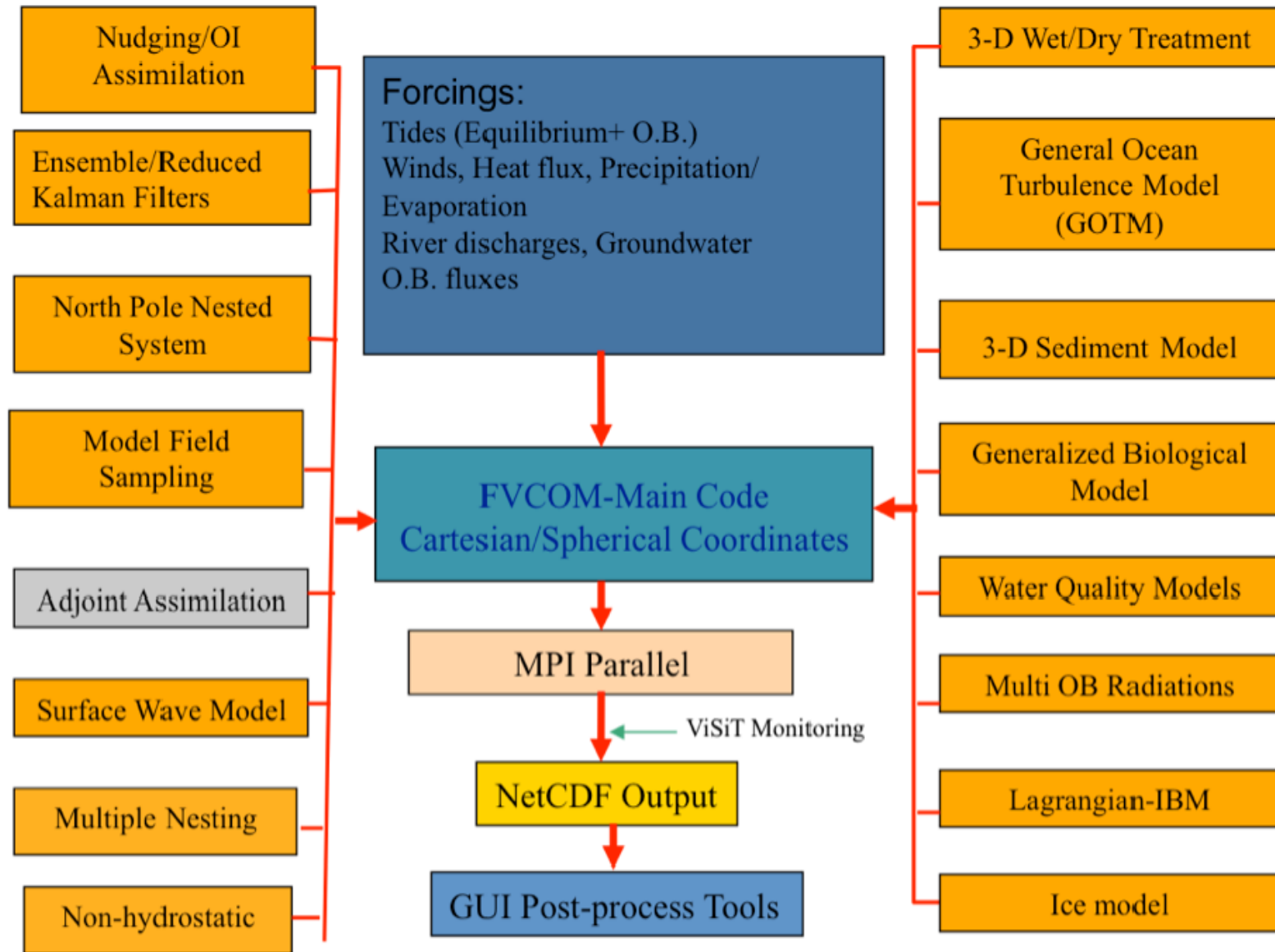


Progress report on FVCOM-ICM application in the Chester River: Evaluation

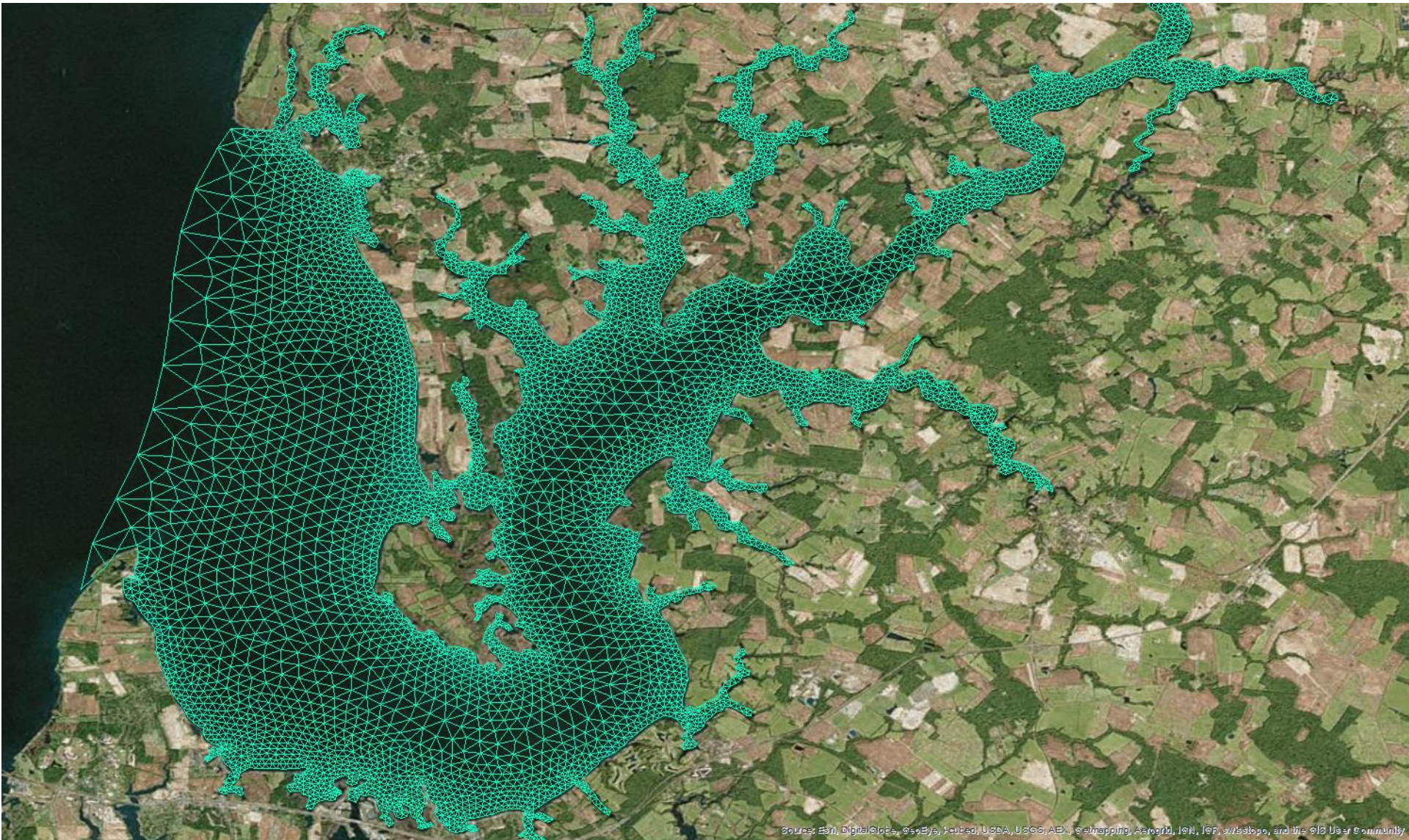
**Richard Tian & modeling team
UMCES/CBPO**

**STAC Meeting on Shallow Water Modeling
May. 20 2015**

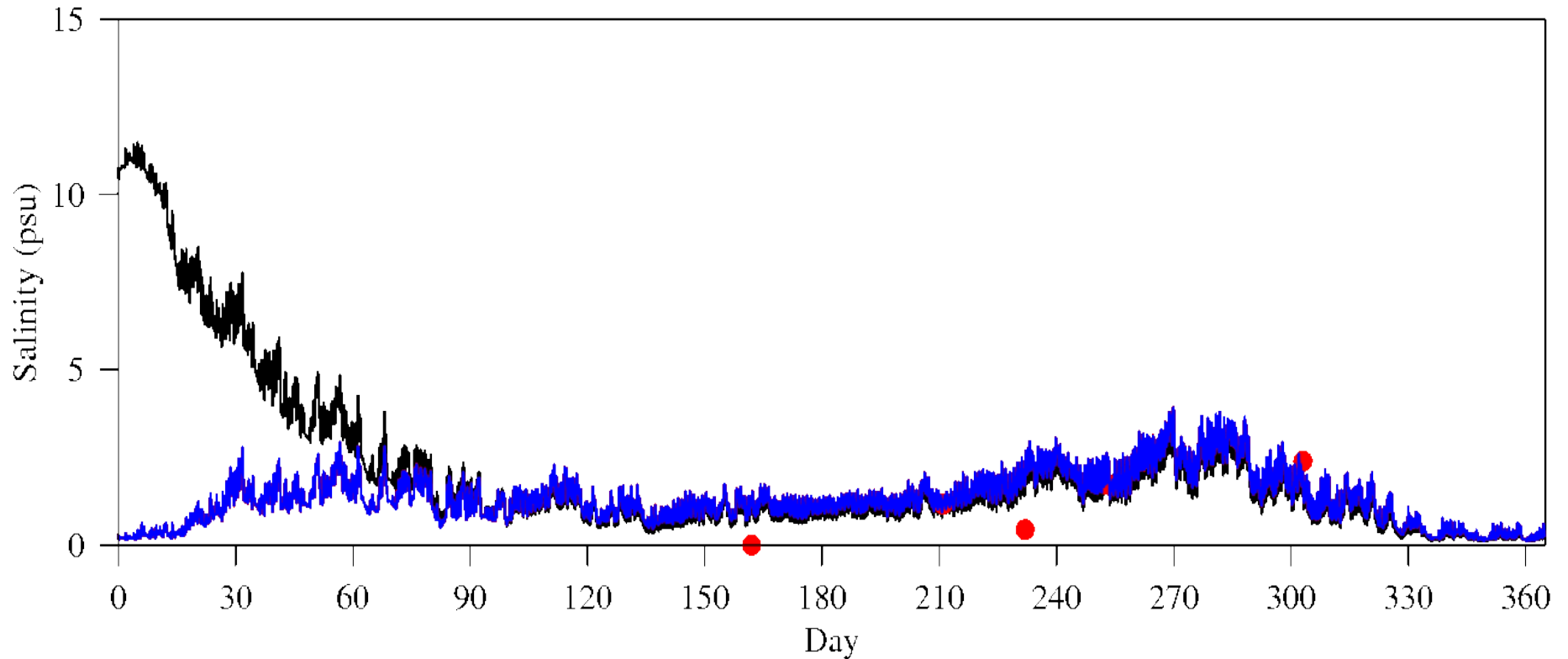
FVCOM



FVCOM grid

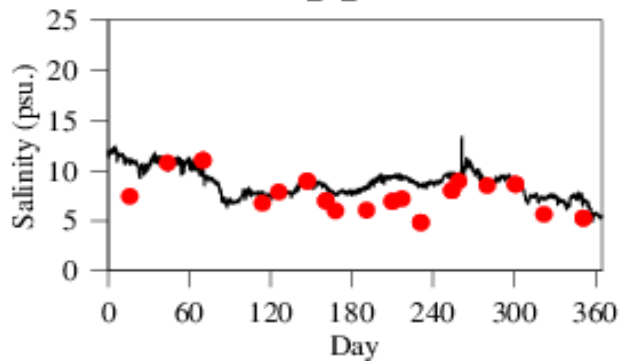


Spin runs at XIH1458 (Oligohaline)

