

Progress report on shallow water modeling in the Chester River with FVCOM-ICM application

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

**Modeling team meeting
Nov. 25 2014**

Outline

CMON data

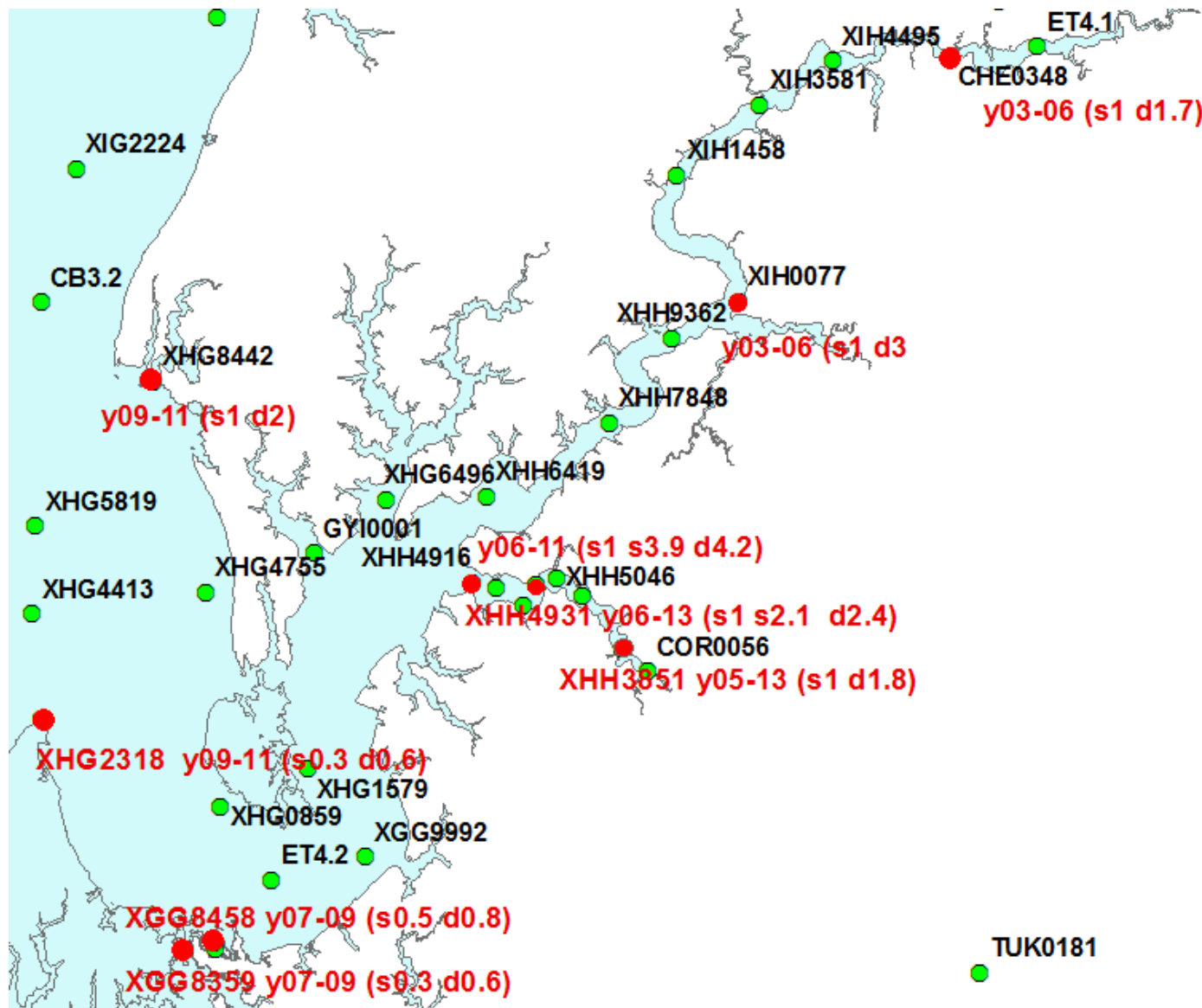
