

Annex 6H

Model Results for Second Phase Operation Scenario (Temperature Difference)

6H1 *MODEL RESULTS FOR THE OPERATION SCENARIO (TEMPERATURE DIFFERENCE)*

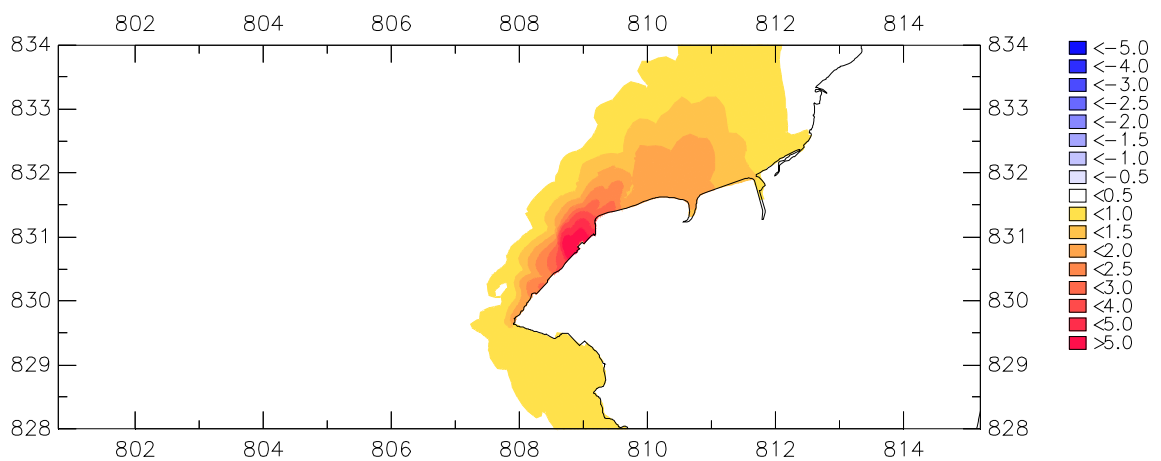
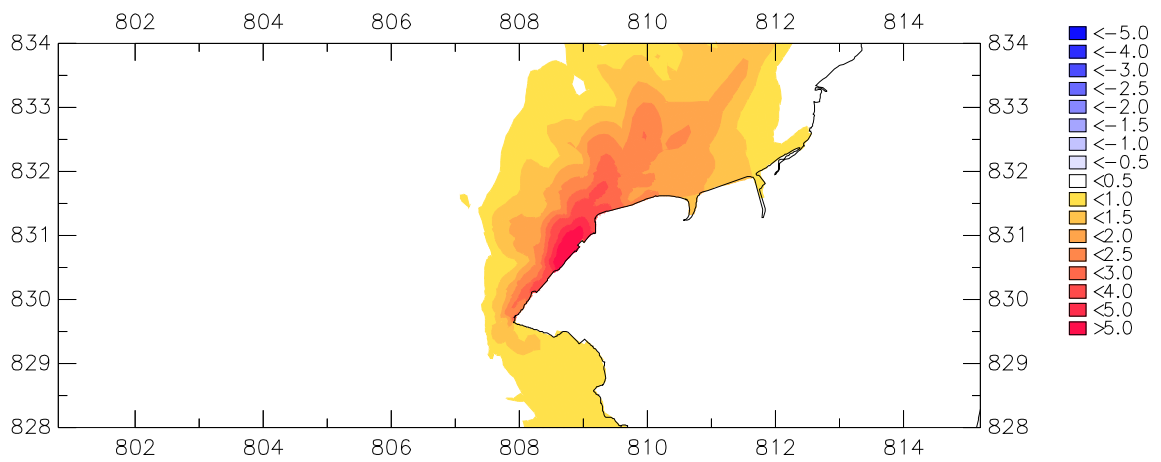
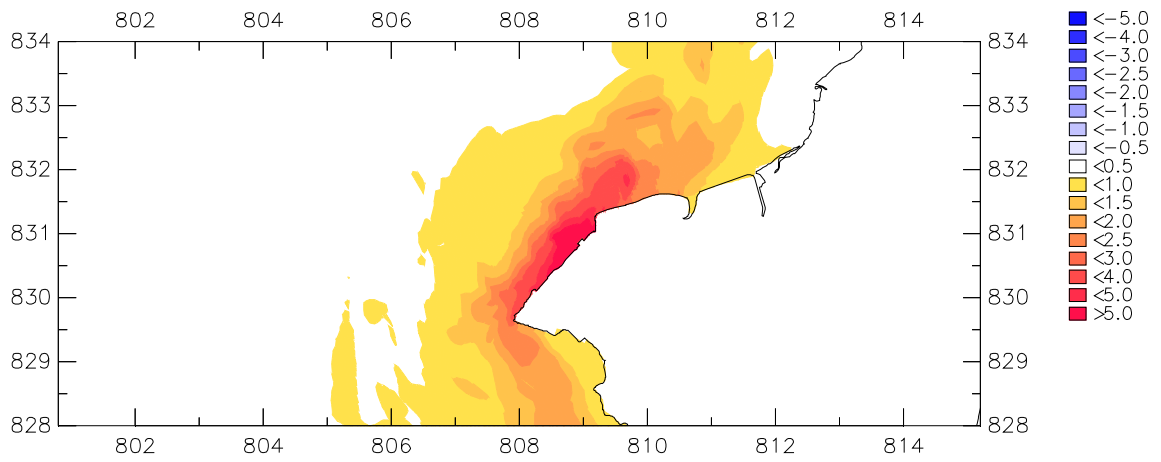
6H1.1 *NOTES ON MAXIMUM TEMPERATURE DIFFERENCE PLOTS*

The presented maximum differences plots have been obtained by the following steps:

- (1) determine the difference between the simulated temperature under operational conditions and the simulated temperature under baseline conditions, for every grid cell during a spring-neap-cycle, with a 1 hour interval;
- (2) determine the extreme value of this difference for every grid cell during the whole spring-neap-cycle (this is the difference with the largest absolute value, either positive or negative), at any time during the simulation;
- (3) plot these values.