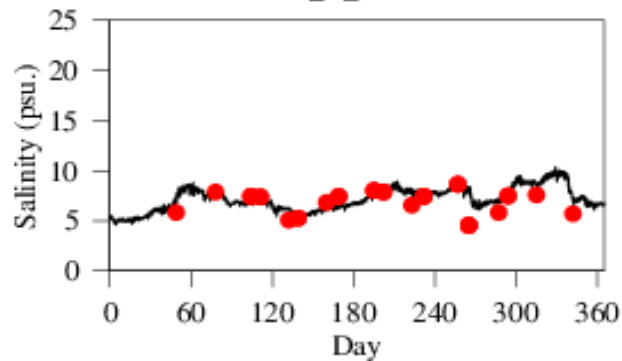


Surface S at ET4.2

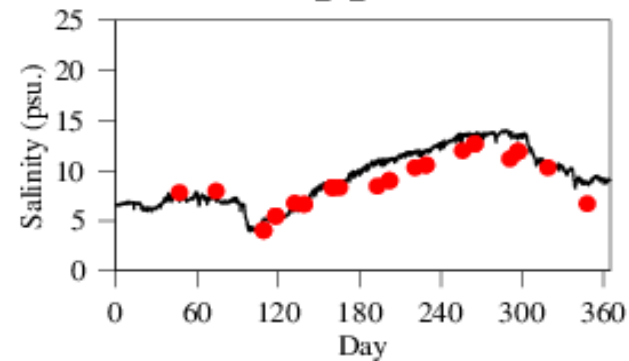
ET4.2_L_0 2003



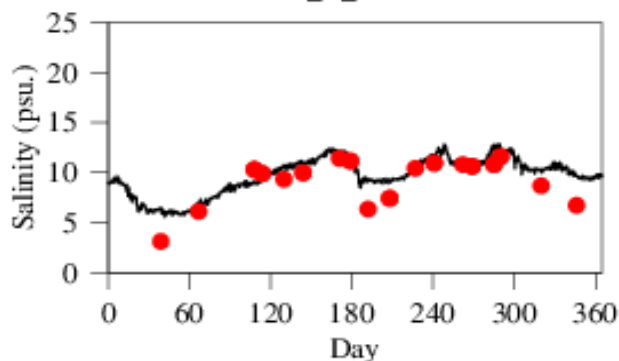
ET4.2_L_0 2004



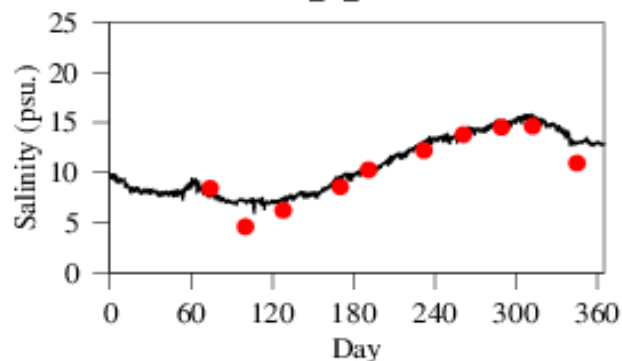
ET4.2_L_0 2005



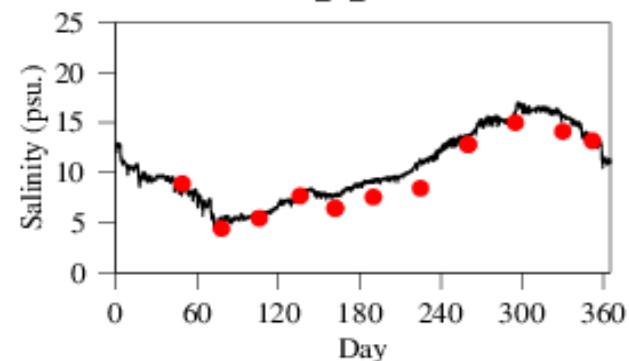
ET4.2_L_0 2006



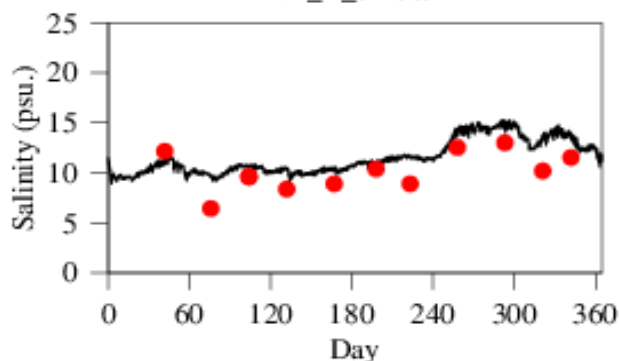
ET4.2_L_0 2007



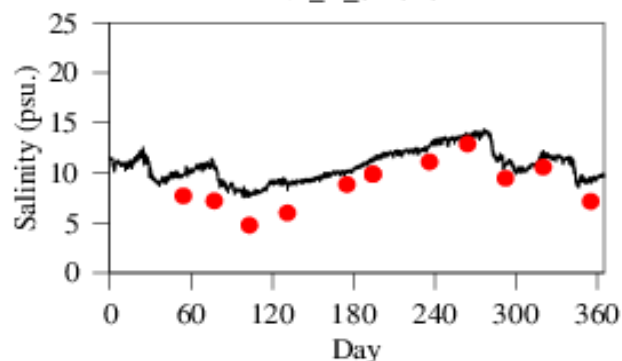
ET4.2_L_0 2008



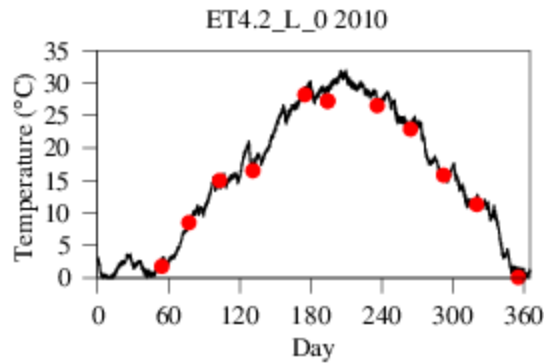
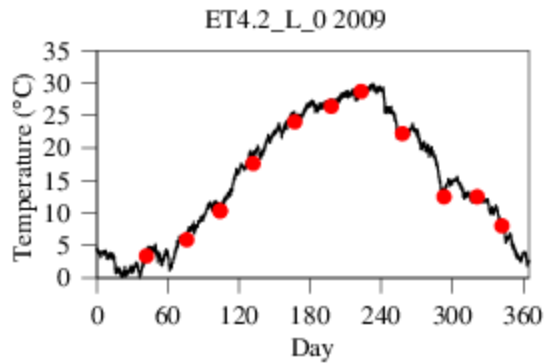
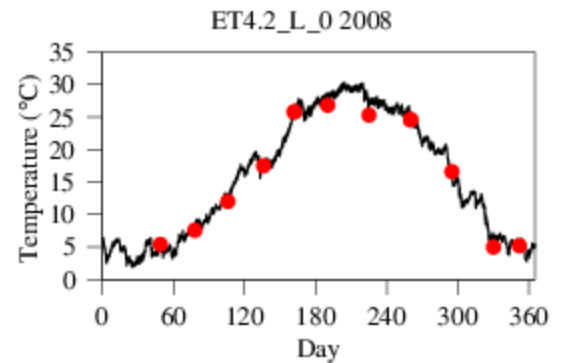
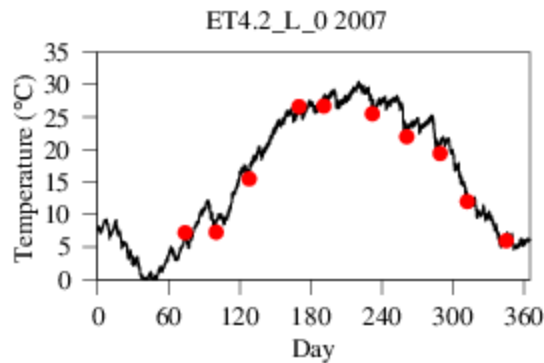
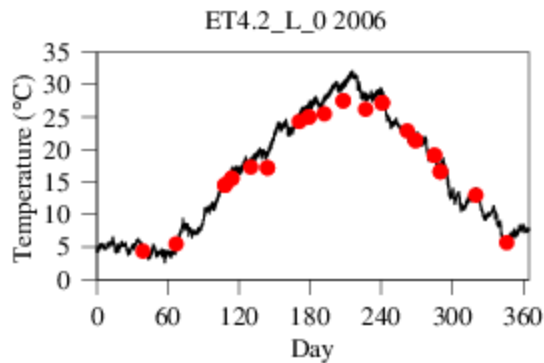
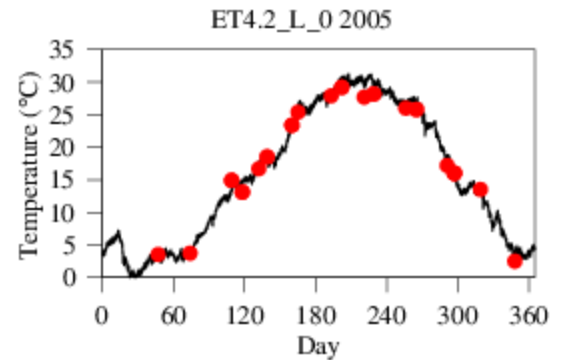
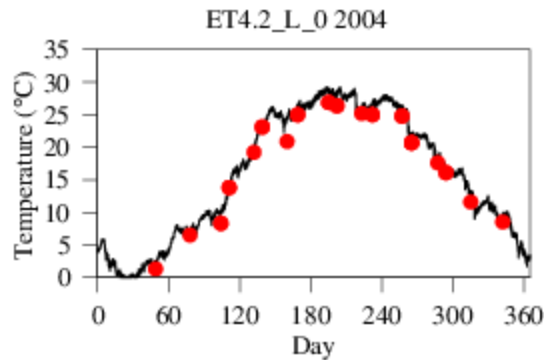
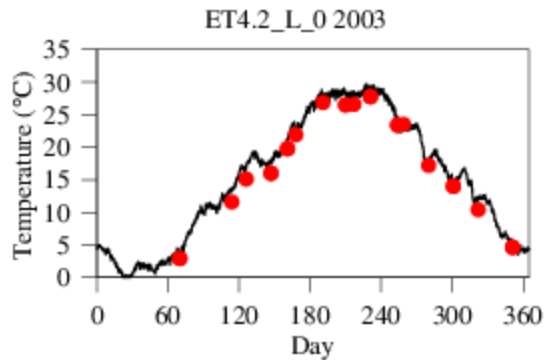
ET4.2_L_0 2009



ET4.2_L_0 2010

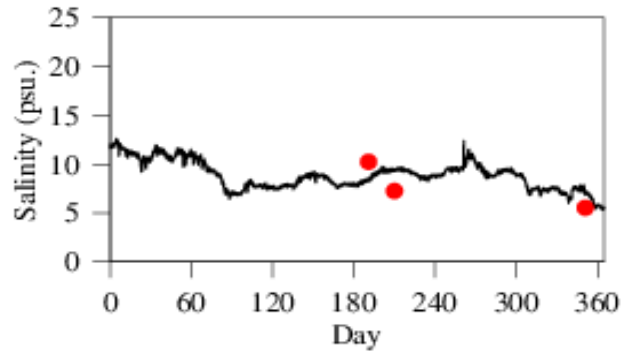


Surface T at ET4.2 (Mesohaline)