Cruise date

Forcing data

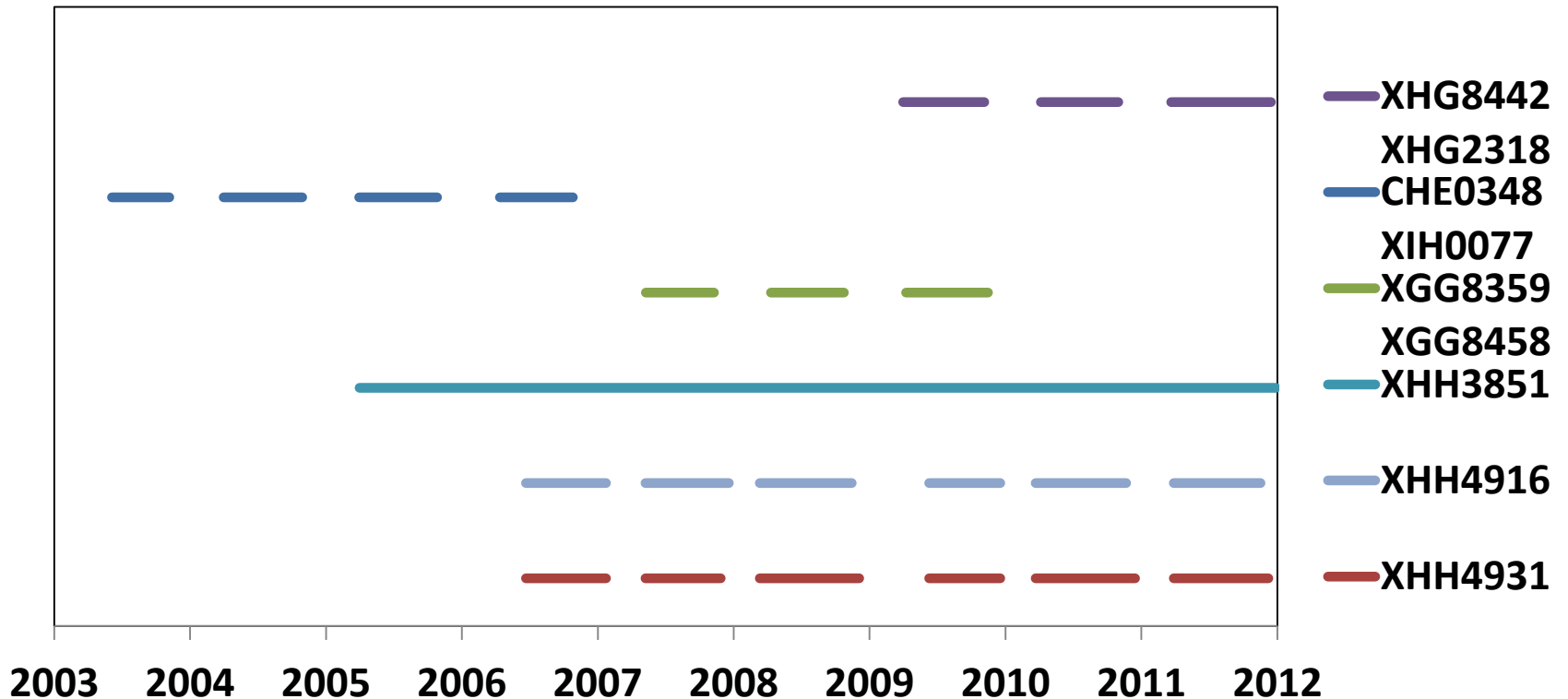
Model

Preliminary result

Chester Shallow Water Monitoring Stations



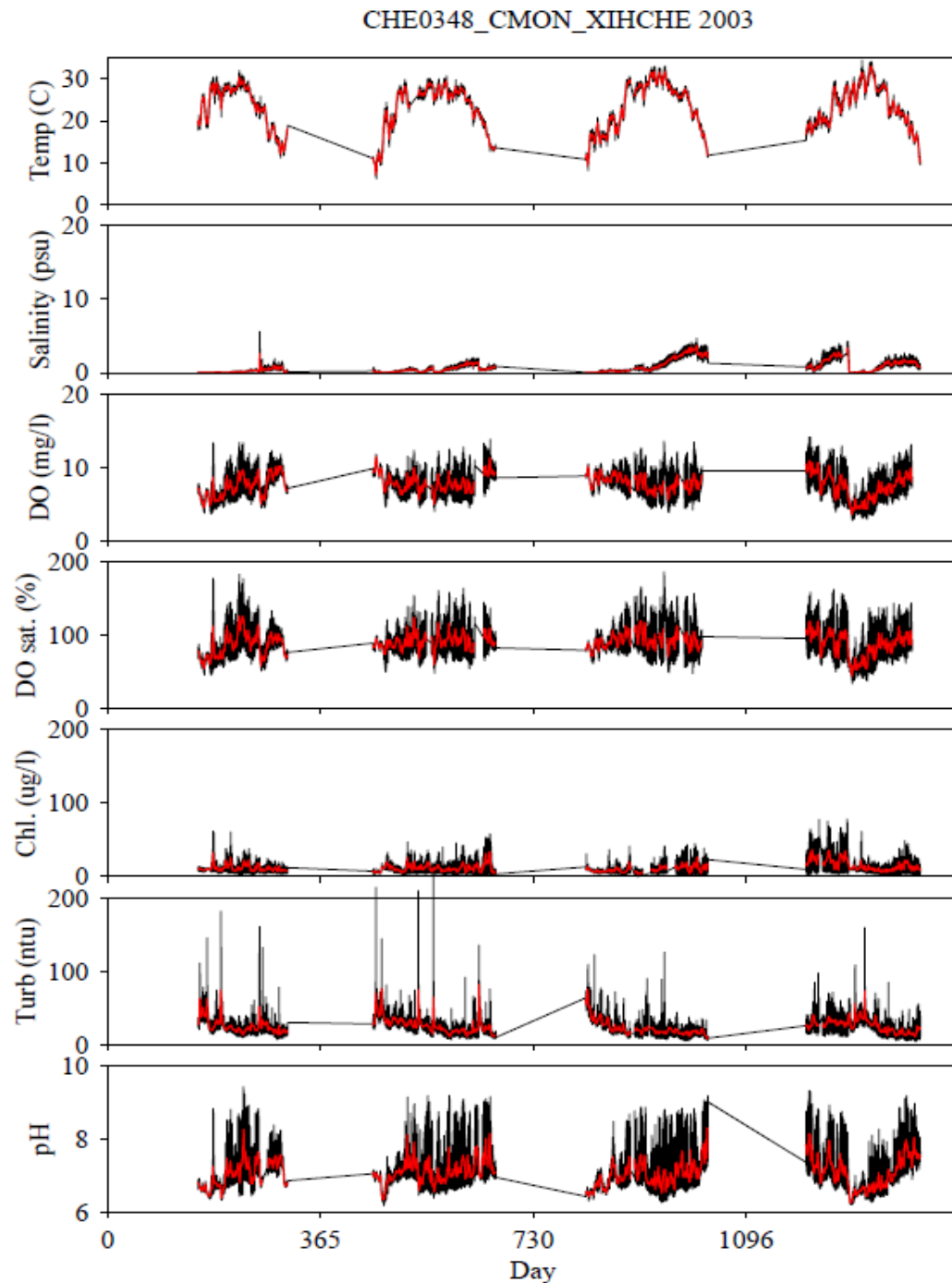
CMON data availability at different stations (T, S, Ph, DO, Chl, Turb)