The plots have been produced to obtain an impression of the maximum impact rather than the mean impact. The results present a patchy image, reaching out over relatively large areas. This is caused by the fact that the baseline simulation shows strong temperature gradients, both in space and in time, primarily due to the BPPS discharge, but also due to natural temperature gradients in the area. The relatively small GRS, causes small shifts in the larger scale temporal and spatial patterns, which result in occasional temperature changes at larger distances from the GRS. Such results are not uncommon for cases like the present case.

It is noted that where the maximum differences plots show positive values at larger distances from the GRS, these are compensated by negative values (with a smaller absolute value) at other moments, since the average difference plots do not show significant values at larger distances from the GRS. A similar argument holds for negative values at larger distances from the GRS. Hence, the maximum differences plots turn out to be of limited relevance for characterising the impact of the GRS. At this point we do not see another more representative way to obtain an impression of the maximum impact.

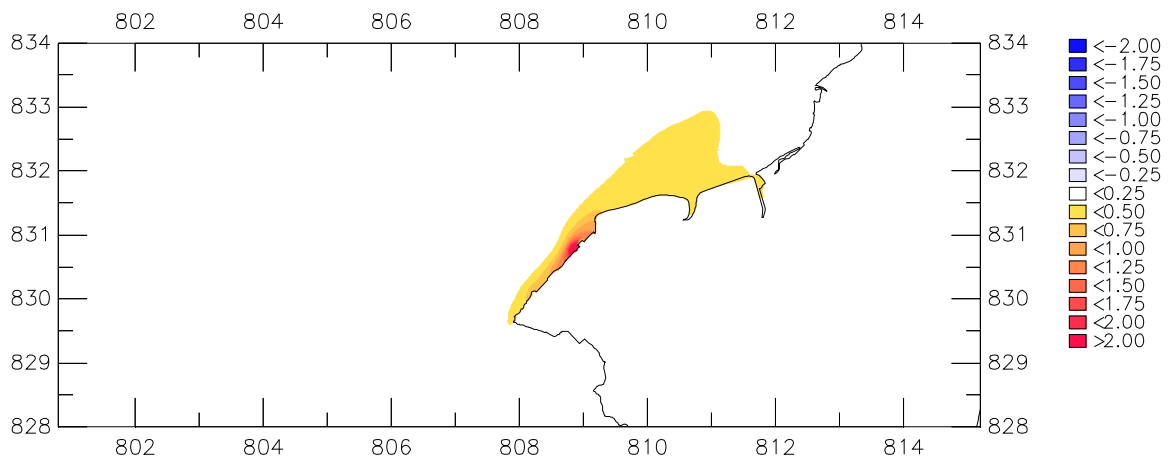
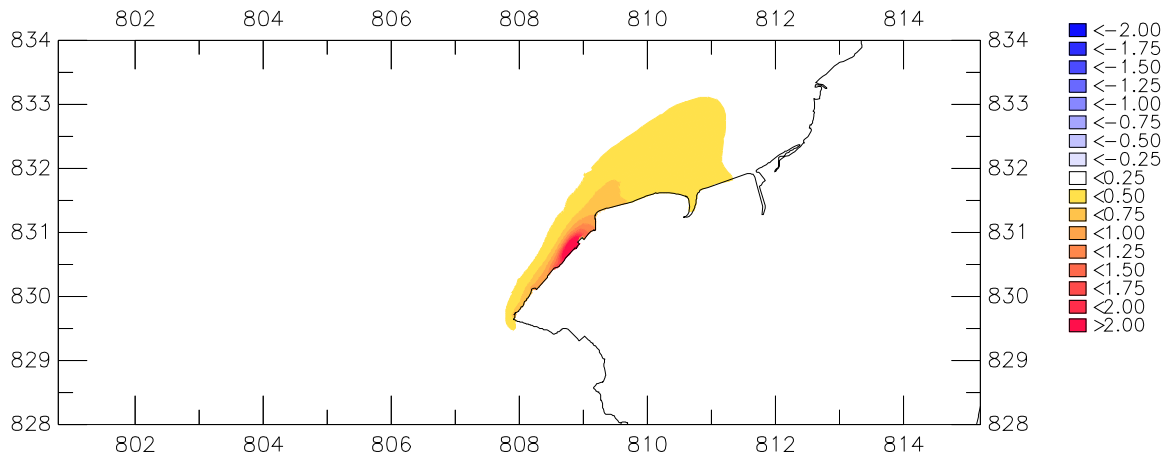
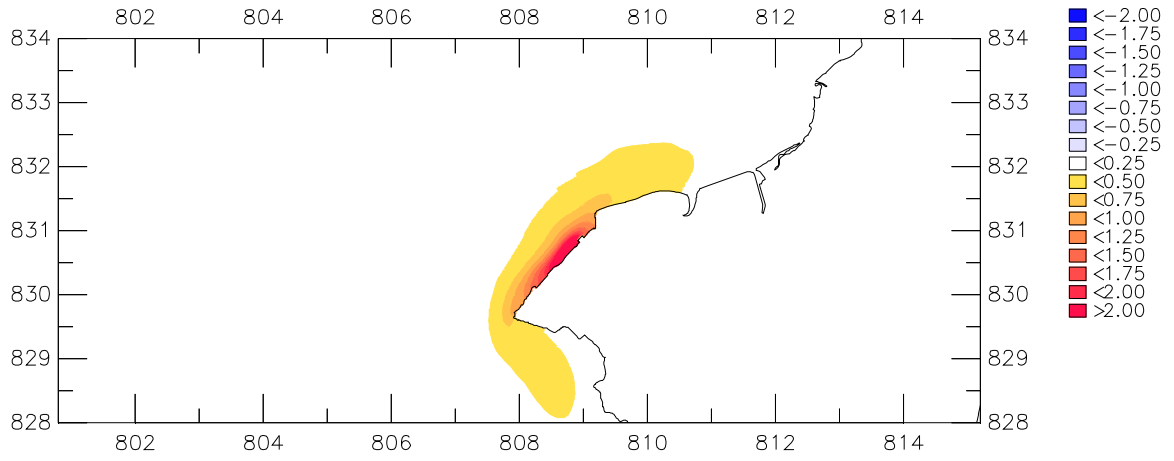