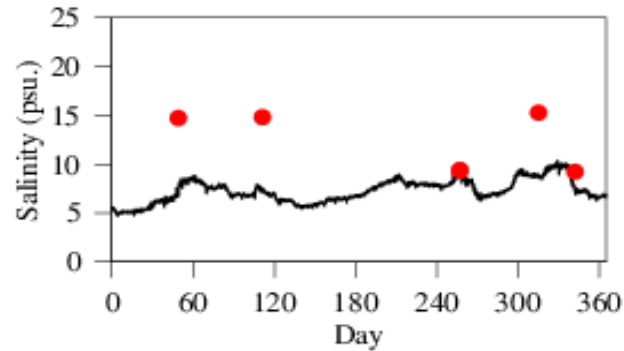


Bottom S at ET4.2

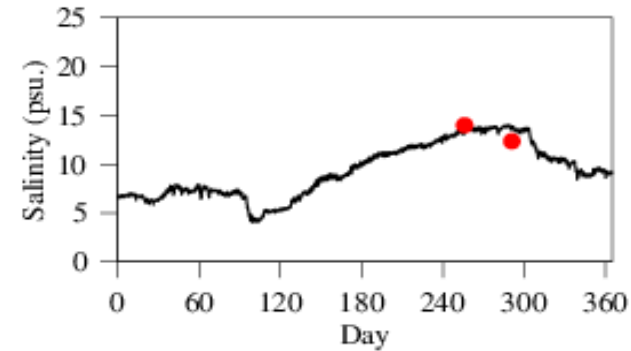
ET4.2_1_9 2003



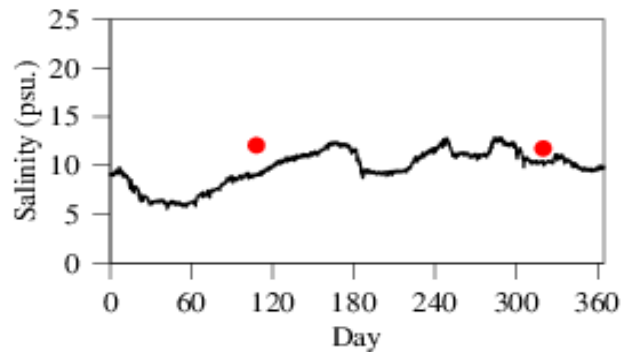
ET4.2_1_9 2004



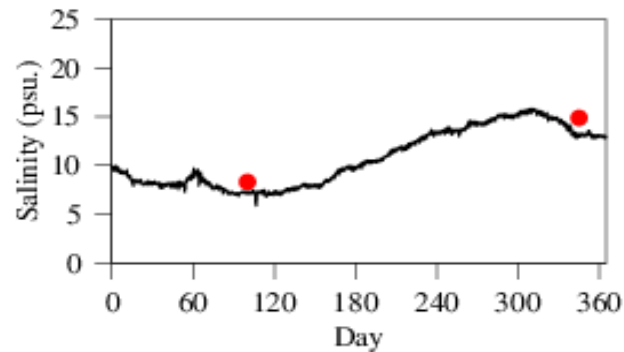
ET4.2_1_9 2005



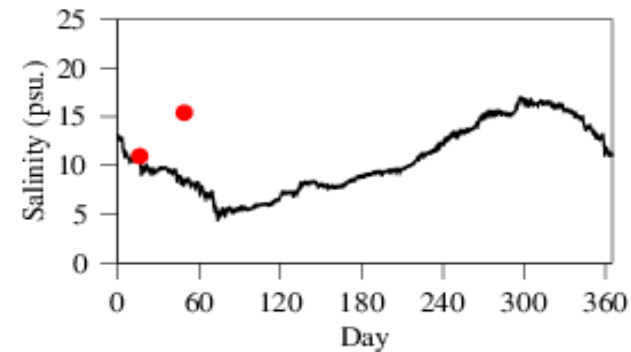
ET4.2_1_9 2006



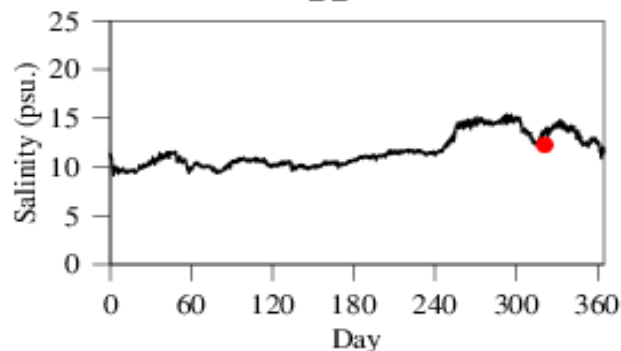
ET4.2_1_9 2007



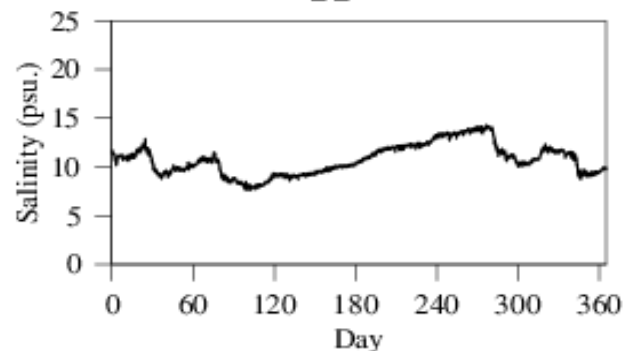
ET4.2_1_9 2008



ET4.2_1_9 2009

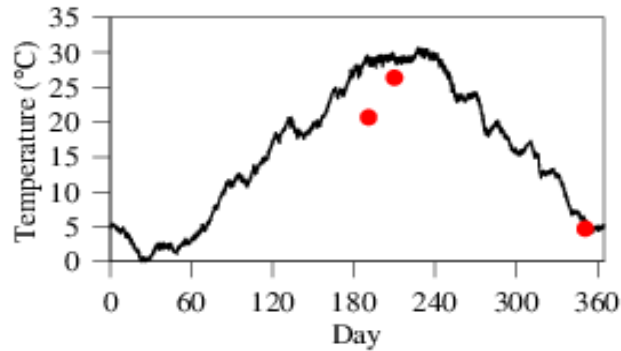


ET4.2_1_9 2010

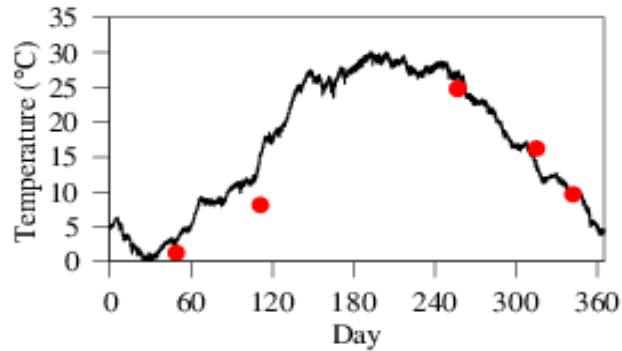


Bottom T at ET4.2

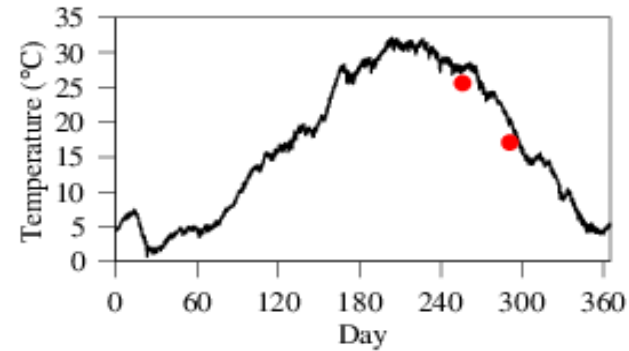
ET4.2_1_9 2003



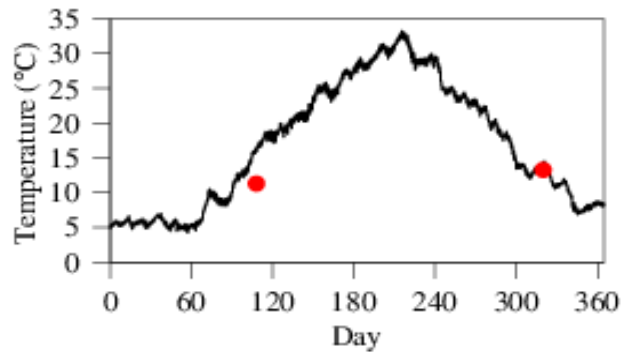
ET4.2_1_9 2004



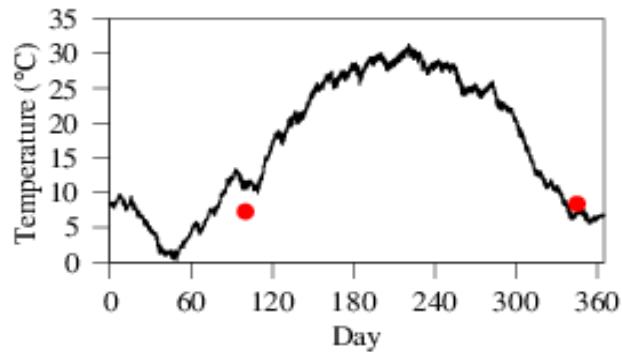
ET4.2_1_9 2005



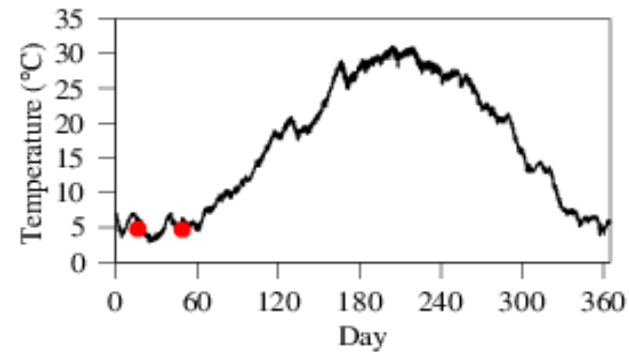
ET4.2_1_9 2006



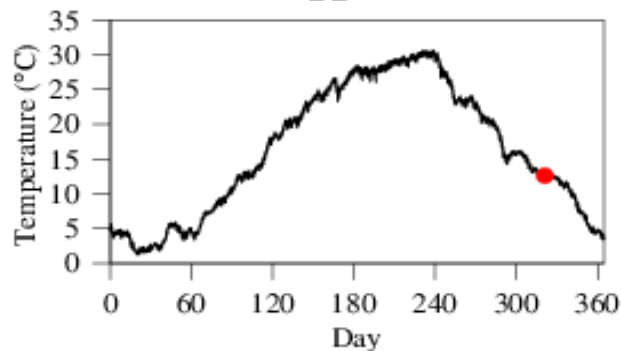
ET4.2_1_9 2007



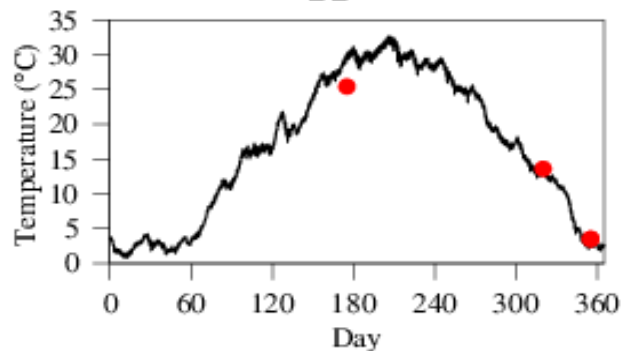
ET4.2_1_9 2008



ET4.2_1_9 2009

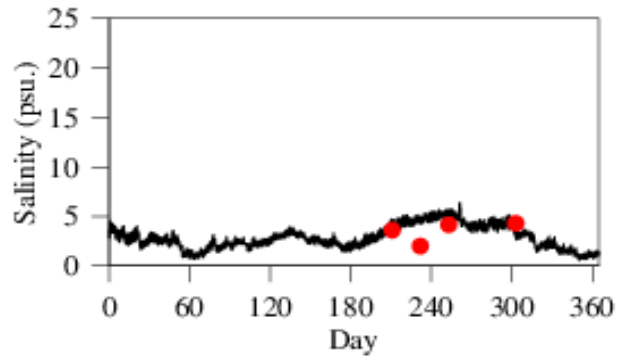


ET4.2_1_9 2010

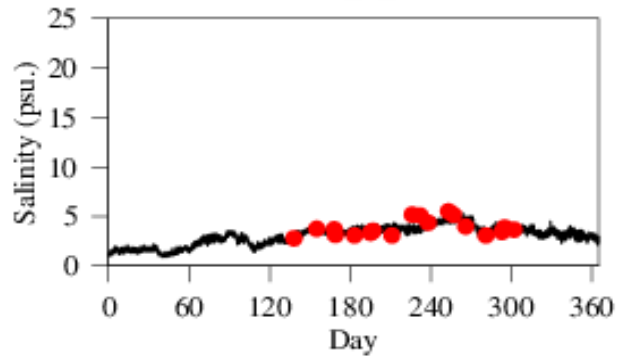


Surface S at XIH0077

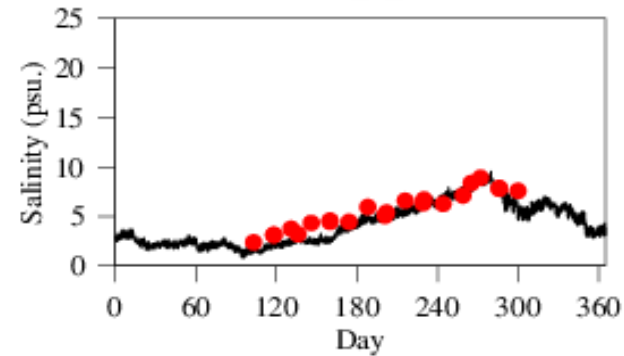
XIH0077_L_0 2003



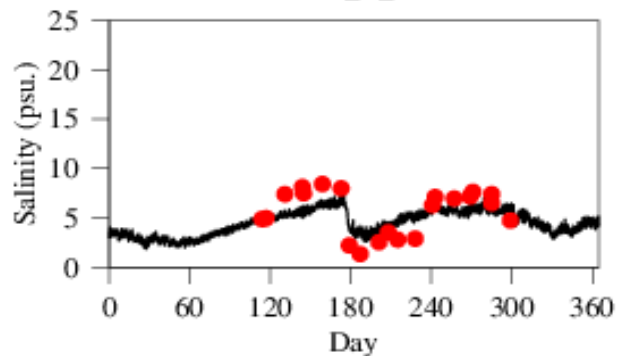
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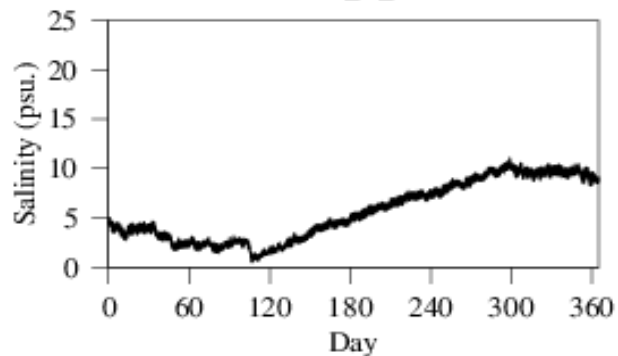
XIH0077_L_0 2005



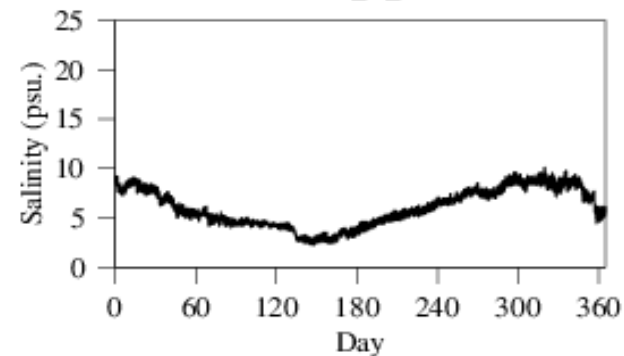
XIH0077_L_0 2006



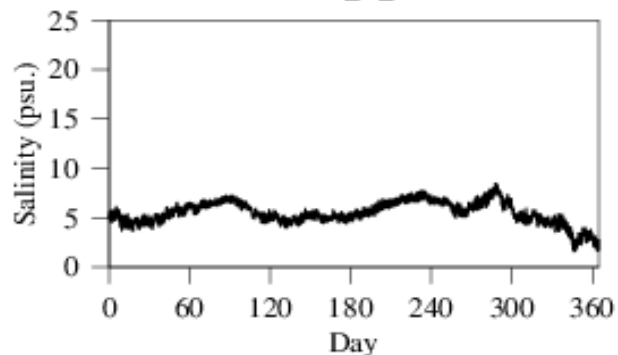
XIH0077_L_0 2007



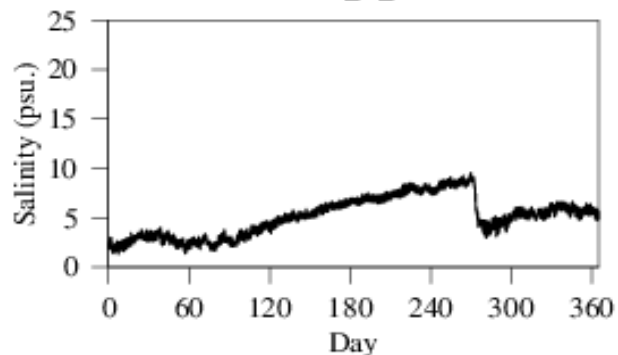
XIH0077_L_0 2008



XIH0077_L_0 2009

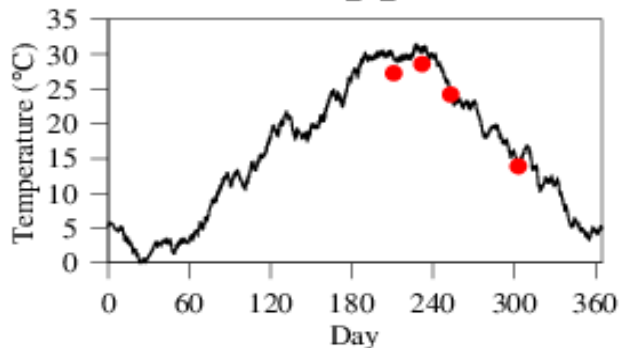


XIH0077_L_0 2010

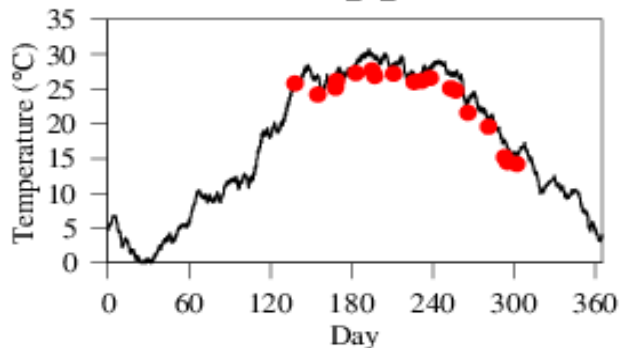


Surface T at XIH0077 (oligohaline)