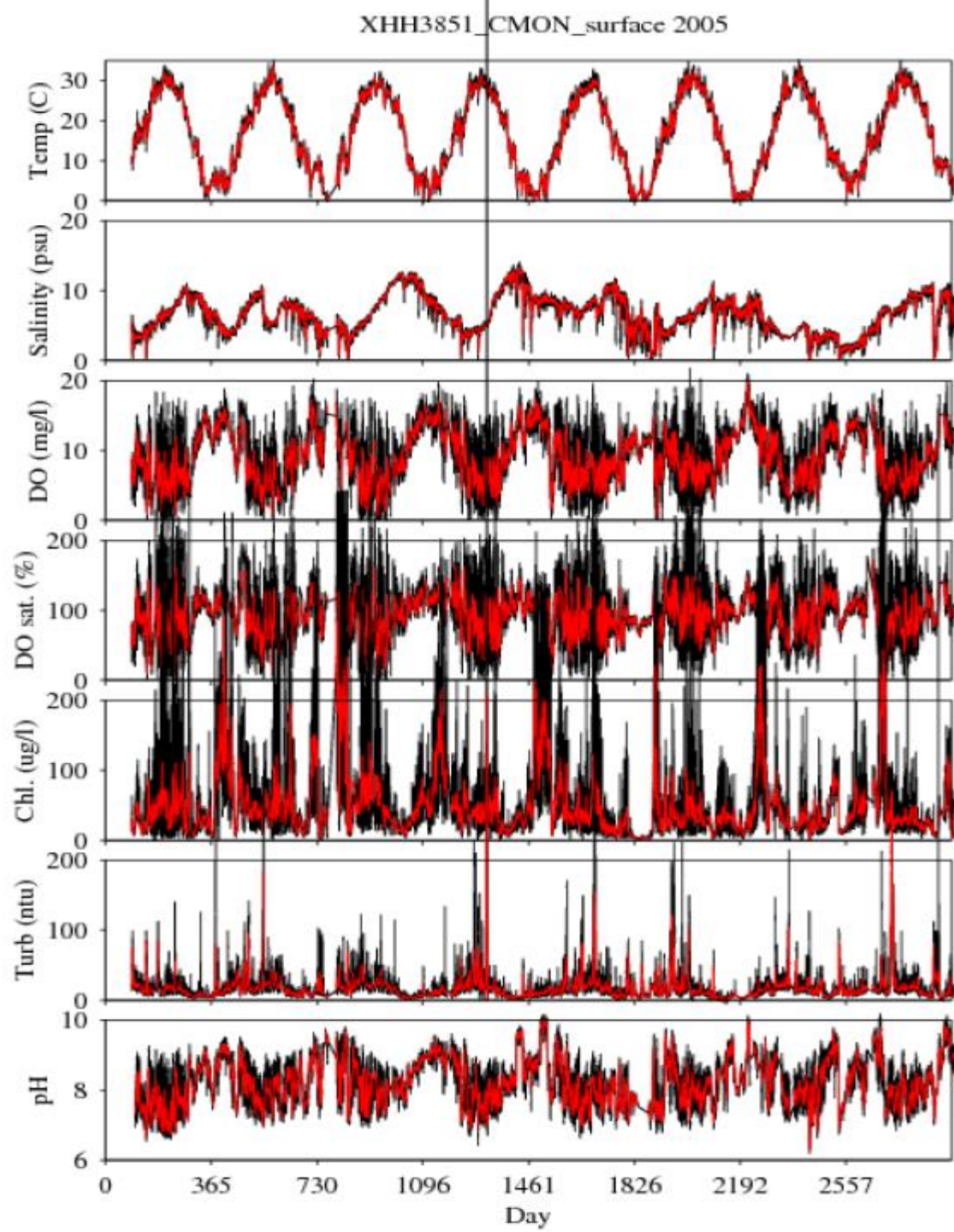
CMON data availability at different stations (T, S, Ph, DO, Chl, Turb)

Station	Month	Year
CHE0348	Jun. 5 – Oct. 26	2003 – 2006
XIH0077	Jun. 5 – Oct. 26	2003 – 2006
XGG8359	May 10 – Nov 15	2007 – 2009
XGG8458	May 10 – Dec. 4	2007 – 2009
XHH3851	Apr. 1 – Dec. 31	2005 – 2013
XHH4916	Jun 22 – Nov. 17	2006 – 2011
XHH4931	Jun. 22 – Dec. 4	2006 – 2013
XHG8442	Apr. 1 – Oct. 31	2009 – 2011
XHG2318	Apr. 1 – Dec. 15	2009 – 2011