Impact of GRS/2 + BPPS on water temperature
 Maximum temperature difference (deg.C)
 Surface (upper), Middle (middle), Bottom (lower)

Dry Season

DELTARES – ERM

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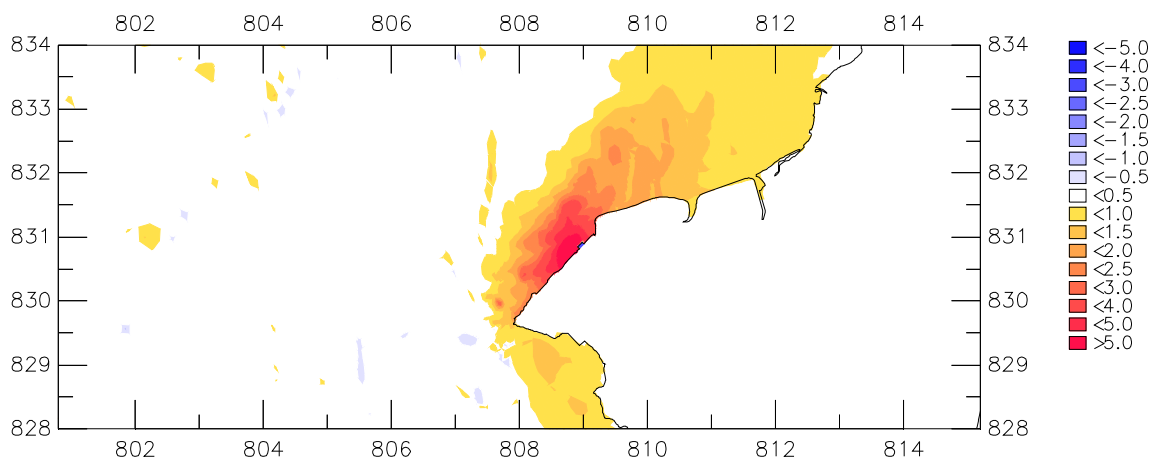
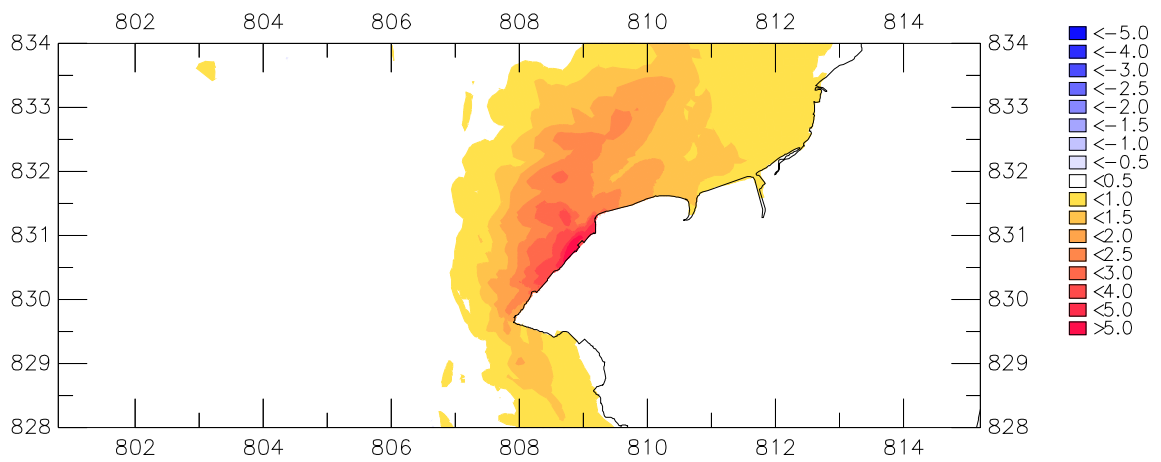
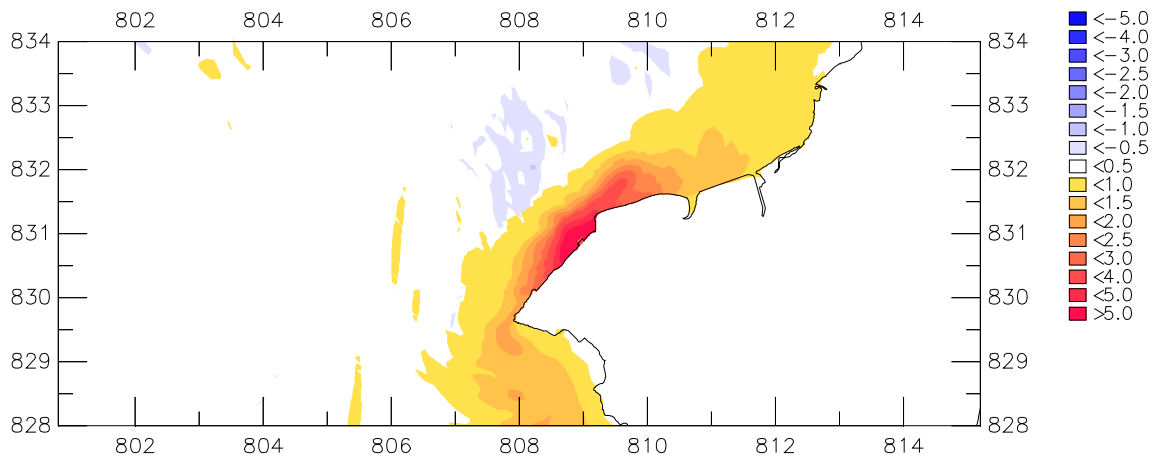