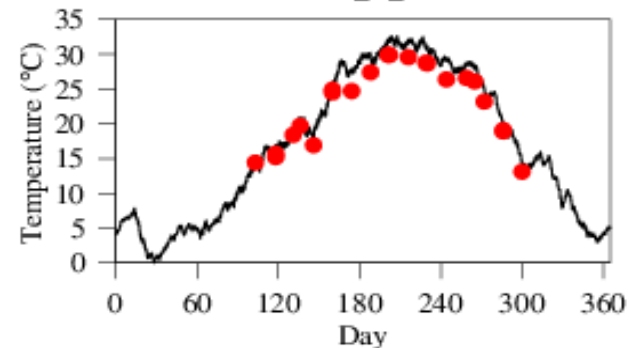
XIH0077_L_0 2003



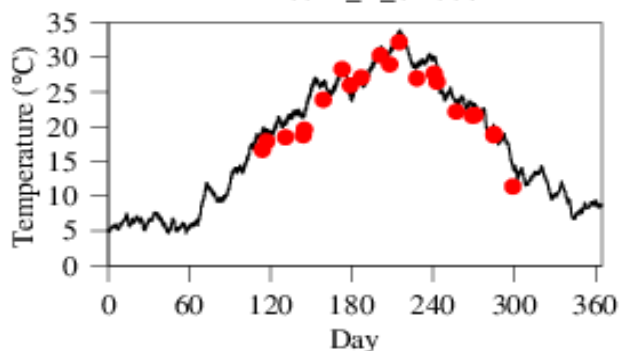
XIH0077_L_0 2004



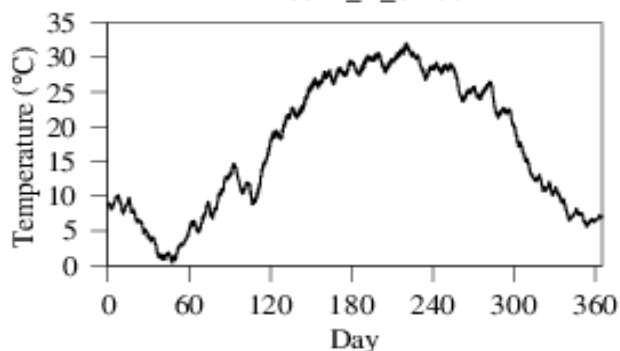
XIH0077_L_0 2005



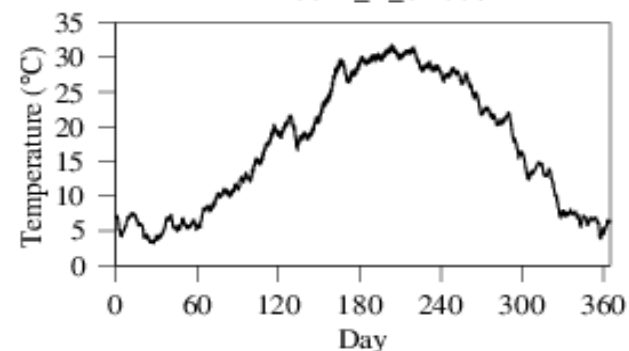
XIH0077_L_0 2006



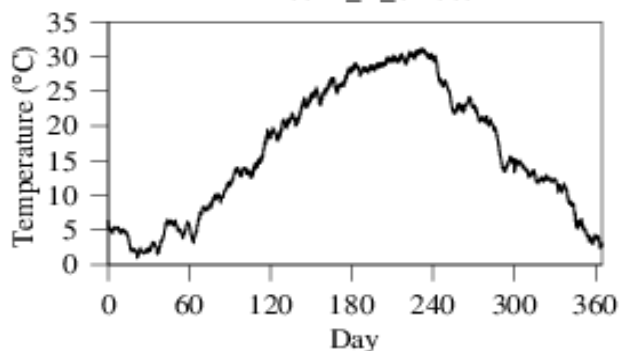
XIH0077_L_0 2007



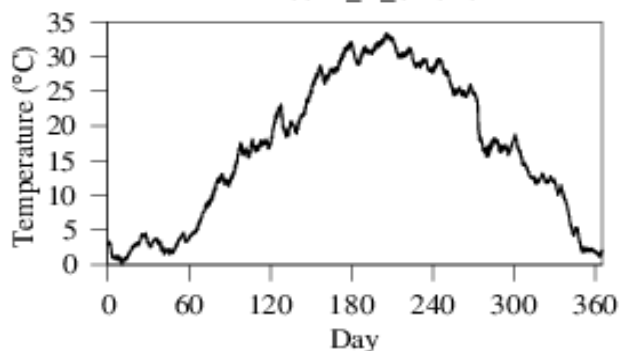
XIH0077_L_0 2008



XIH0077_L_0 2009

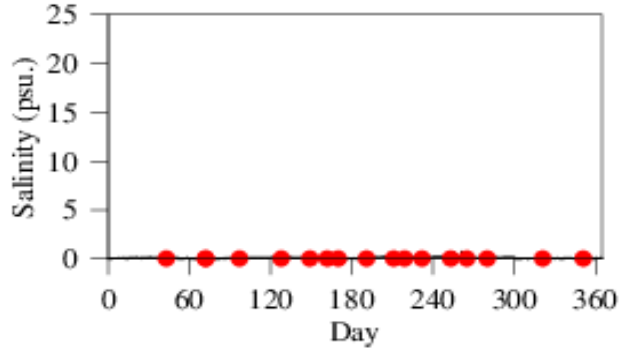


XIH0077_L_0 2010

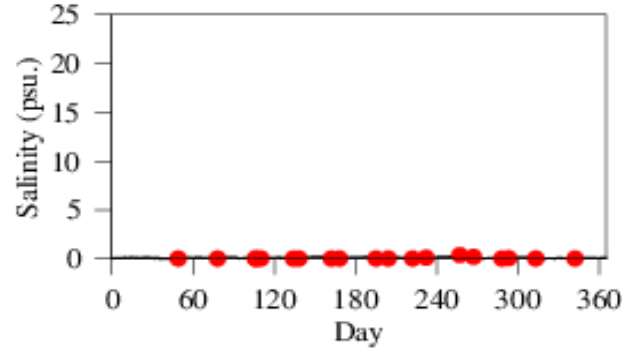


Surface S at ET4.1 (Tidal fresh)

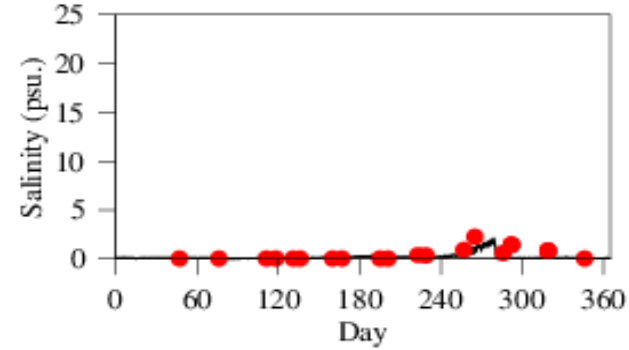
ET4.1_L_0 2003



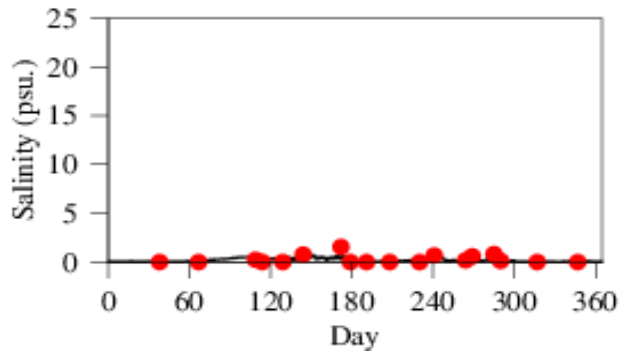
ET4.1_L_0 2004



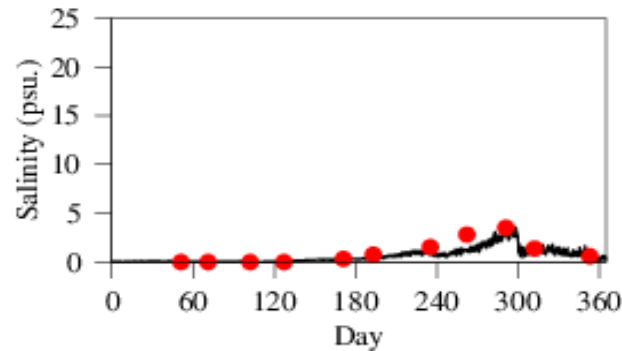
ET4.1_L_0 2005



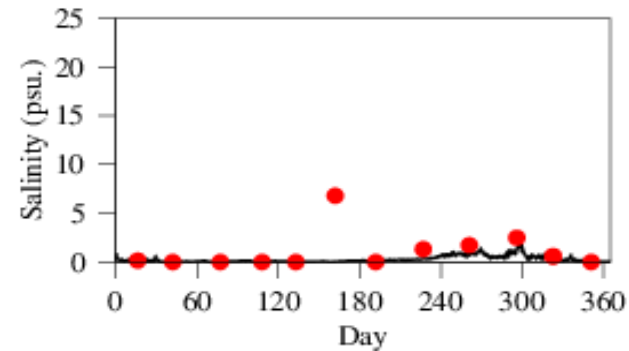
ET4.1_L_0 2006



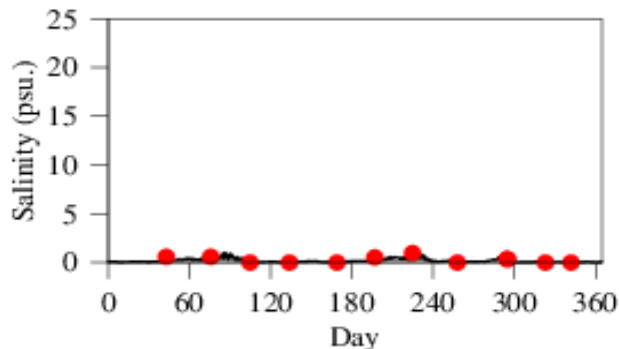
ET4.1_L_0 2007



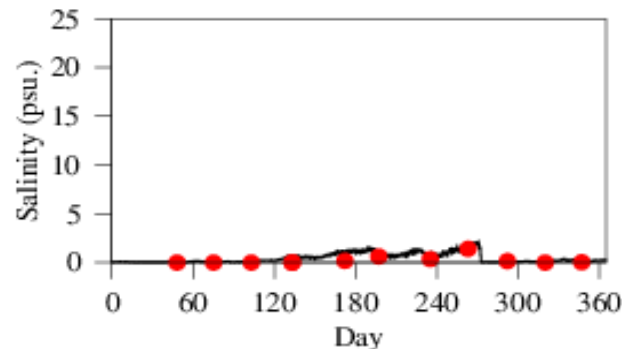
ET4.1_L_0 2008



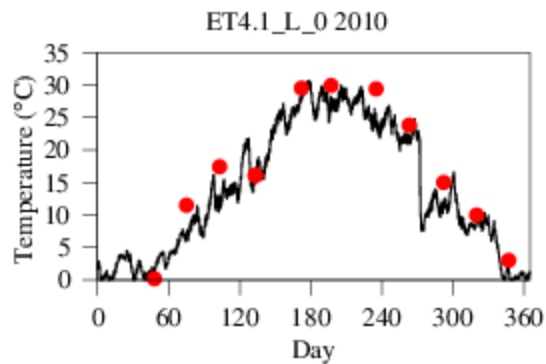
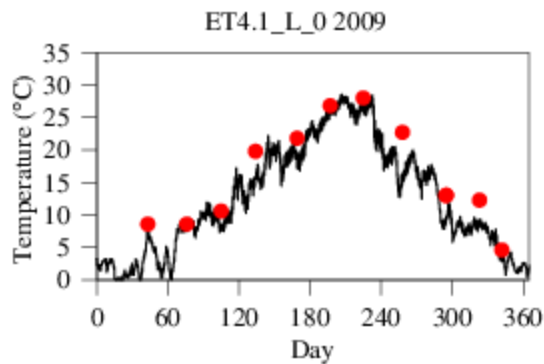
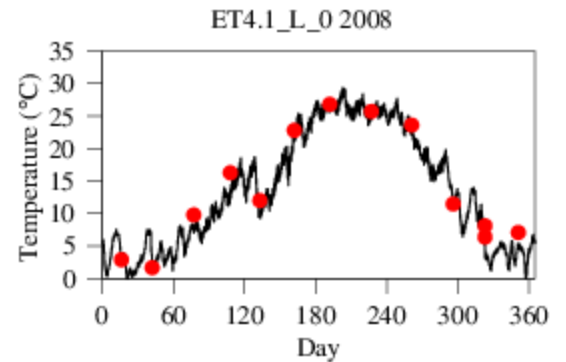
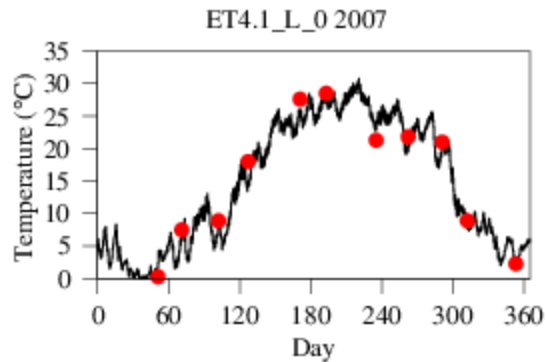
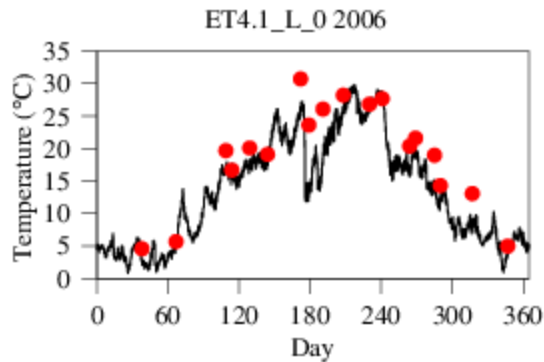
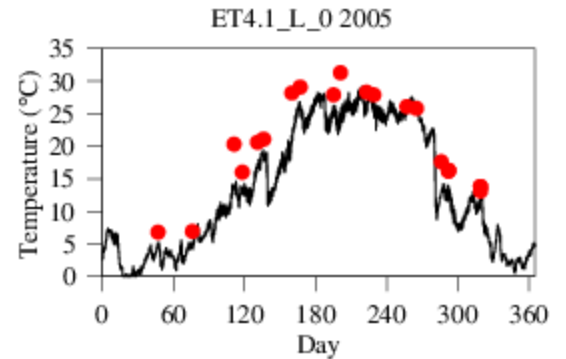
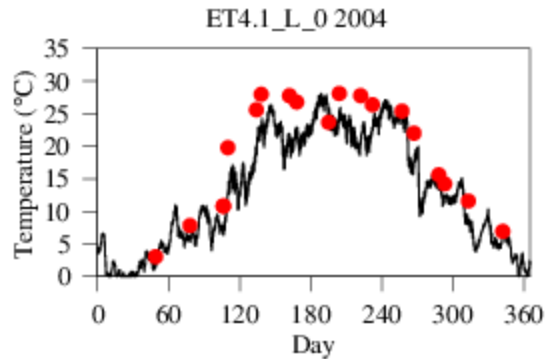
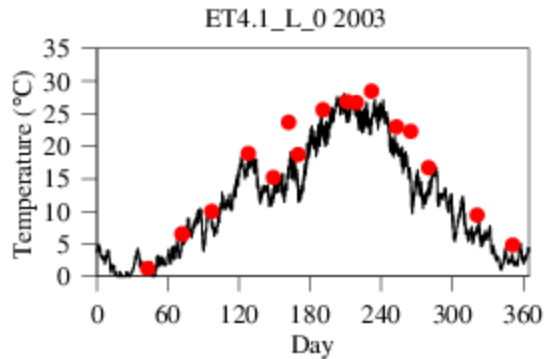
ET4.1_L_0 2009



