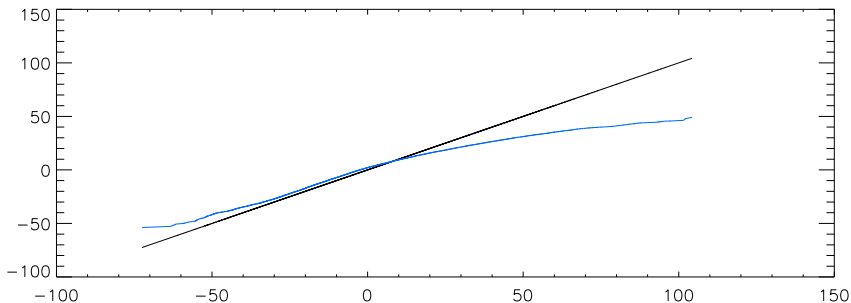
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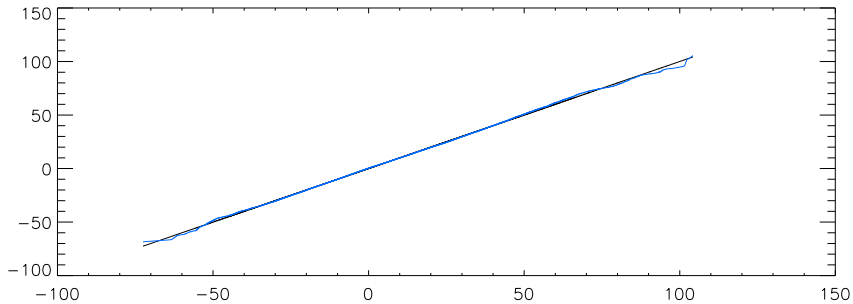


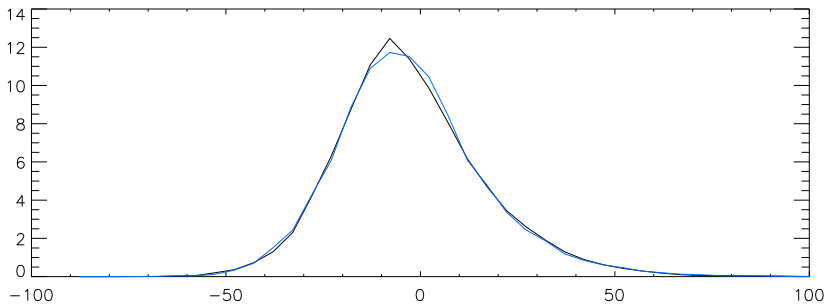
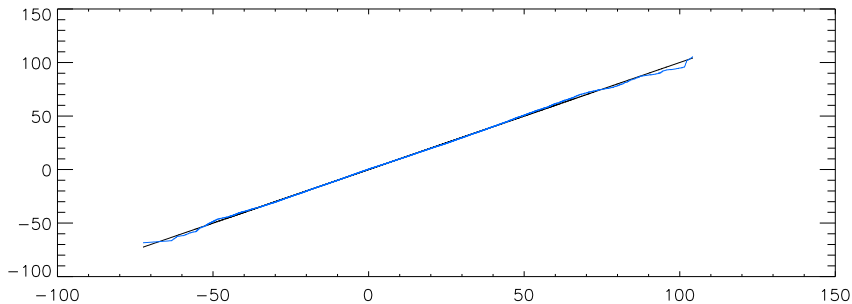
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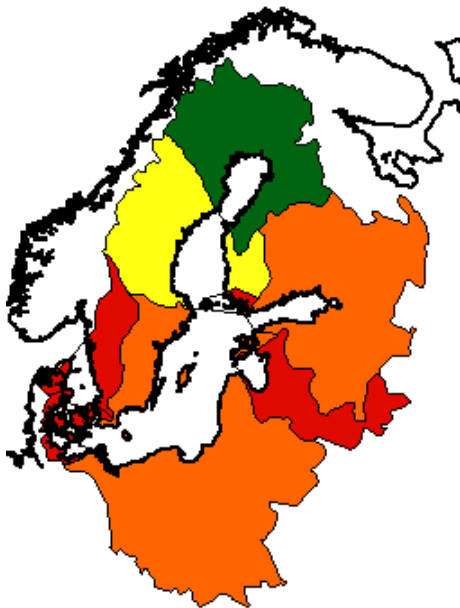


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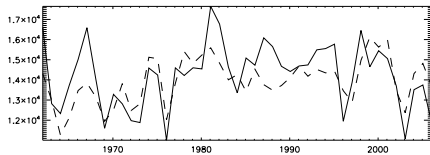
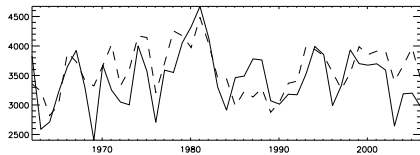
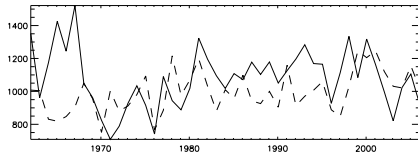
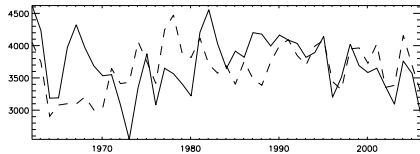
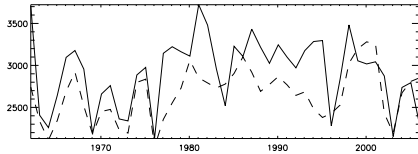
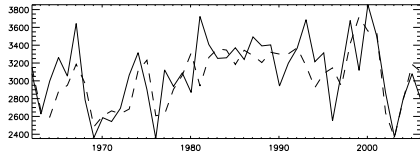
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- Using runoff  $R$  and net water budget  $B$  data for the period 1980-2006 computed from ERA 40 downscaled simulations over the area, one can determine  $b_p$  and  $a_p$  for each drainage basin  $p$  thanks to an optimisation method

$$R_{p,n} = b_p B_{p,n-1} + a_p B_{p,n}$$



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- However, this method assumes that the  $P - E$  variability over the drainage area is well represented
- Therefore there is a very high degree of uncertainty in this estimation, although the method is correct