Impact of GRS/2 + BPPS on water temperature
 Mean temperature difference (deg.C)
 Surface (upper), Middle (middle), Bottom (lower)

Dry Season

DELTARES – ERM

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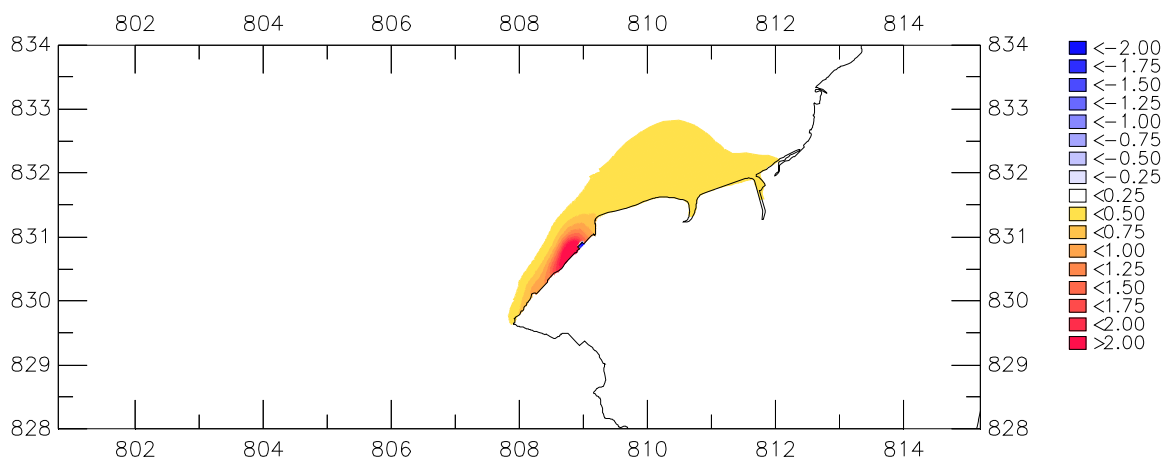
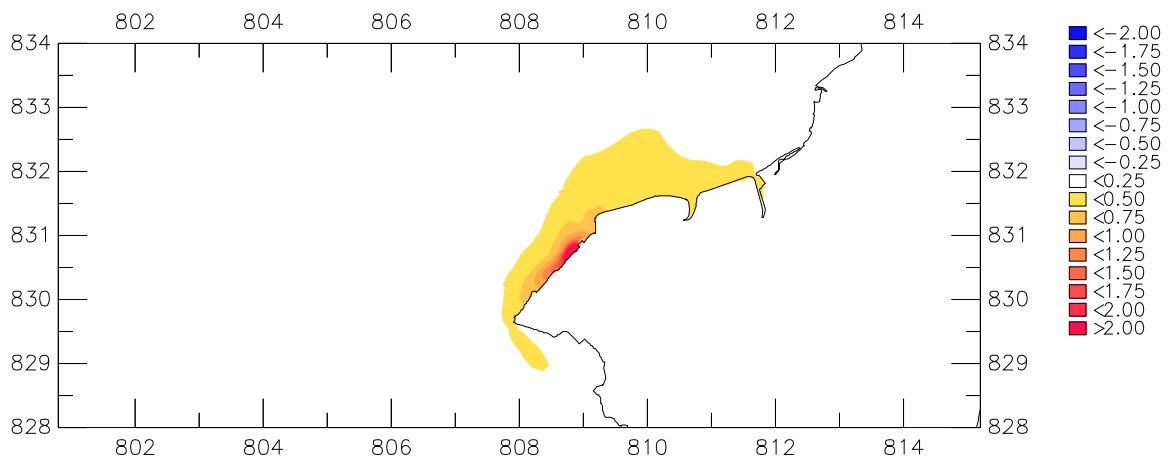
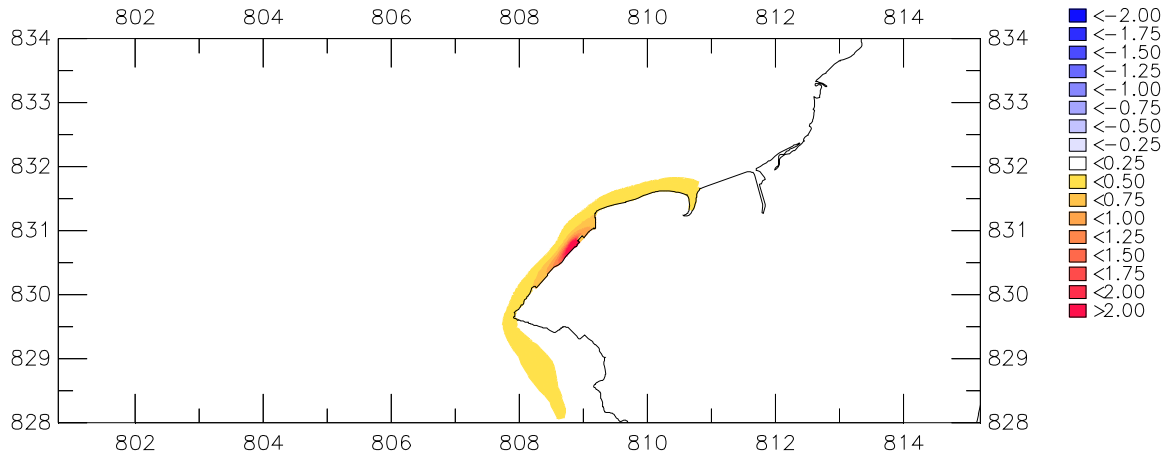