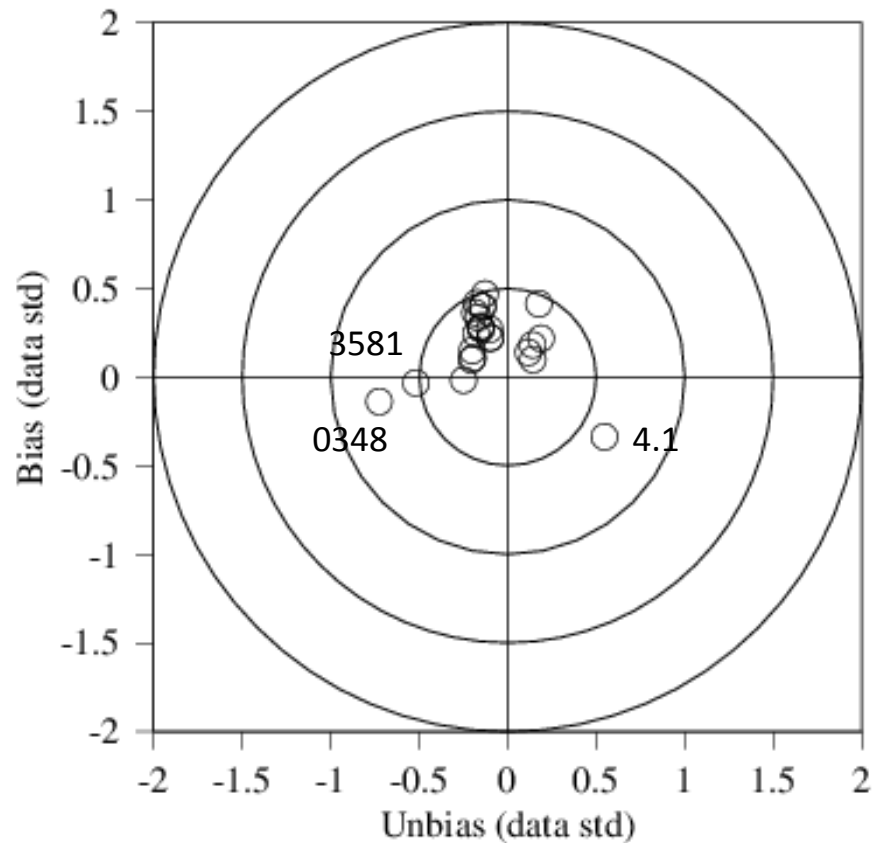
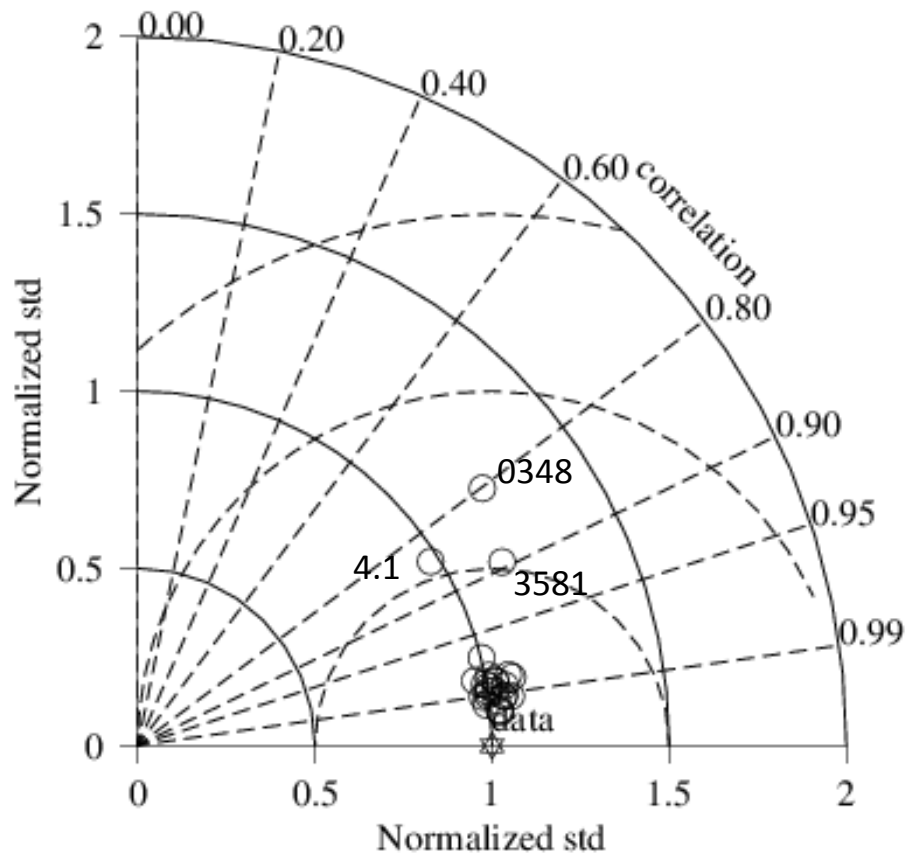
ET4.1_L_0 2010



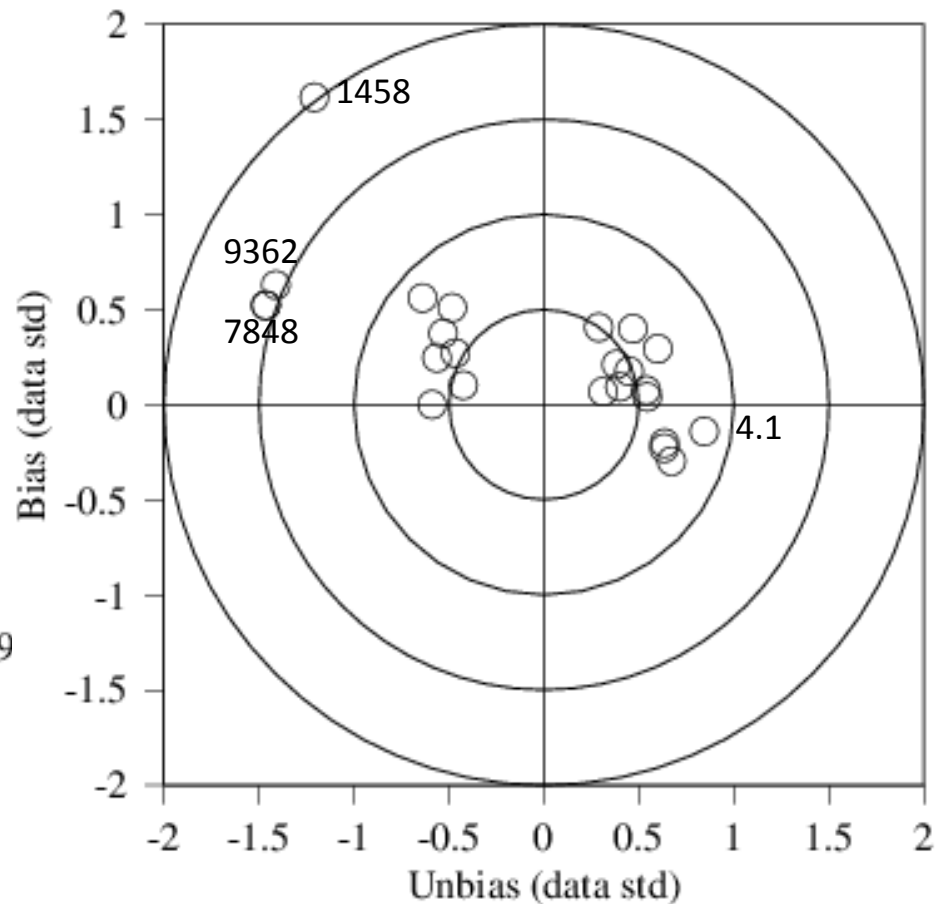
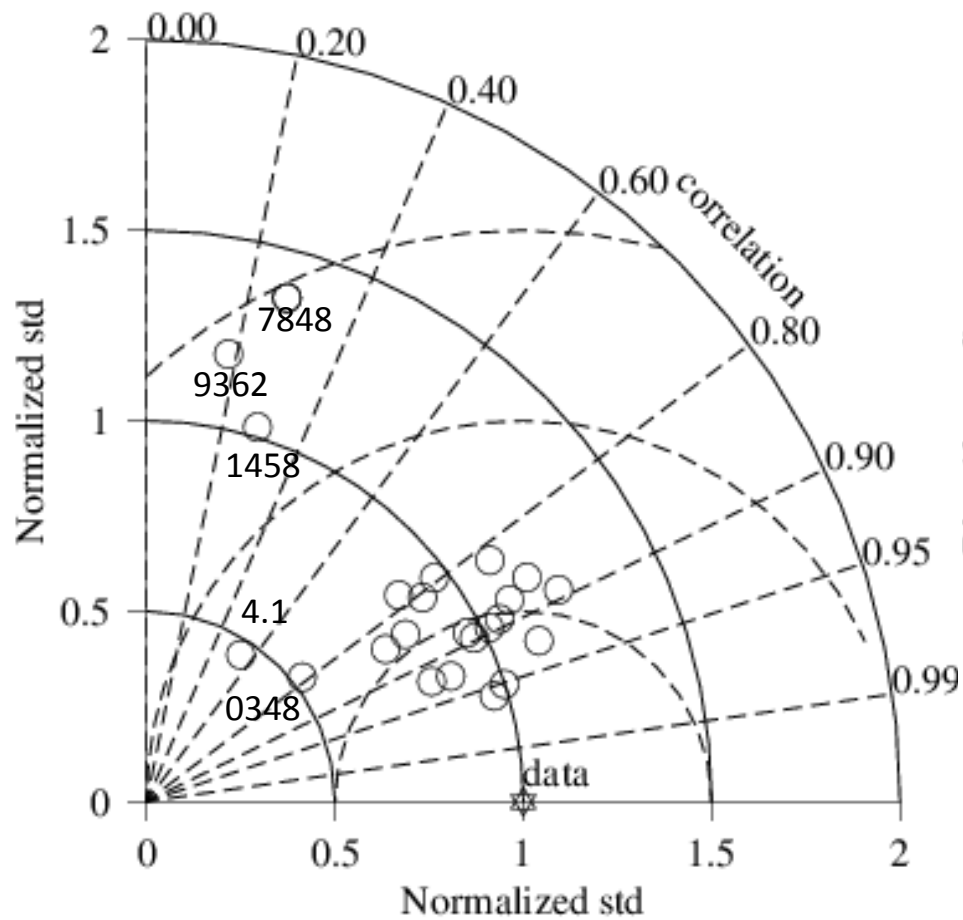
Surface T at ET4.1 (Tidal fresh)



Surface T

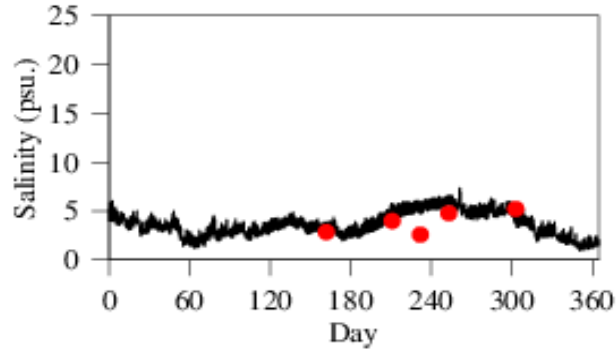


Surface S

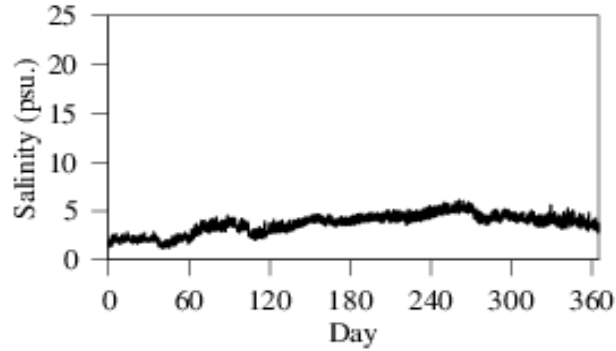


Surface S at XHH9362 (oligohaline)

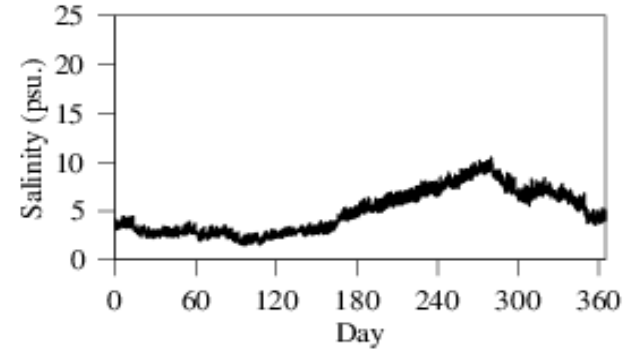
XHH9362_L_0 2003



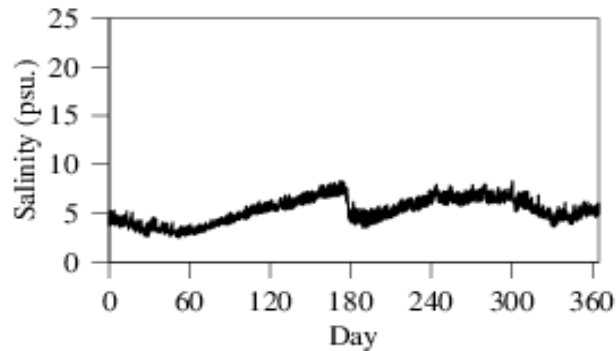
XHH9362_L_0 2004



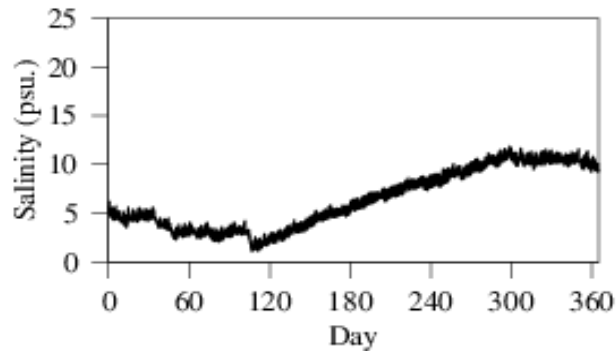
XHH9362_L_0 2005



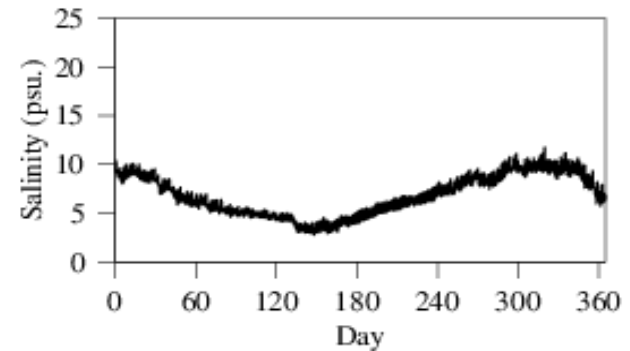
XHH9362_L_0 2006



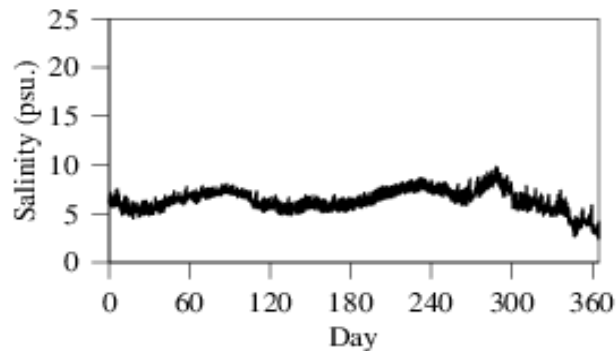
XHH9362_L_0 2007



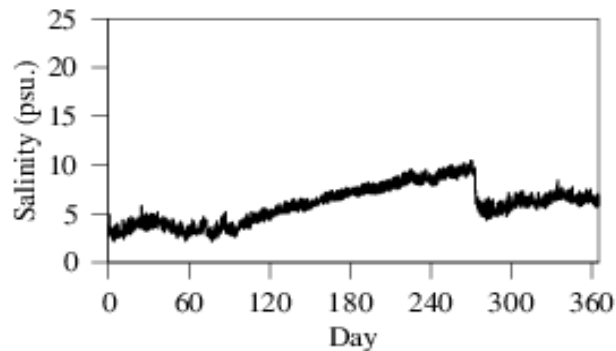
XHH9362_L_0 2008



XHH9362_L_0 2009

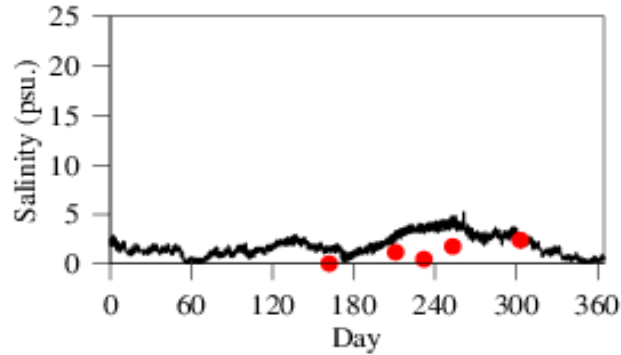


XHH9362_L_0 2010

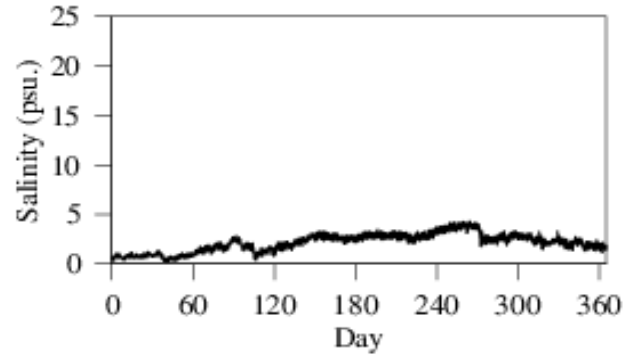


Surface S at XIH1458 (oligohaline)