Surface CMON data at CHE0348 2003-2006



**Surface
CMON
data at
CHE3851
2005-2013**

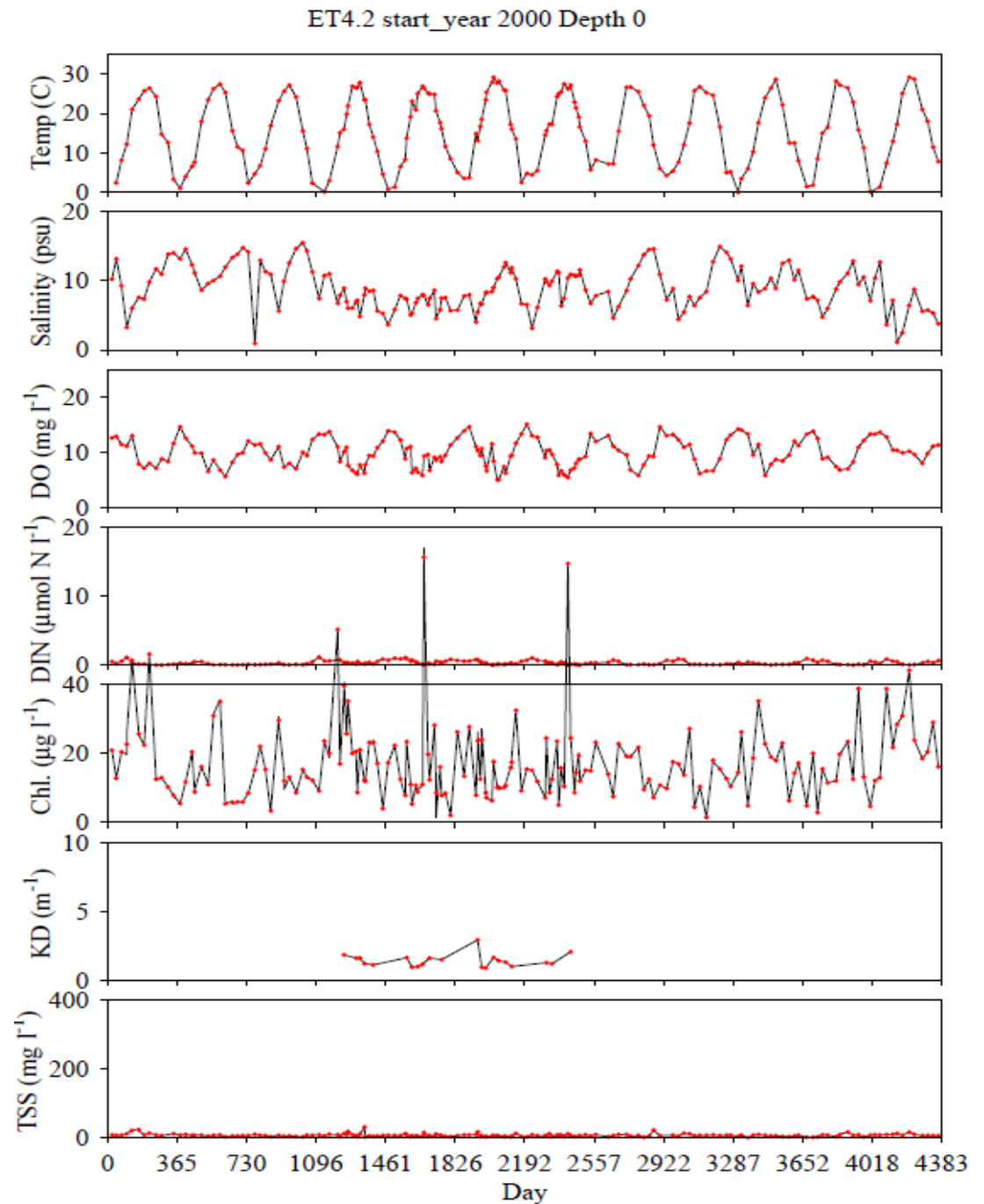


Grab data availability at different stations (Nutrient)

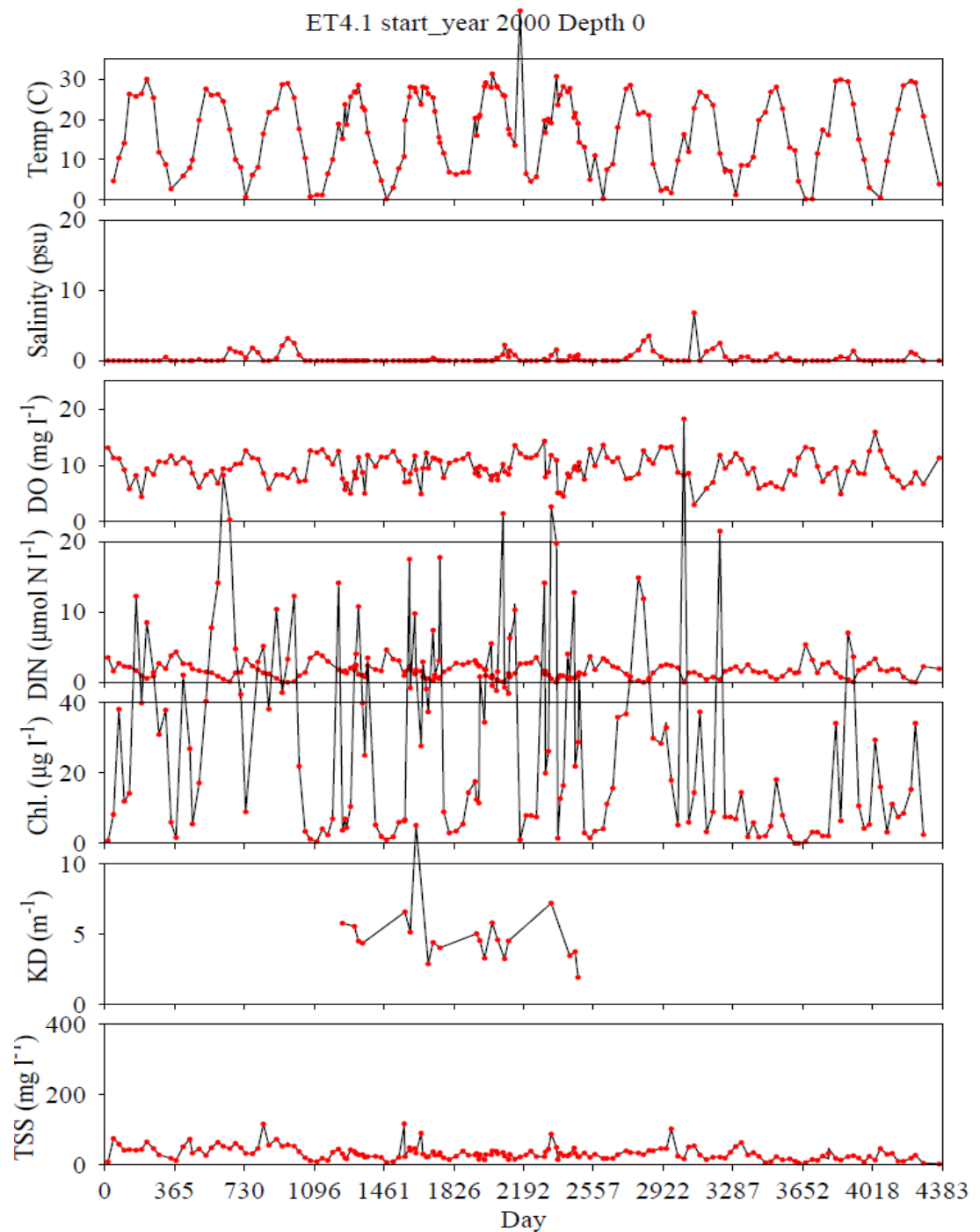
Station	Month	Year
ET4.2	Jan. 24 through Dec. 13	2000 - 2011
ET4.1	Jan. 18 through Dec. 13	2000 - 2011
CHE0348	May 29 – Oct. 26	2003 - 2006
XIH4495	May 29 – Oct. 30	2003
XIH3581	May 29 – Oct. 12	2003 - 2006
XIH0077	Jun. 5 – Oct. 26	2003 - 2006
XHH9362	May 29 – Oct. 30	2003
XHH7848	May 29 – Oct. 30	2003
XHH6419	May 27 – Oct. 12	2003 - 2006

