Hi all,

Thanks for all the suggestions.

Looks like more complex methodologies like machine learning are used for arrays of moorings, where information can be drawn from a moorings nearby which we not have in our case.

For instrument failure at EB1, lowest, 6-deployment period:

I 10d-lp-filtered the data I reconstructed the meridional velocity at 1780m (original data black line) from the next upper instrument at 1350m using :

1. a linear regression (orange line)
2. by normalizing the vel at 1350m and scaling it with mean and std of the vel at 1780 m (blue dashed line),

i.e. sca = [v\_1350\_norm\*v\_1780\_std ]+v\_1780\_mean

For method a the correlation between reconstructed and observed velocity is higher and the root mean square error is lower than for method b. However, the standard deviation for method a is lower for the reconstructed velocity time series compared to the observed time series.

A graph of a graph

Description automatically generated with medium confidence

|  |  |  |  |
| --- | --- | --- | --- |
| Method | R (with observed) | RMS (with observed) | Std (cm/s) |
| observed | 1 | 0 | 3 |
| a - reconstructed | 0.68 | 4.7 | 2 |
| b - reconstructed | 0.60 | 5.6 | 3 |