Impact of GRS/2 + BPPS on water temperature
 Maximum temperature difference (deg.C)
 Surface (upper), Middle (middle), Bottom (lower)

Wet Season

DELTARES – ERM

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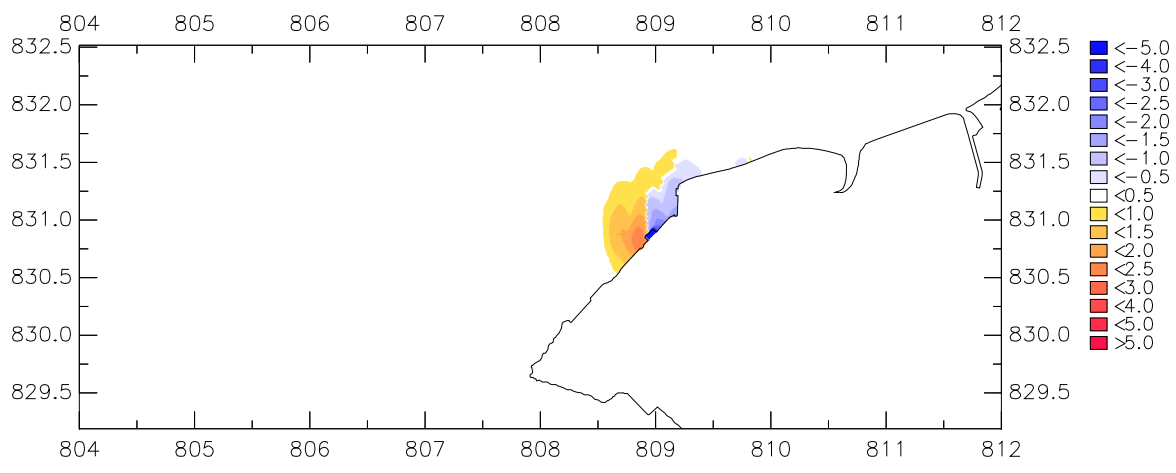
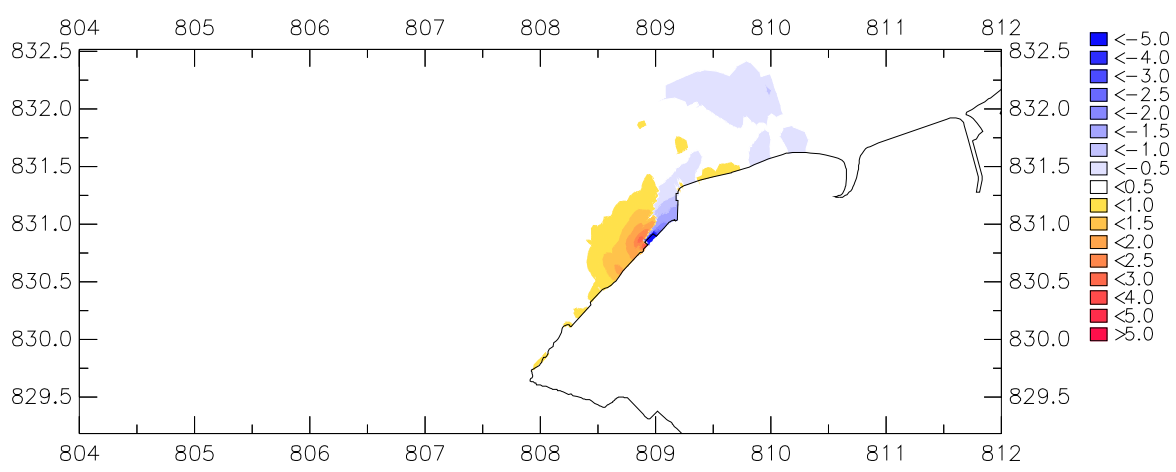
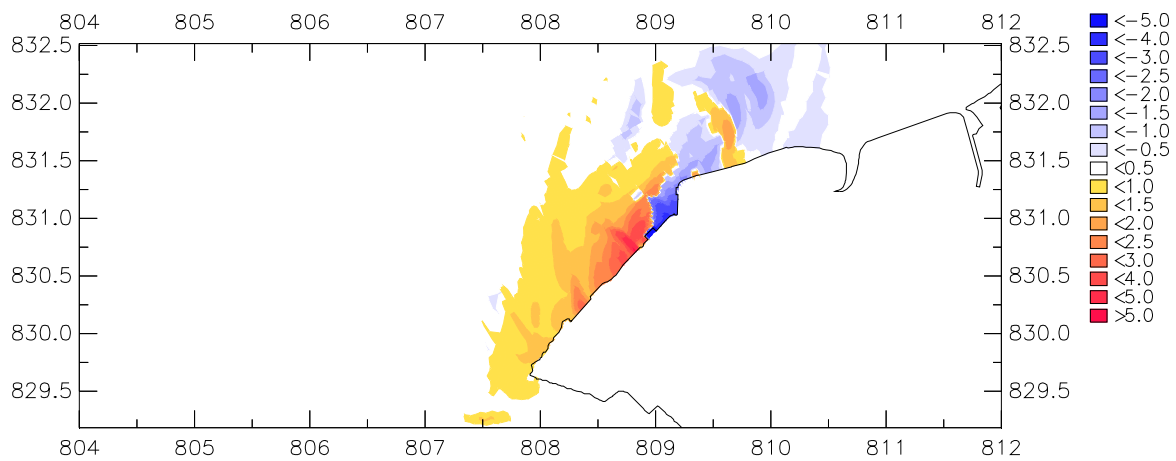