Station	Month	Year
XHH4822	May 27 – Oct. 13	2003 - 2005
XHH5046	May 26 – Jun. 8	2005 - 2006
XHH3851	Apr. 1 - Dec. 8	2005 - 2011
XHG6496	May 27 – Oct. 12	2003 - 2006
GYI0001	May 27 – Oct. 12	2003 - 2006
XHG1579	May 27 – Oct. 12	2003 - 2006
XGG9992	May 27 – Oct. 12	2003 - 2006
XHG0859	May 27 – Oct. 12	2003 - 2006
XGG8359	May 10 – Oct. 22	2007 - 2009
XGG8251	Jan. 18 – Dec. 13	2000 - 2011
XGG8458	May 10 – Oct. 4	2007 - 2009

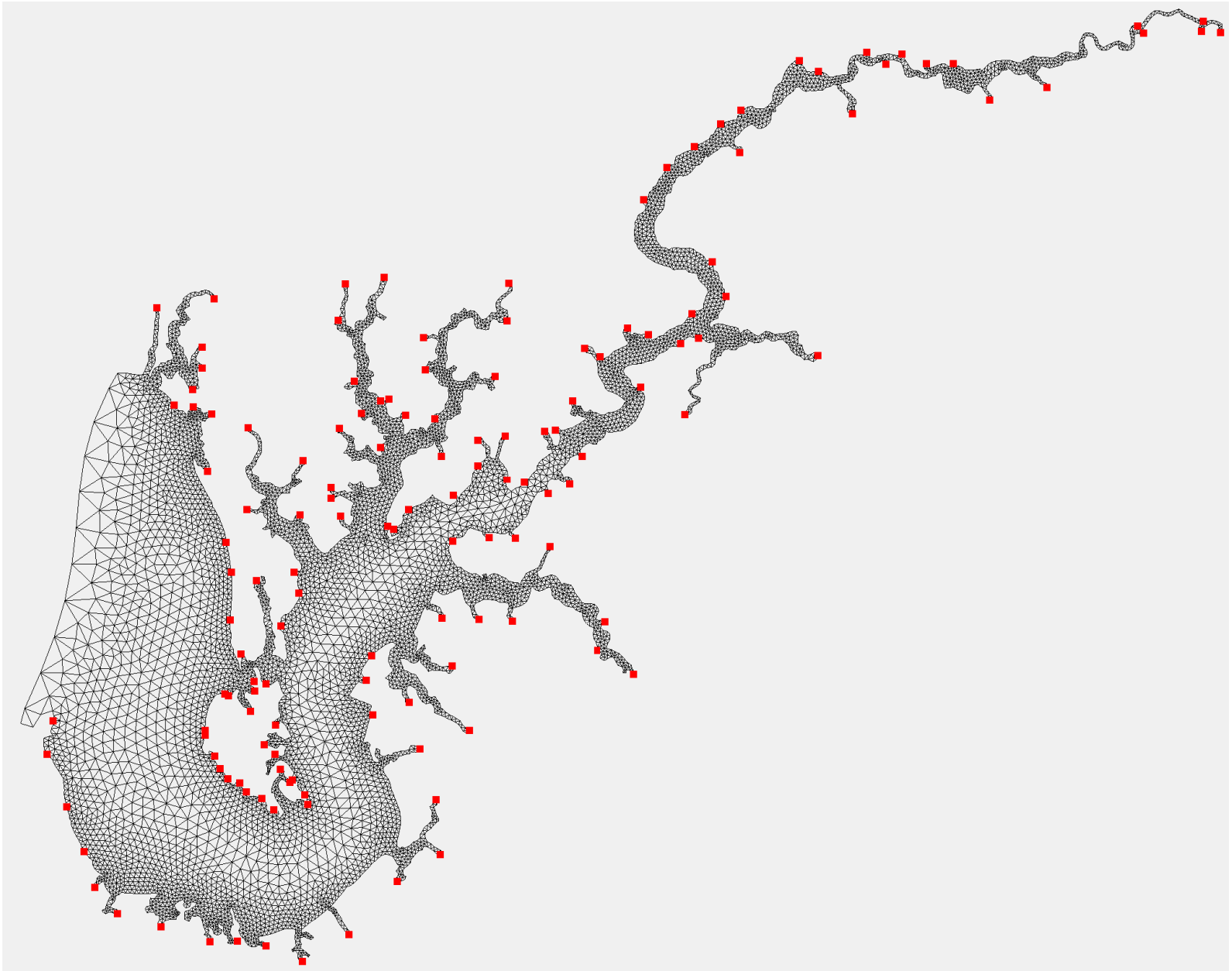
Surface Monitoring data at ET4.2 2000-2011