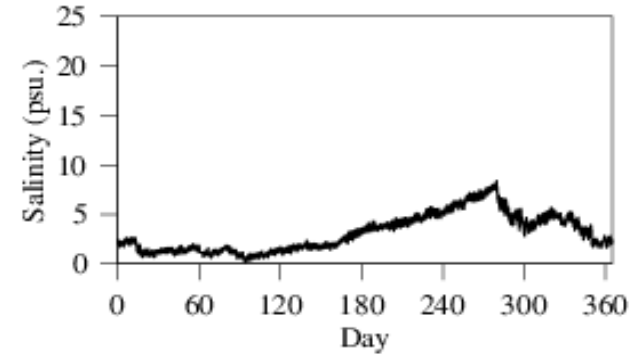
XIH1458_L_0 2003



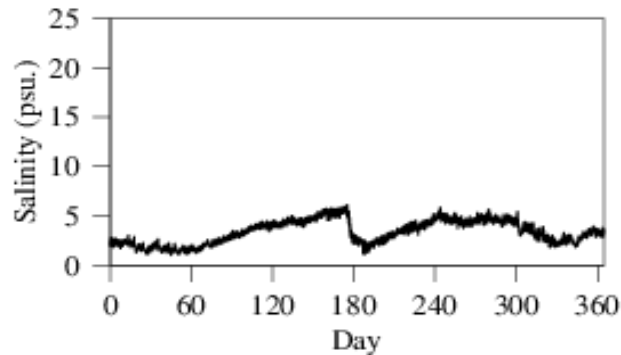
XIH1458_L_0 2004



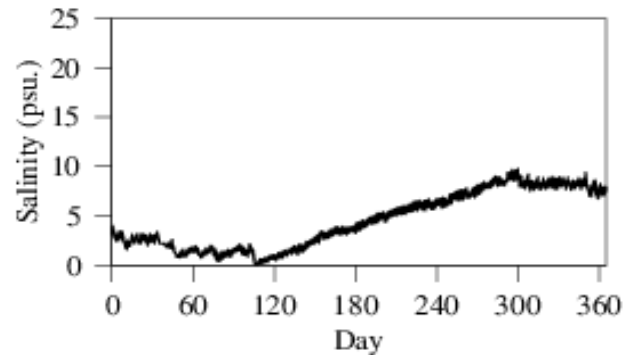
XIH1458_L_0 2005



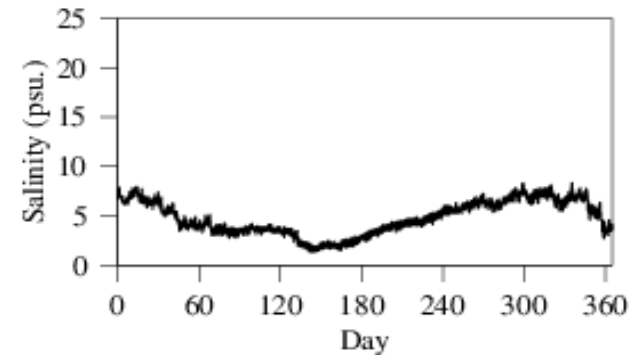
XIH1458_L_0 2006



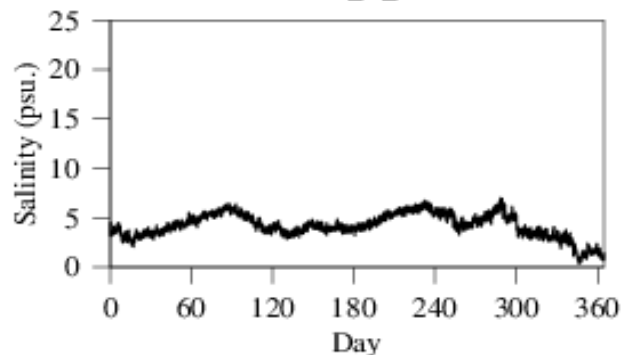
XIH1458_L_0 2007



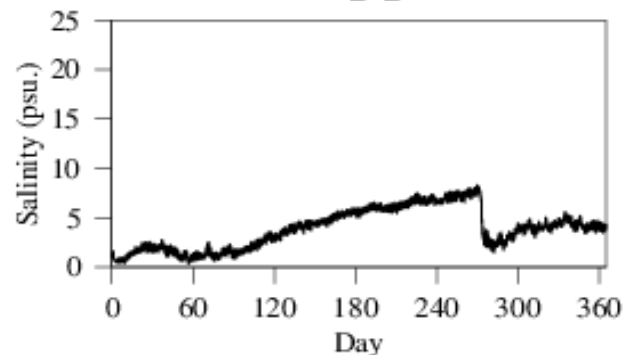
XIH1458_L_0 2008



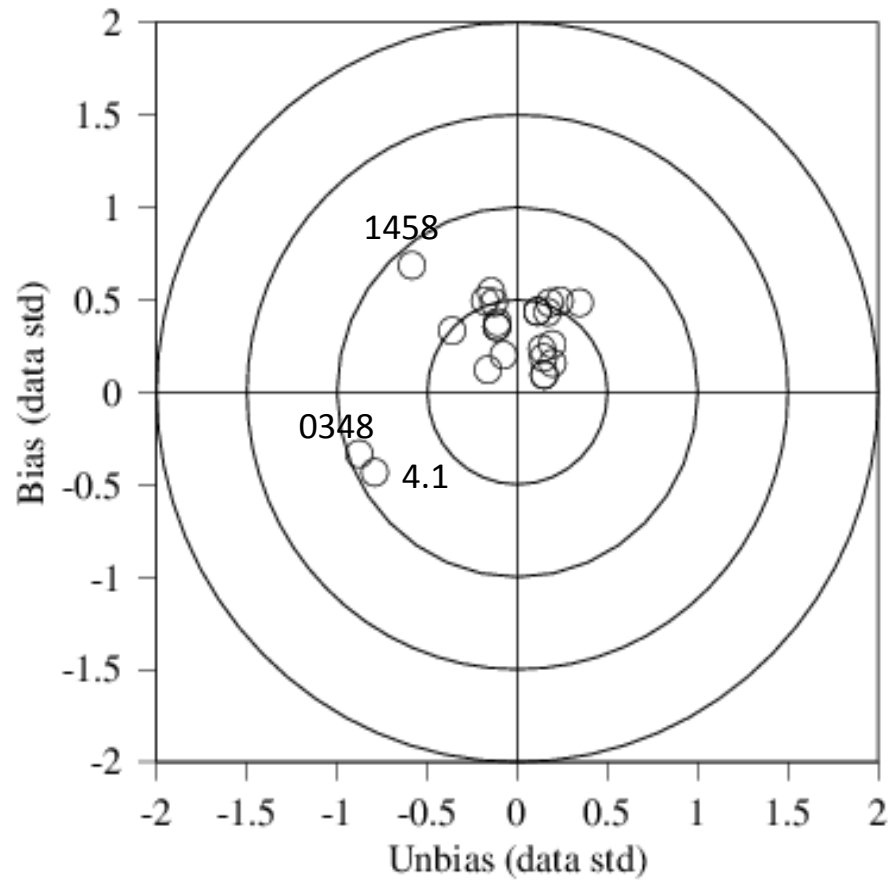
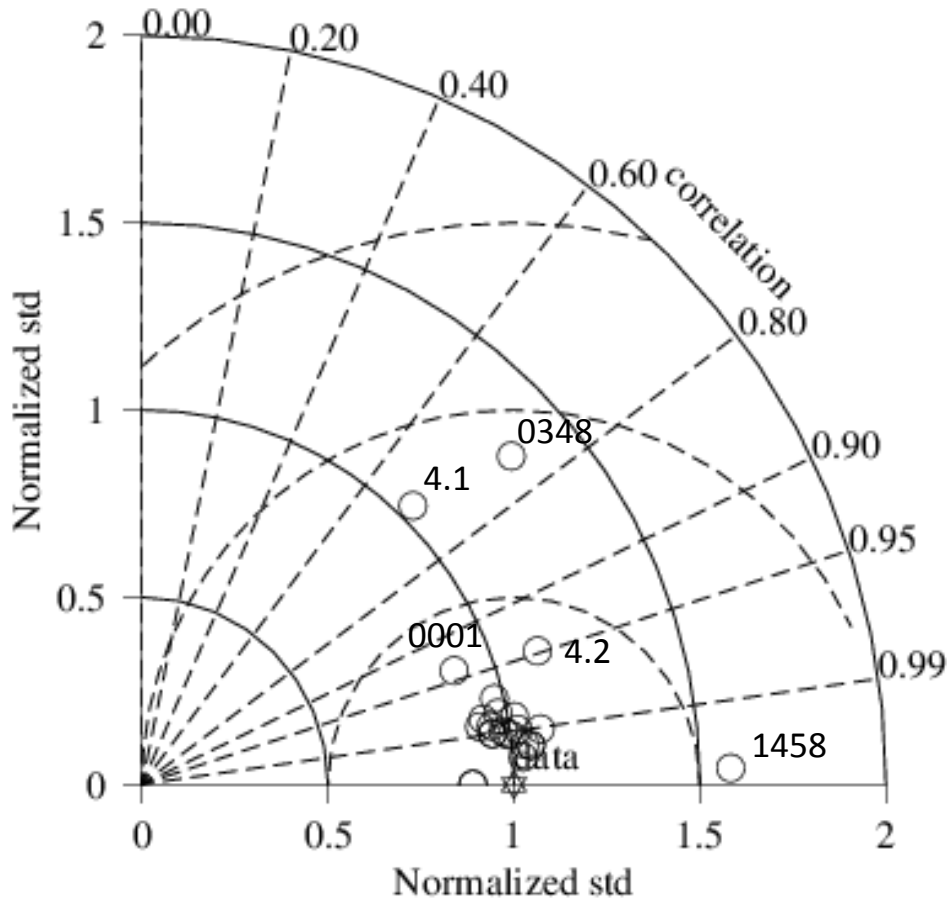
XIH1458_L_0 2009



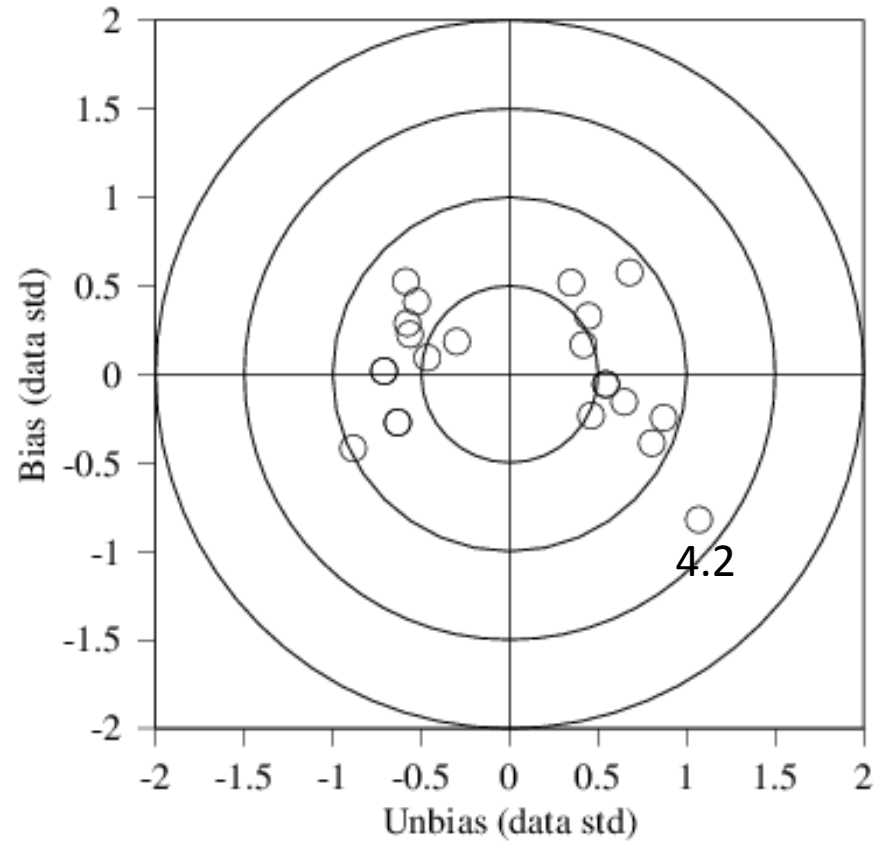
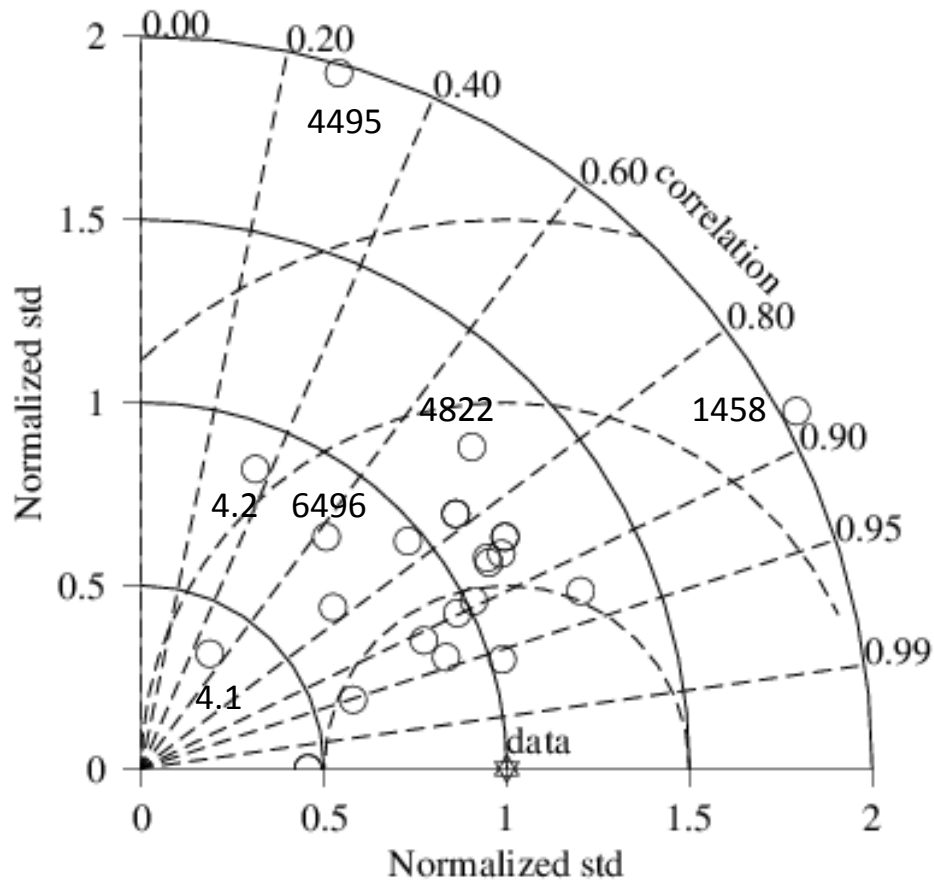
XIH1458_L_0 2010