Impact of GRS/2 + BPPS on water temperature
 Mean temperature difference (deg.C)
 Surface (upper), Middle (middle), Bottom (lower)

Wet Season

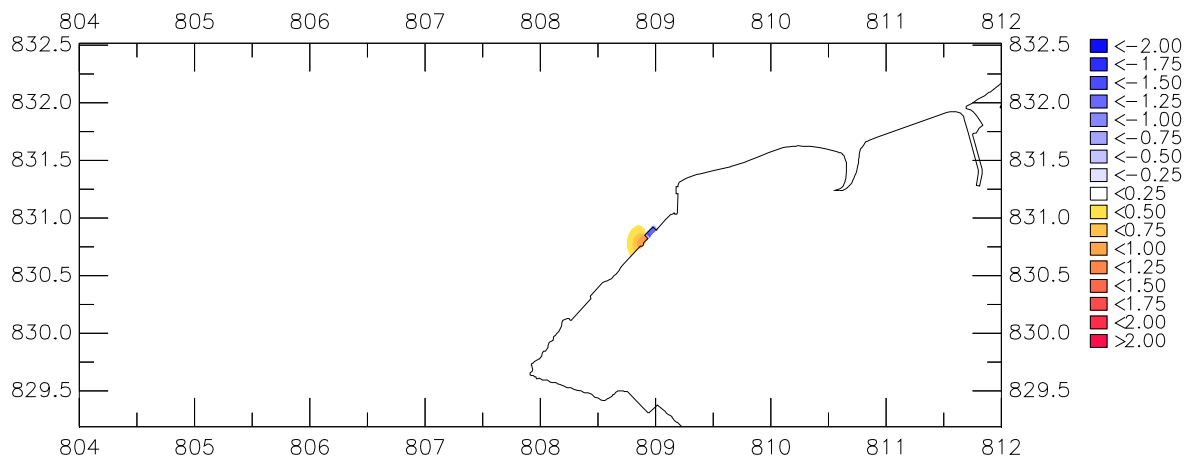
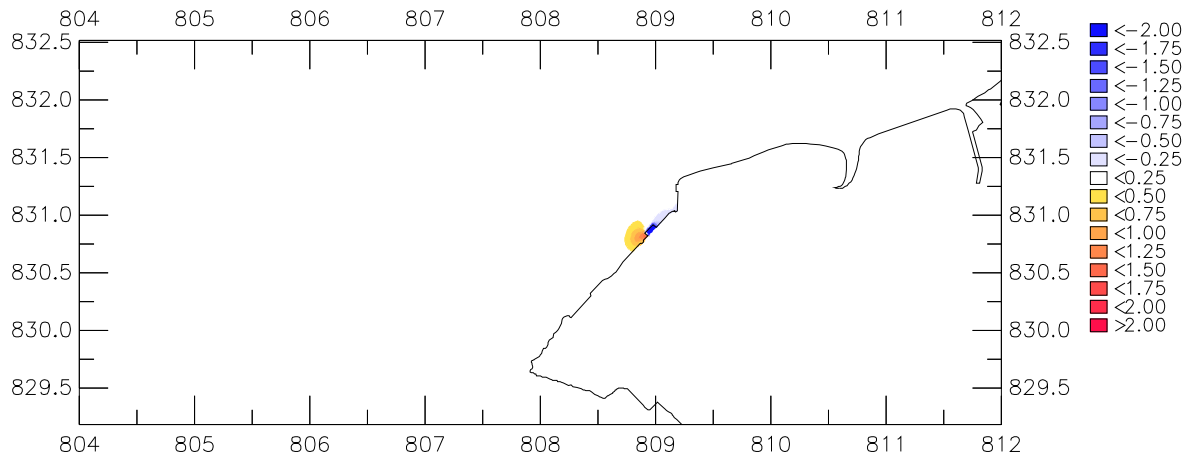
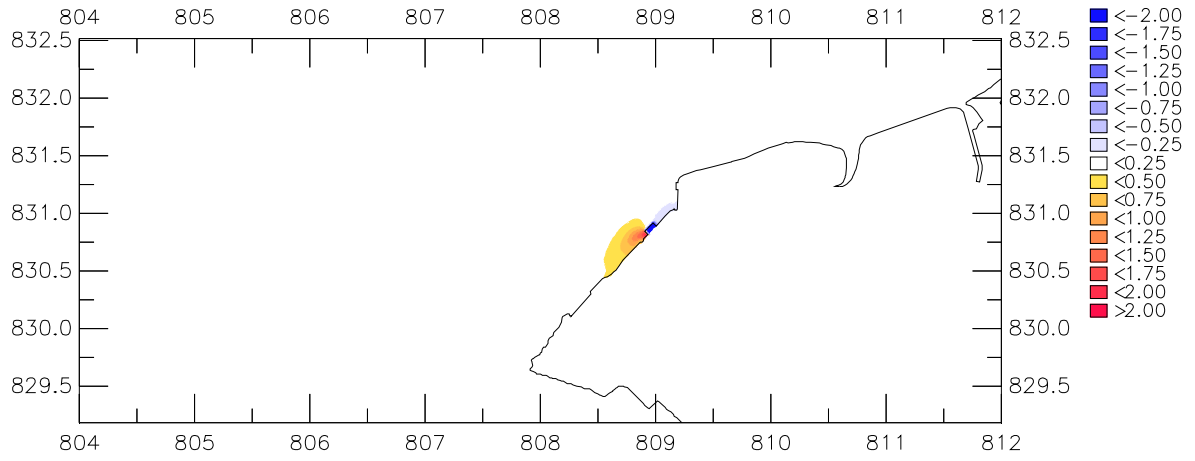
DELTARES – ERM