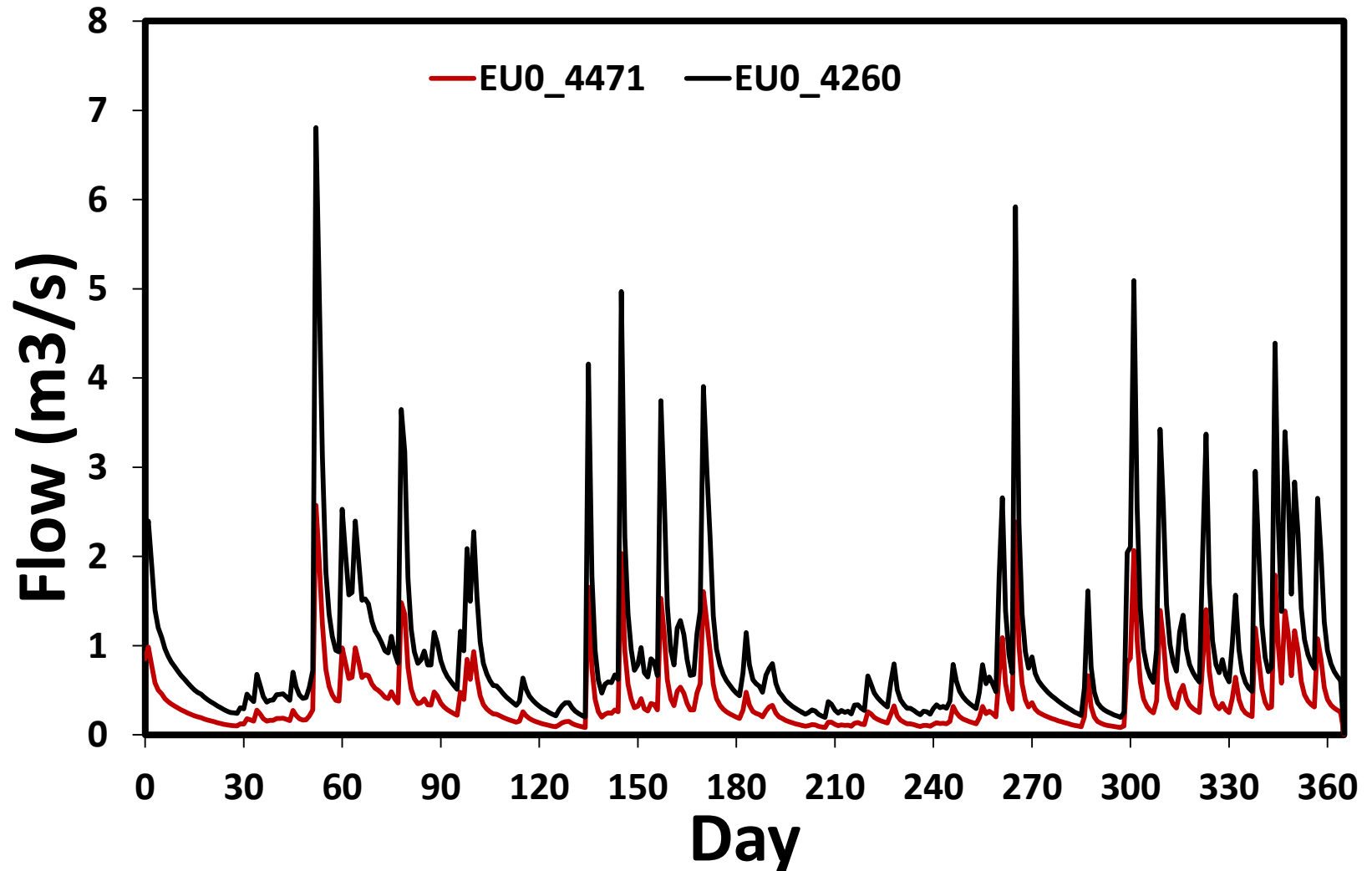
Surface Monitoring data at ET4.1 2000-2011



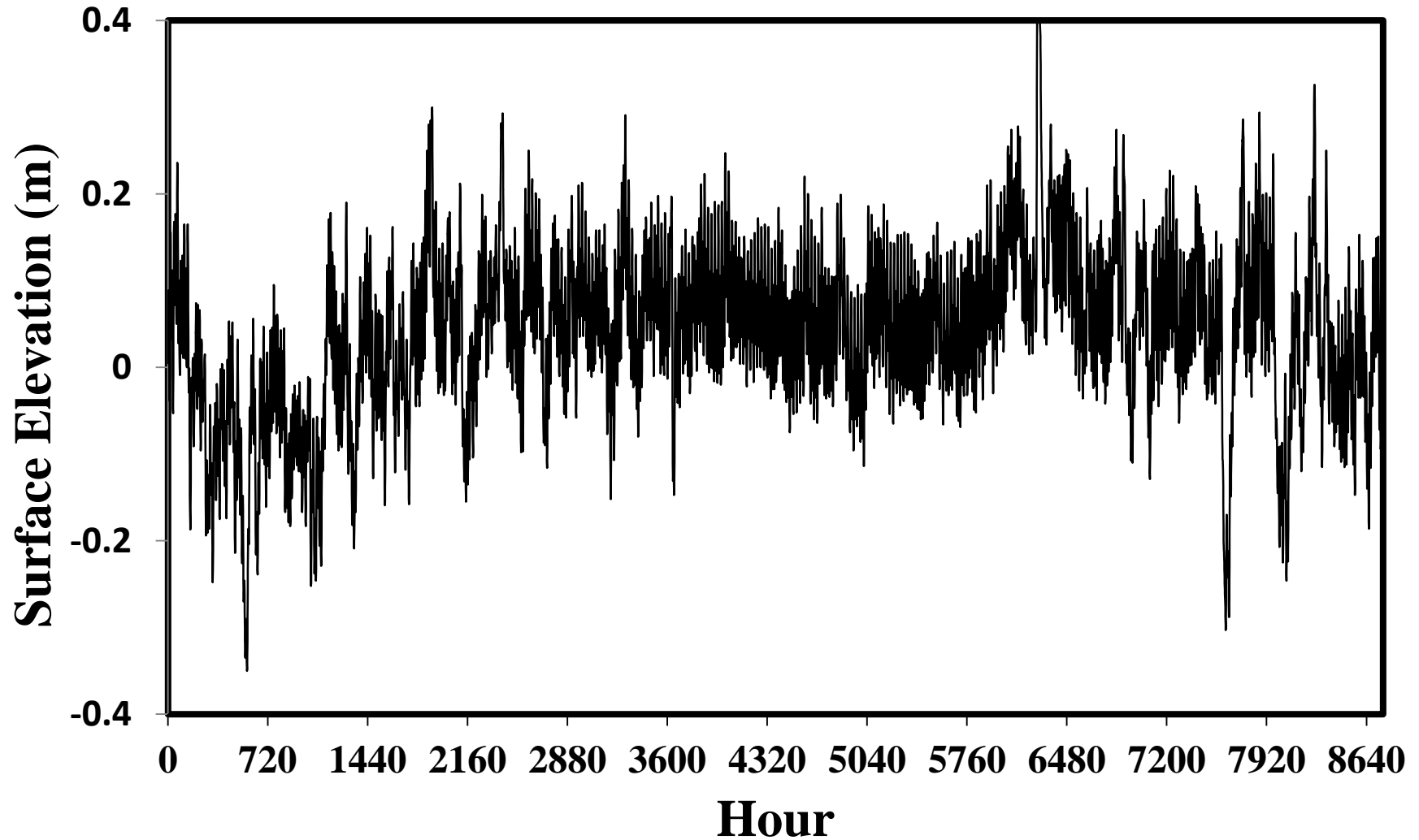
Grid and River input to the Chester domain



