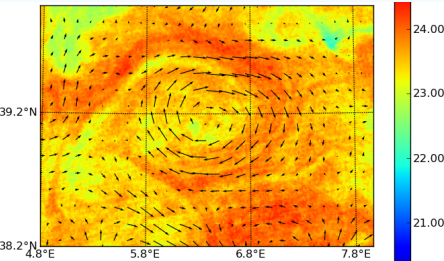


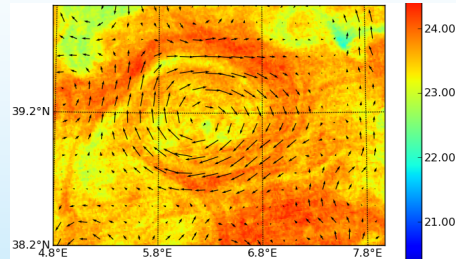
Correction of Aviso velocity using Osmium, first tests

April 4, 2011

Comparison between Aviso velocity and the corrected one

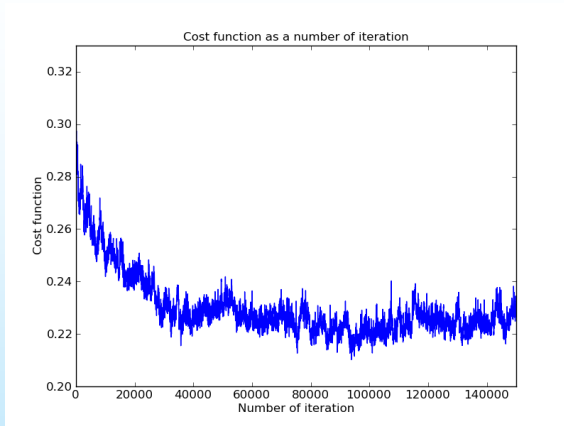


*Aviso velocity, June 30, 2004,
cost function: 0.33*



*Corrected velocity, cost function: 0.23,
number of iterations: 30000*

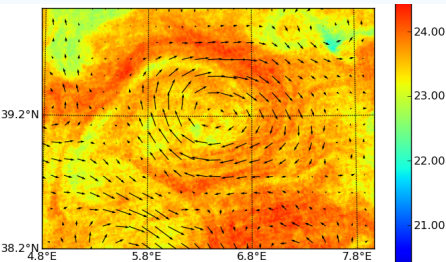
Cost function as a function of the number of iterations



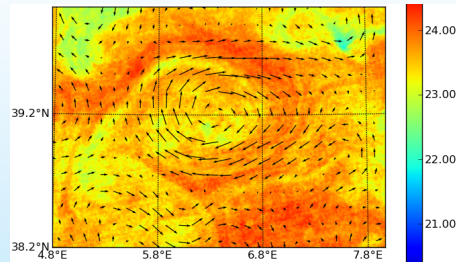
Cost function as a function of number of iterations

The cost function has many local minimum, We can't be sure that the simulated annealing algorithm finds the best solution.

Corrected velocities, test 1 (1/2)

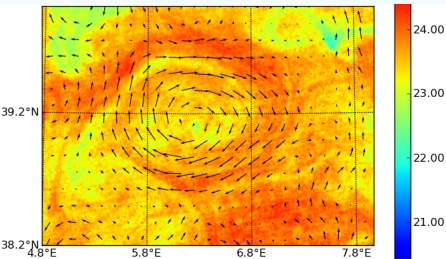


Corrected Velocity after 10 000 iterations

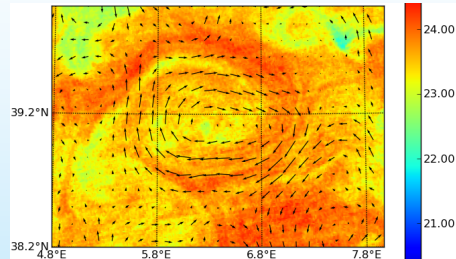


Corrected velocity, after 20 000 iterations

Corrected velocities, test 1 (2/2)

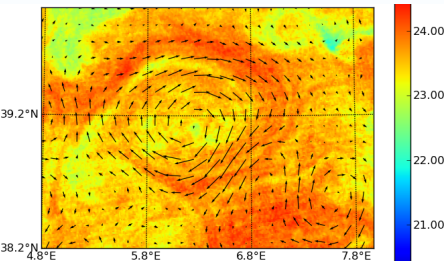


Corrected Velocity after 30 000 iterations

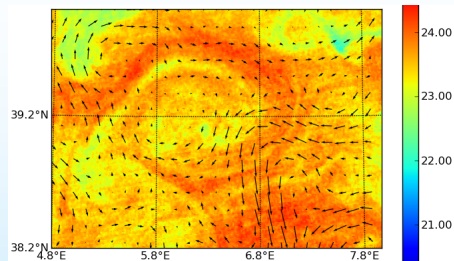


Corrected velocity, after 57 000 iterations

Corrected velocities test2



Corrected Velocity after 10 000 iterations



Corrected Velocity after 80 000 iterations

In this second test, the final corrected velocity is totally different from the Aviso velocity.

The corrected velocity found after 10 000 iterations seems more accurate than the one found after 80 000 iterations.

Conclusion

As the number of iterations increases, the difference between the corrected velocity and the Aviso velocity becomes too important. We must take into account the fact that Aviso velocity is not totally inaccurate. Therefore it is necessary to add a term representing the Aviso velocity pattern in the cost function.