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Impact of GRS case 2 on water temperature		
Maximum temperature difference (deg.C)	Dry Season	
Surface (upper), Middle (middle), Bottom (lower)	1200071	

DELTARES – ERM

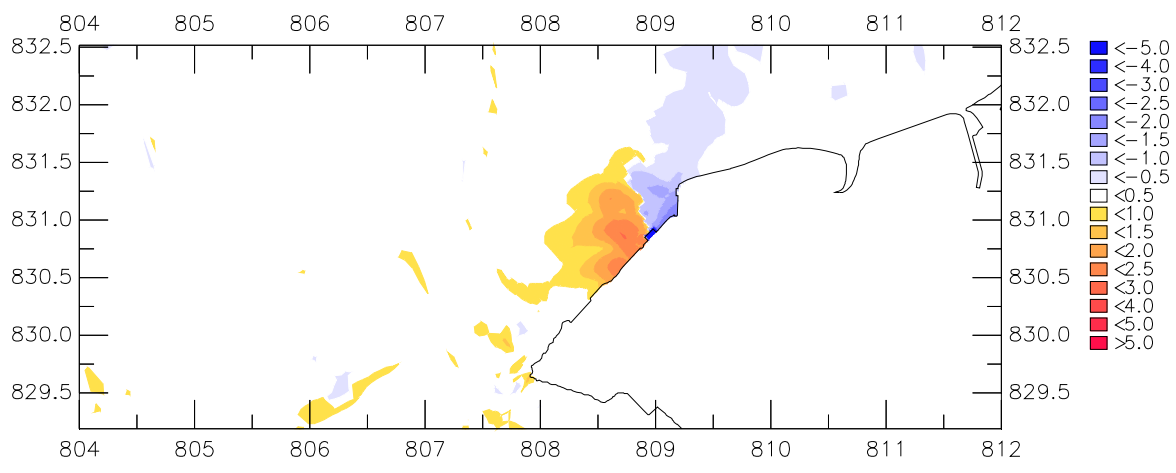
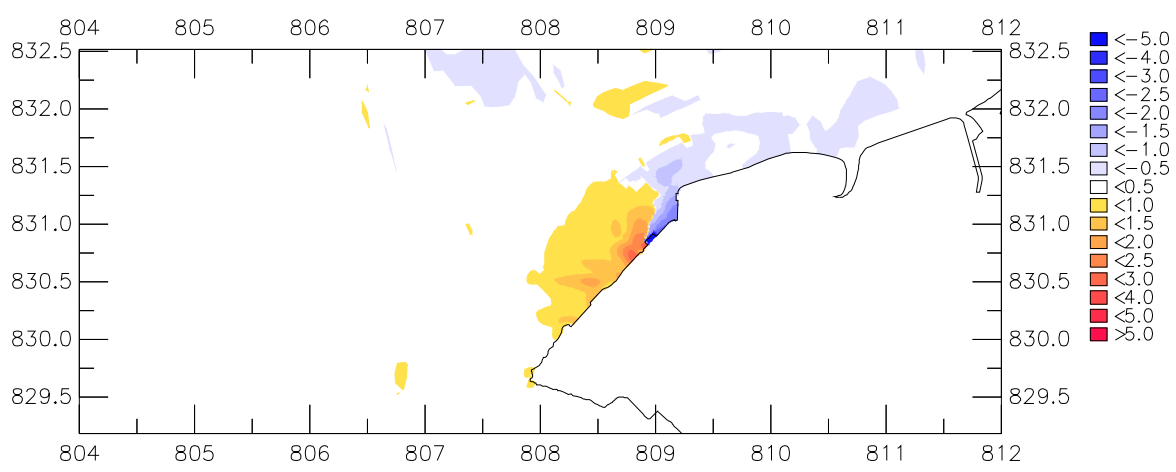
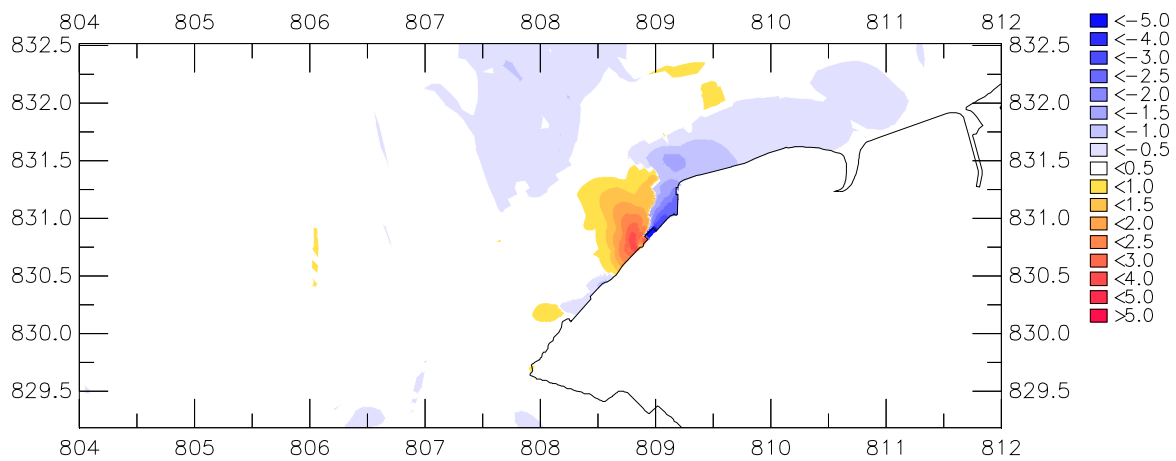


Impact of GRS case 2 on water temperature
 Mean temperature difference (deg.C)
 Surface (upper), Middle (middle), Bottom (lower)