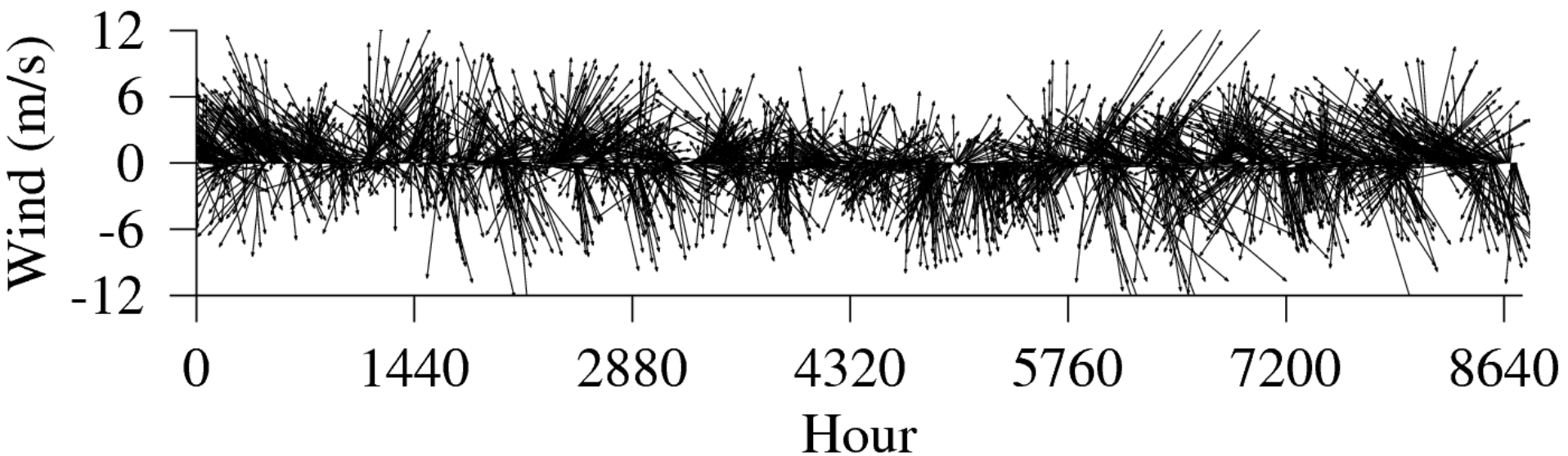
River Flow (2003)