Bottom T

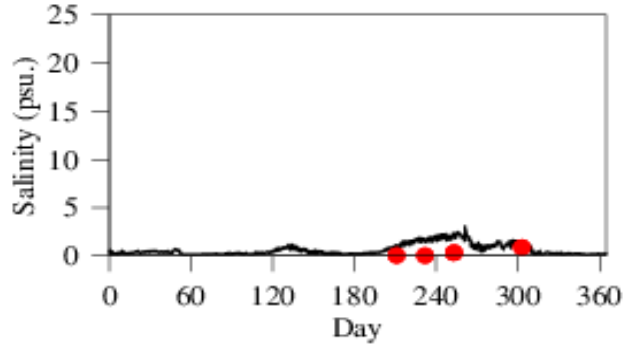


Bottom S

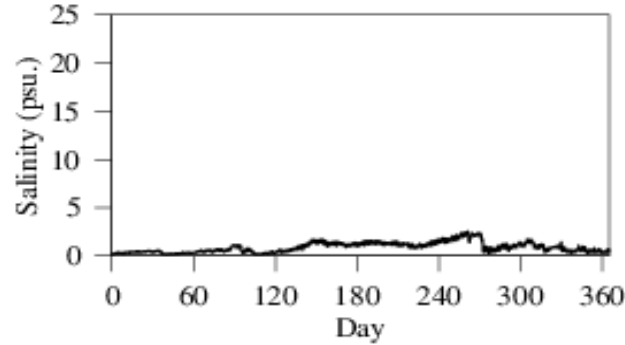


Surface S at XIH4495 (oligohaline)

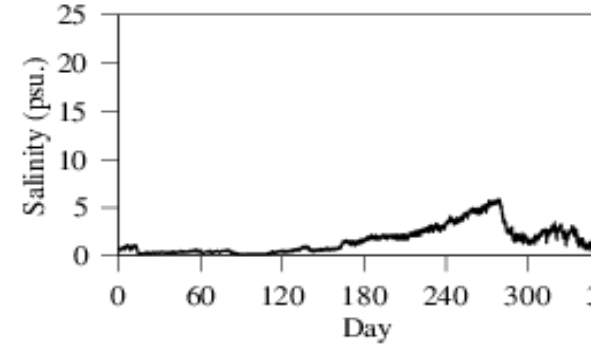
XIH4495_1_9 2003



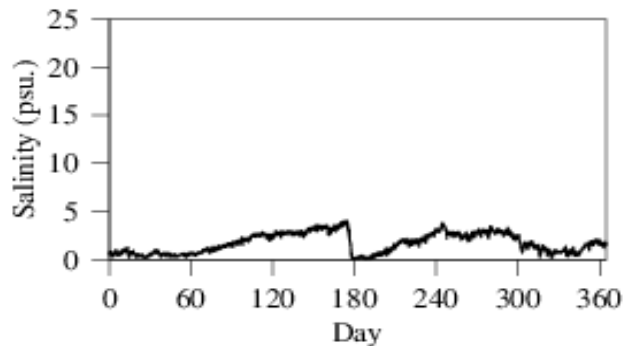
XIH4495_1_9 2004



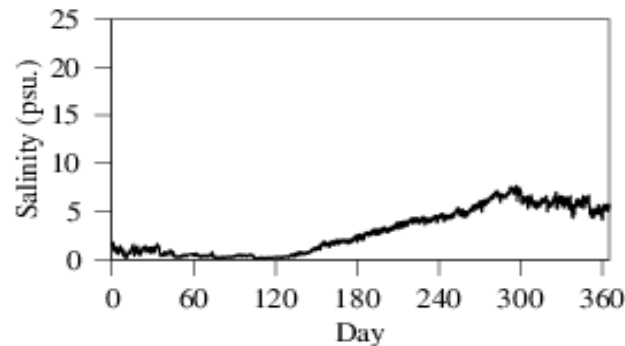
XIH4495_1_9 2005



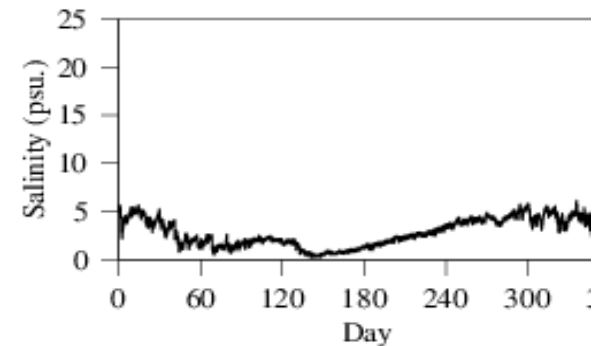
XIH4495_1_9 2006



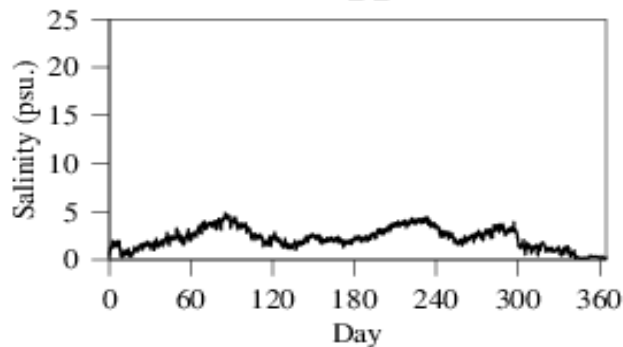
XIH4495_1_9 2007



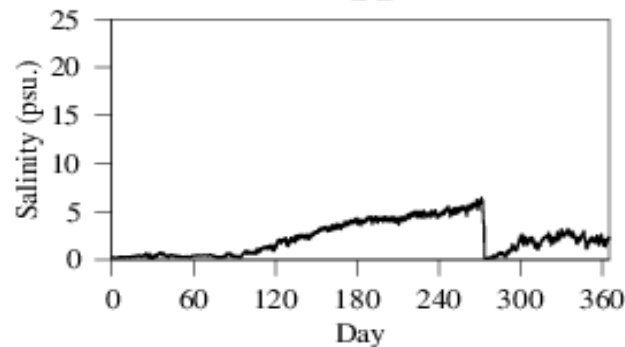
XIH4495_1_9 2008



XIH4495_1_9 2009

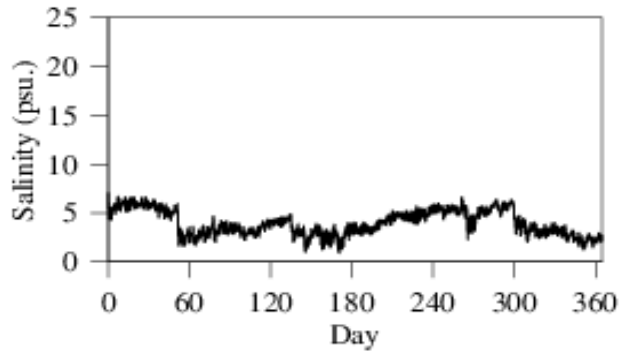


XIH4495_1_9 2010

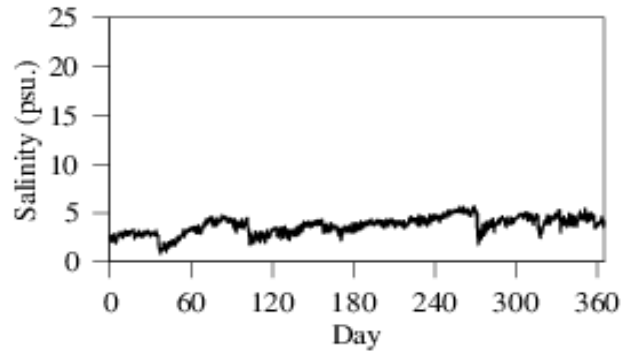


CMON S at XHH3851 (Corsica)

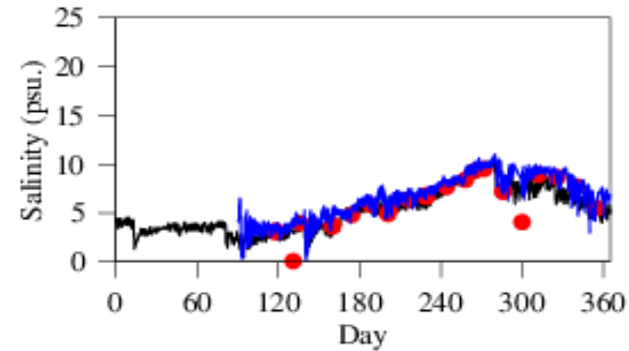
XHH3851_L_0 2003



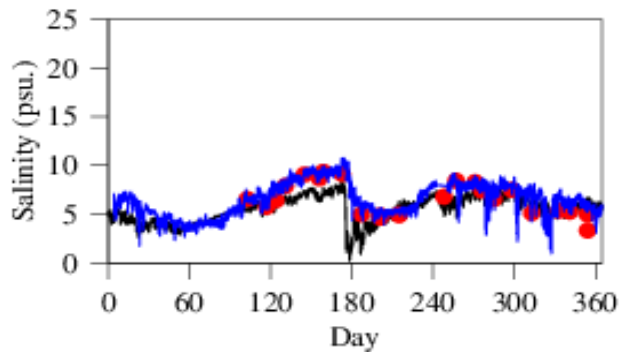
XHH3851_L_0 2004



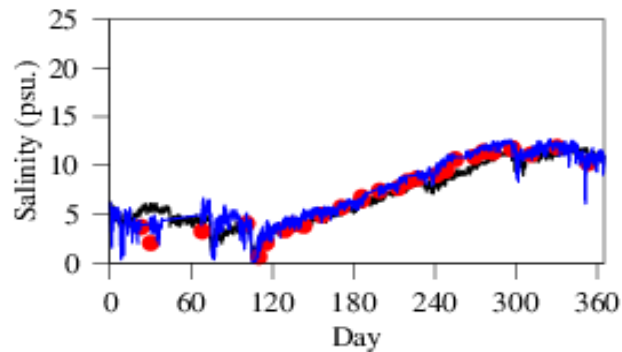
XHH3851_L_0 2005



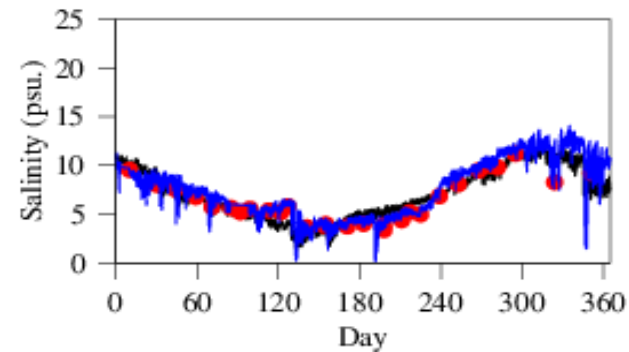
XHH3851_L_0 2006



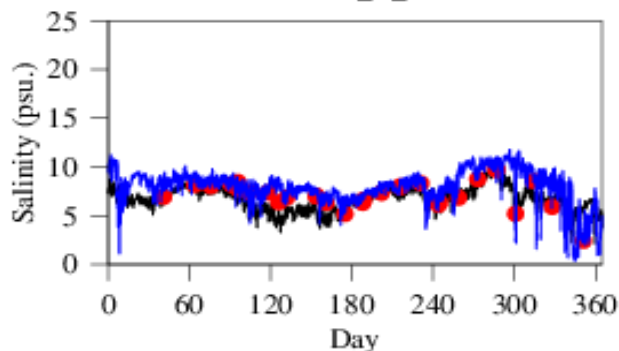
XHH3851_L_0 2007



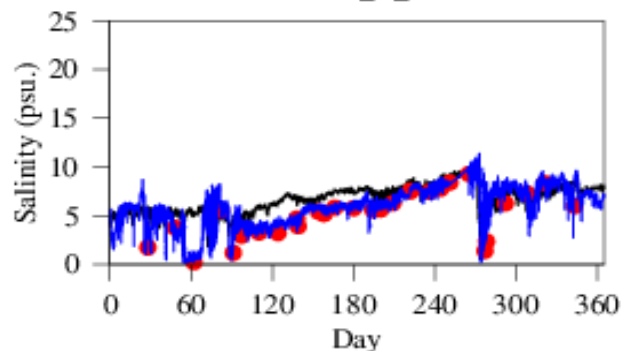
XHH3851_L_0 2008



XHH3851_L_0 2009

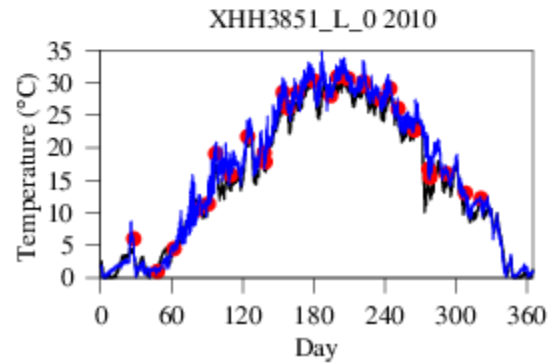
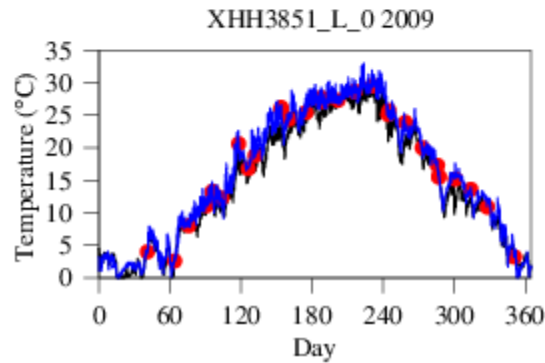
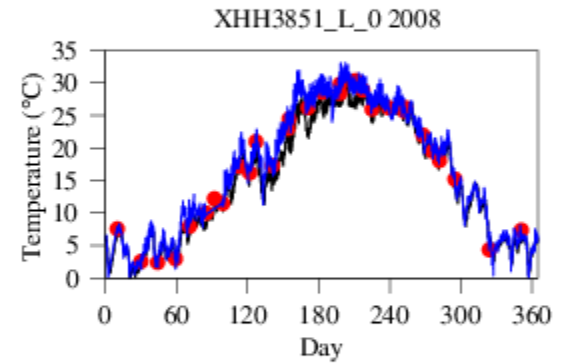
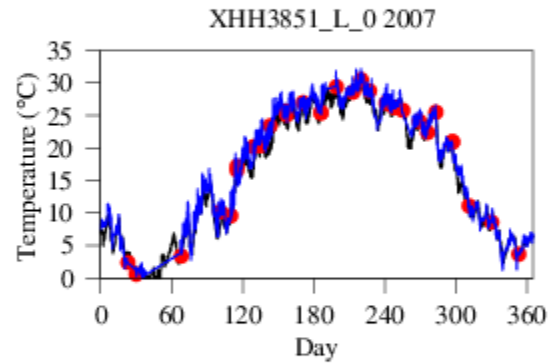
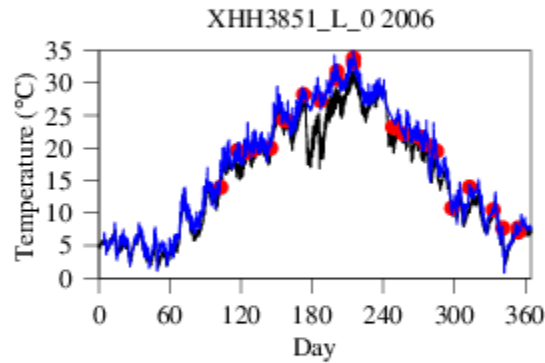
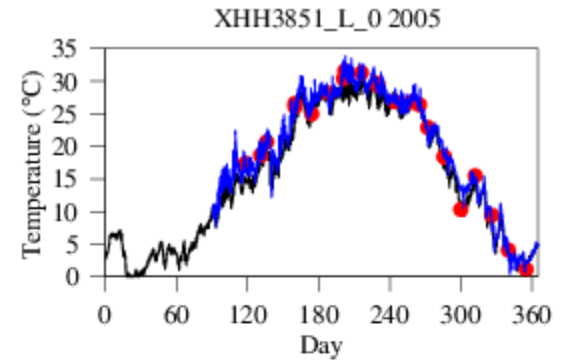
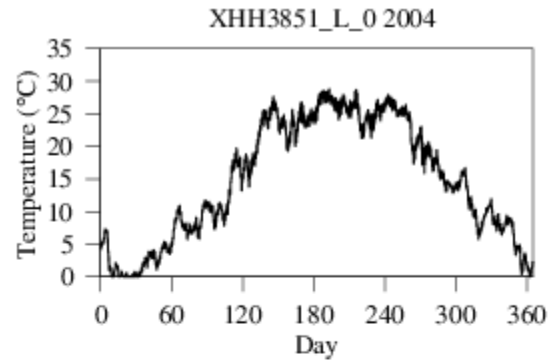
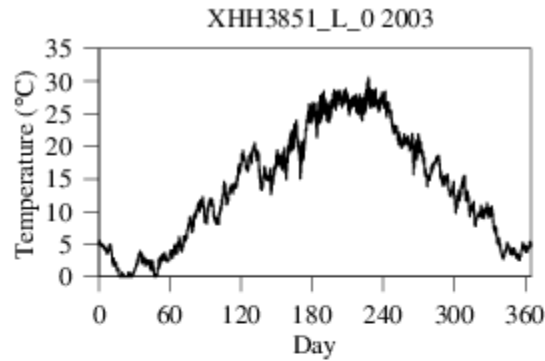