Dry Season

DELTARES – ERM

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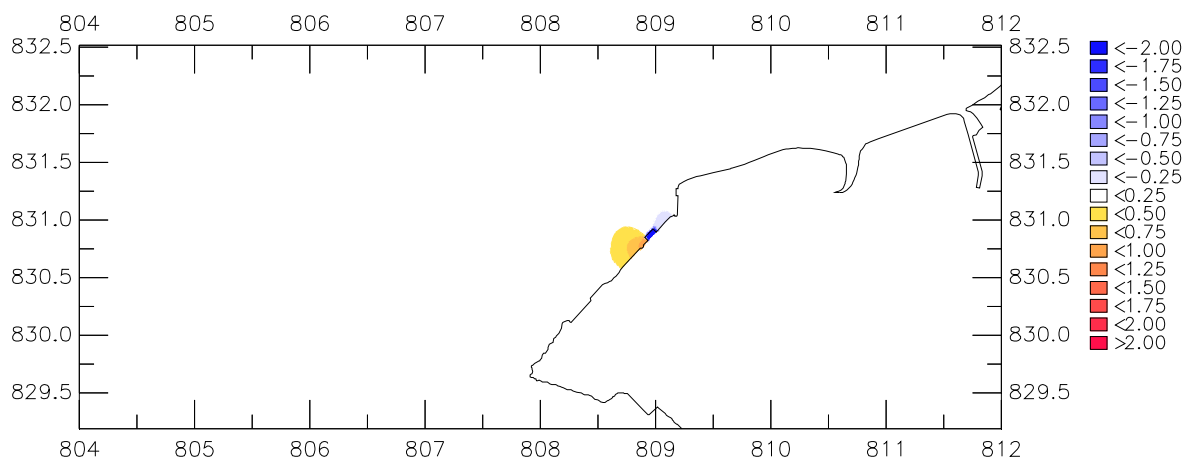
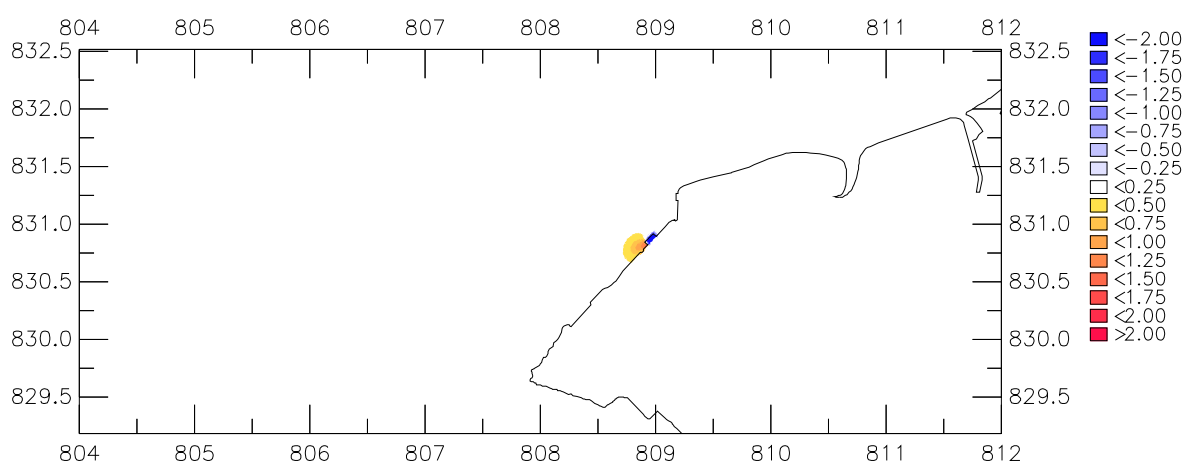
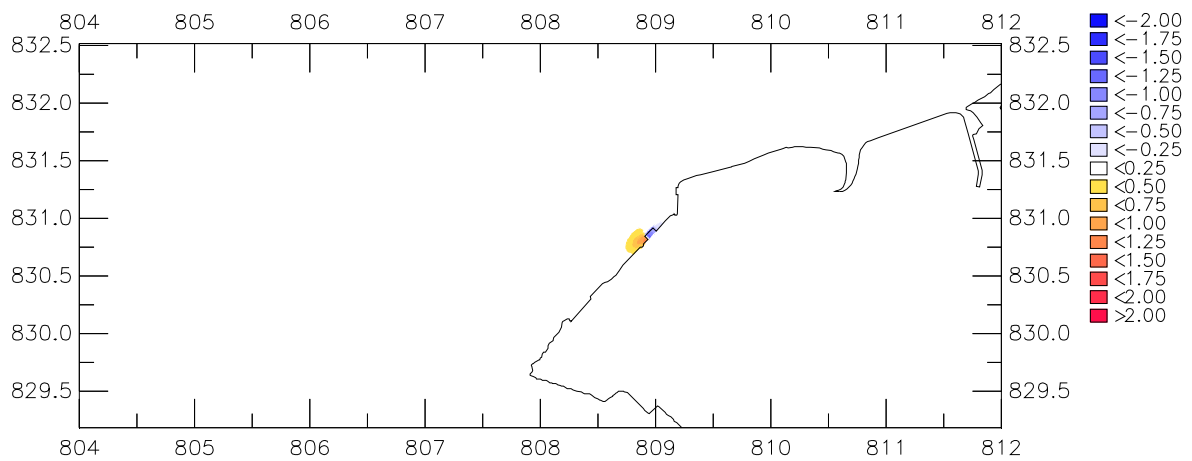


Impact of GRS case 2 on water temperature
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Wet Season

DELTARES – ERM

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Impact of GRS case 2 on water temperature		
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DELTARES – ERM		1200071