XHH3851_L_0 2010



Data from MD DNR

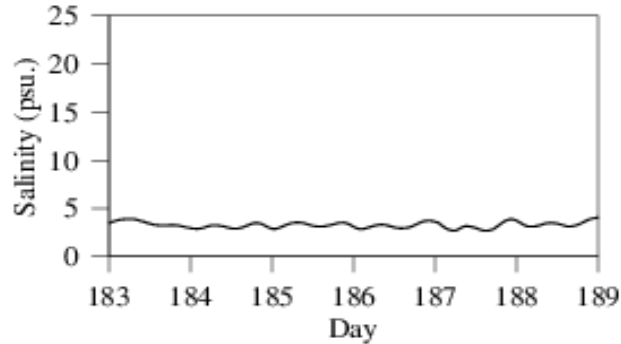
CMON T at XHH3851 (Corsica)



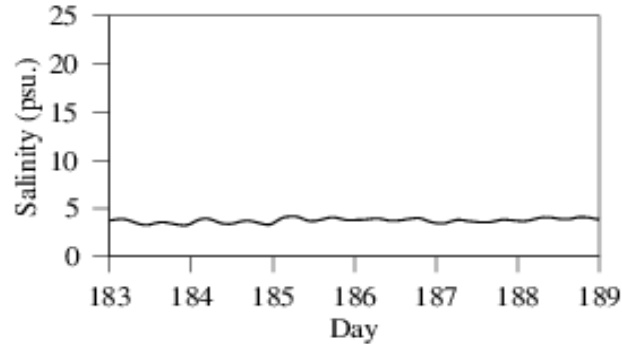
Data from Gopal MD DNR

Zooming CMON S at XHH3851 (Corsica)

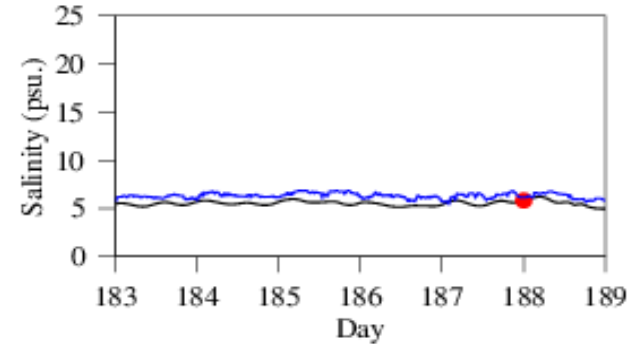
XHH3851_L_0 2003



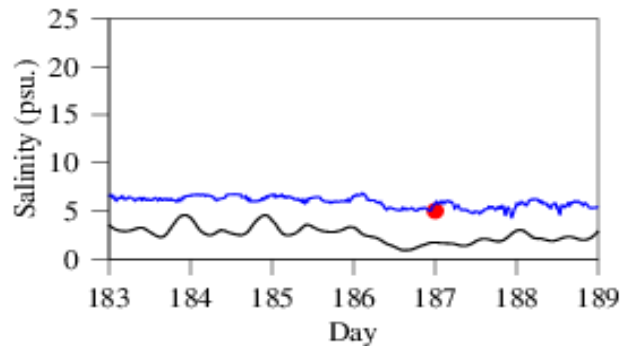
XHH3851_L_0 2004



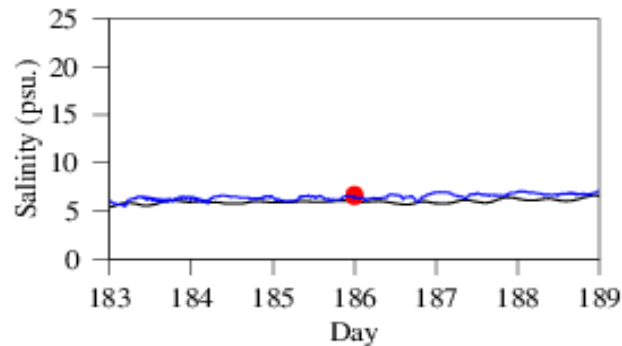
XHH3851_L_0 2005



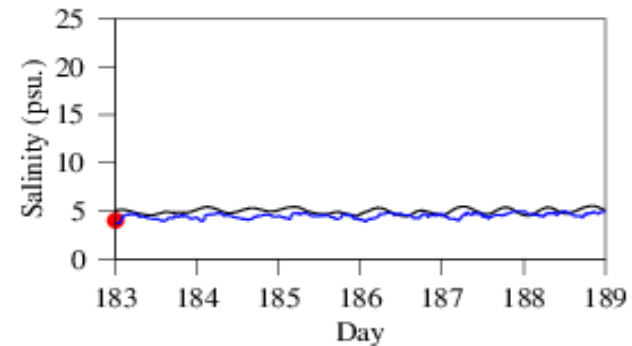
XHH3851_L_0 2006



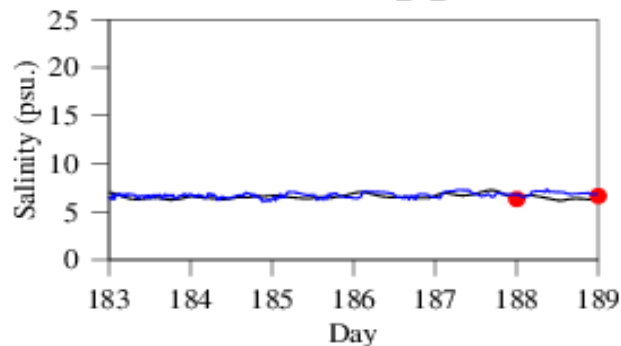
XHH3851_L_0 2007



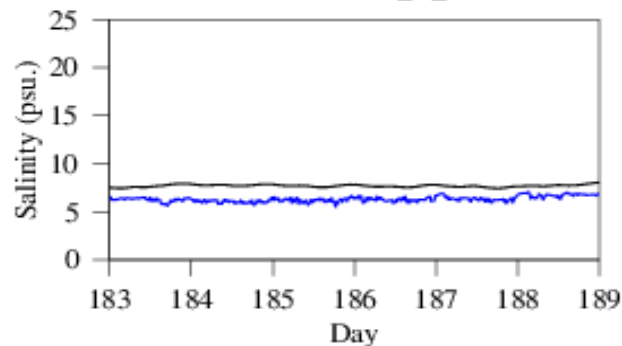
XHH3851_L_0 2008



XHH3851_L_0 2009

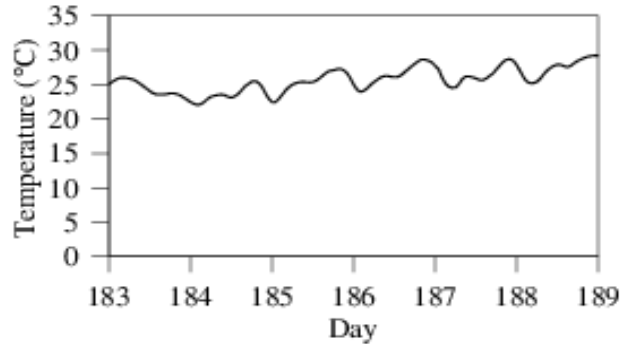


XHH3851_L_0 2010

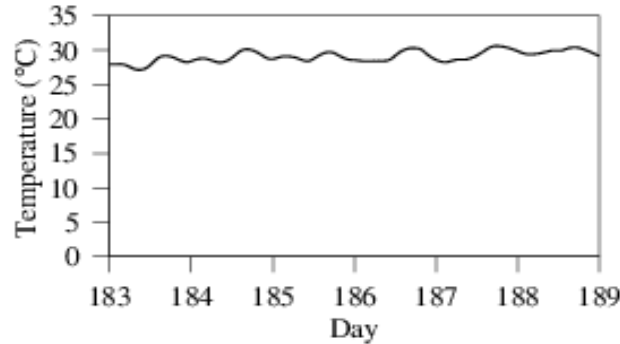


Zooming CMON T at XHH3851 (Corsica)

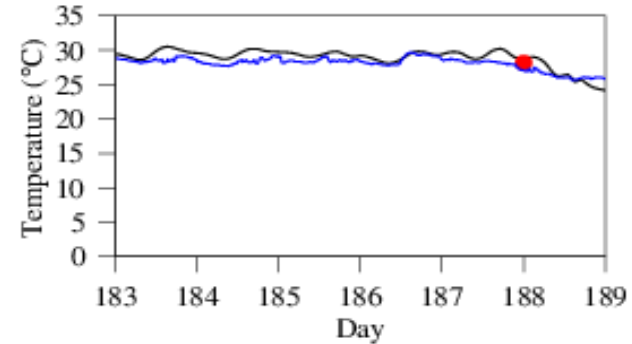
XHH3851_L_0 2003



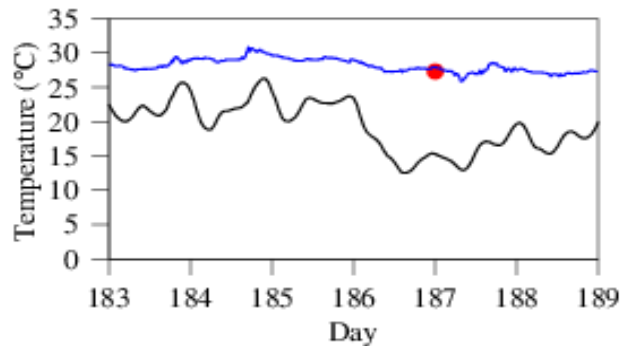
XHH3851_L_0 2004



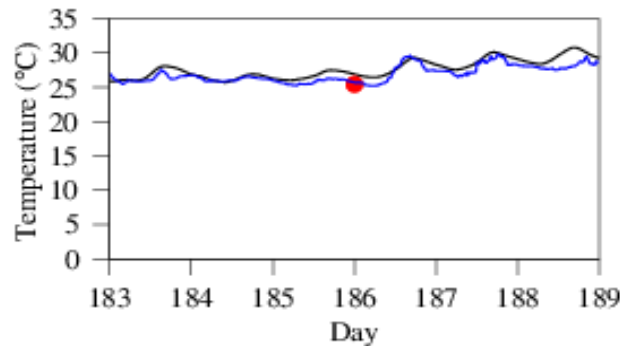
XHH3851_L_0 2005



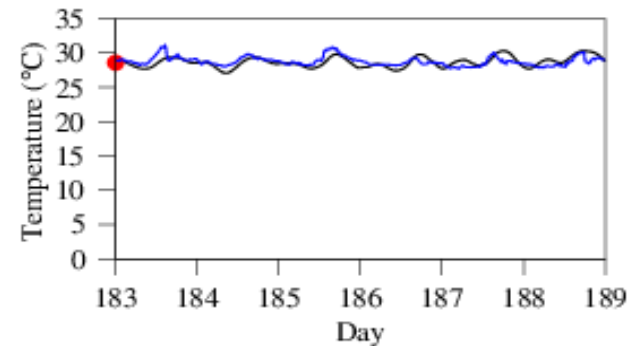
XHH3851_L_0 2006



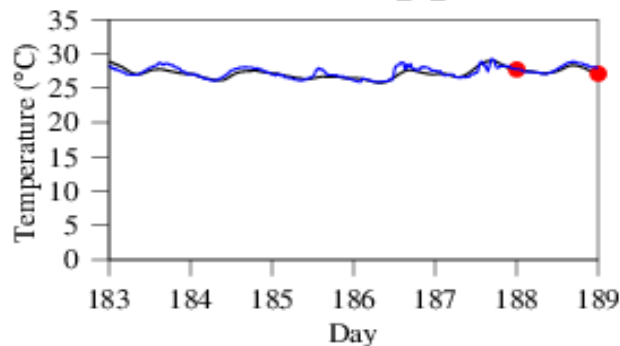
XHH3851_L_0 2007



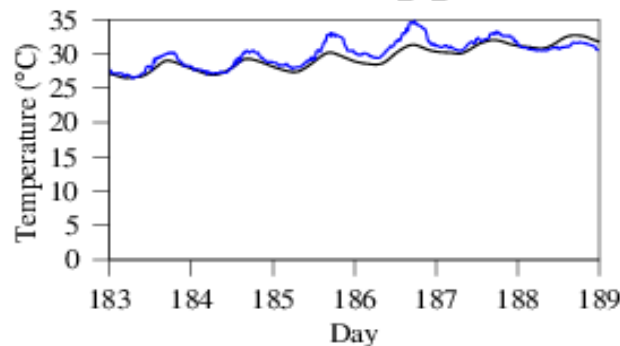
XHH3851_L_0 2008



XHH3851_L_0 2009



XHH3851_L_0 2010



Future improvement

- **Abrupt change in surface T 2006**
- **Overestimate of T (slightly)**
- **Stratification**