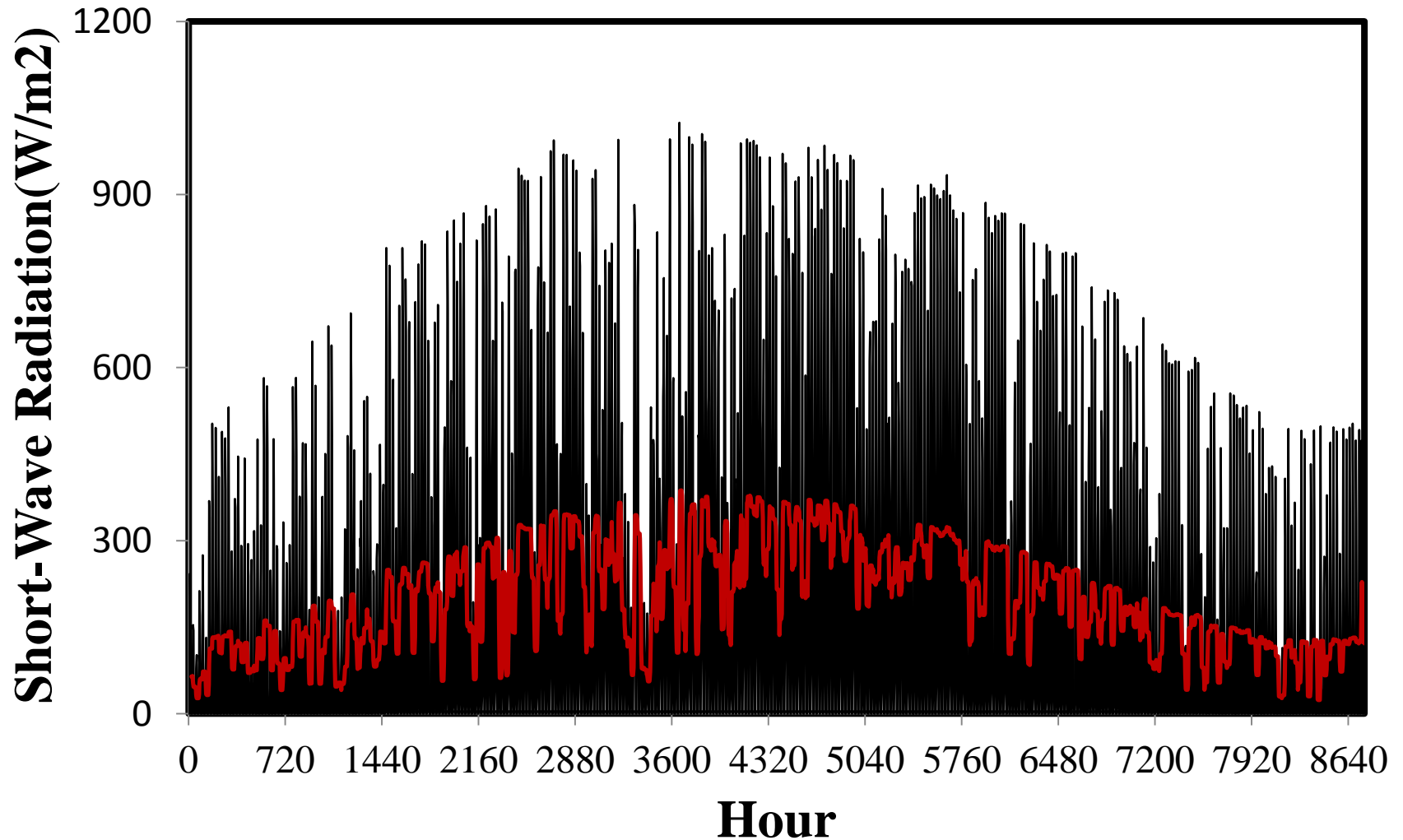
Hourly surface elevation (2003 cell 10013)



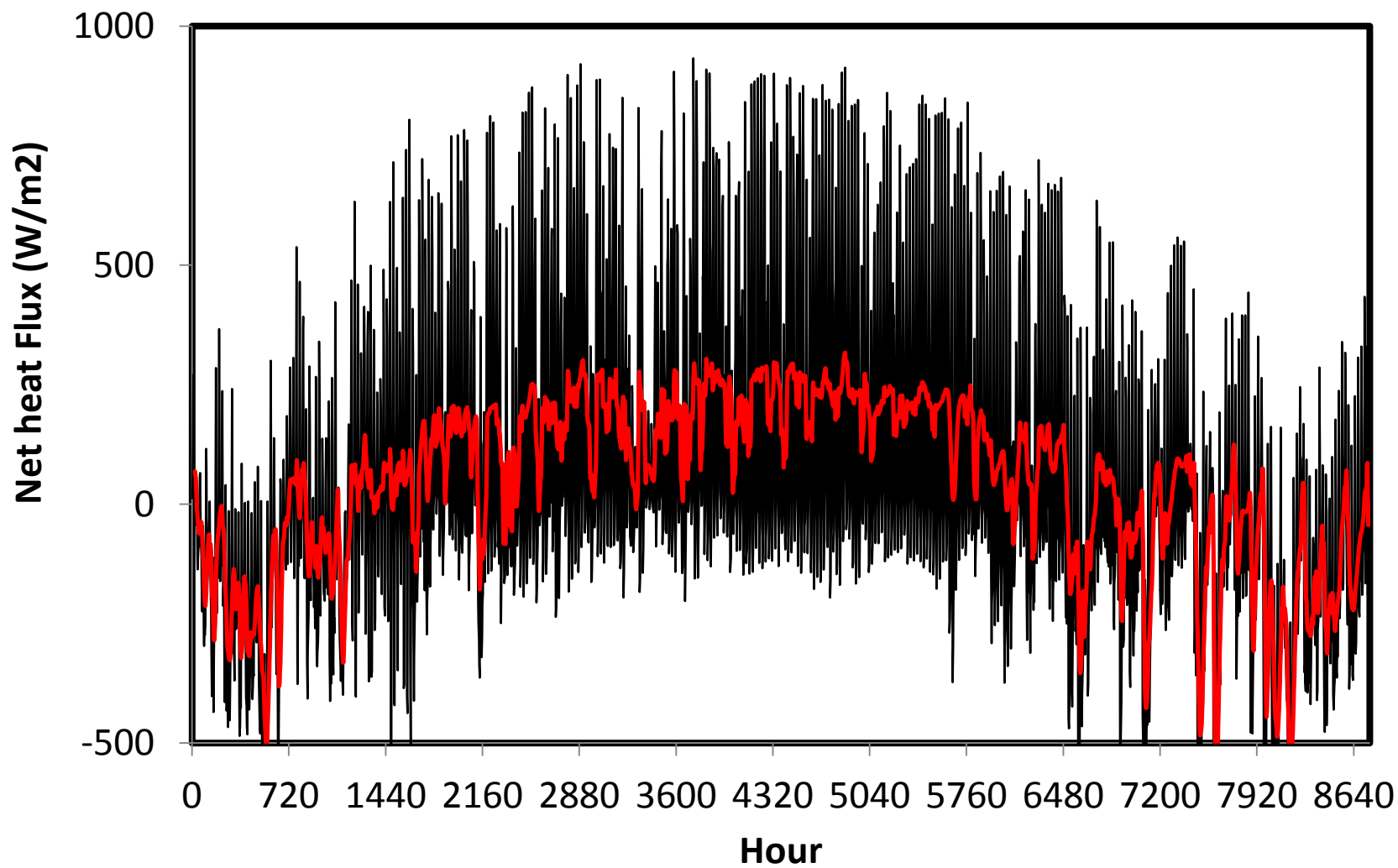
THOMAS POINT WIND (2003)



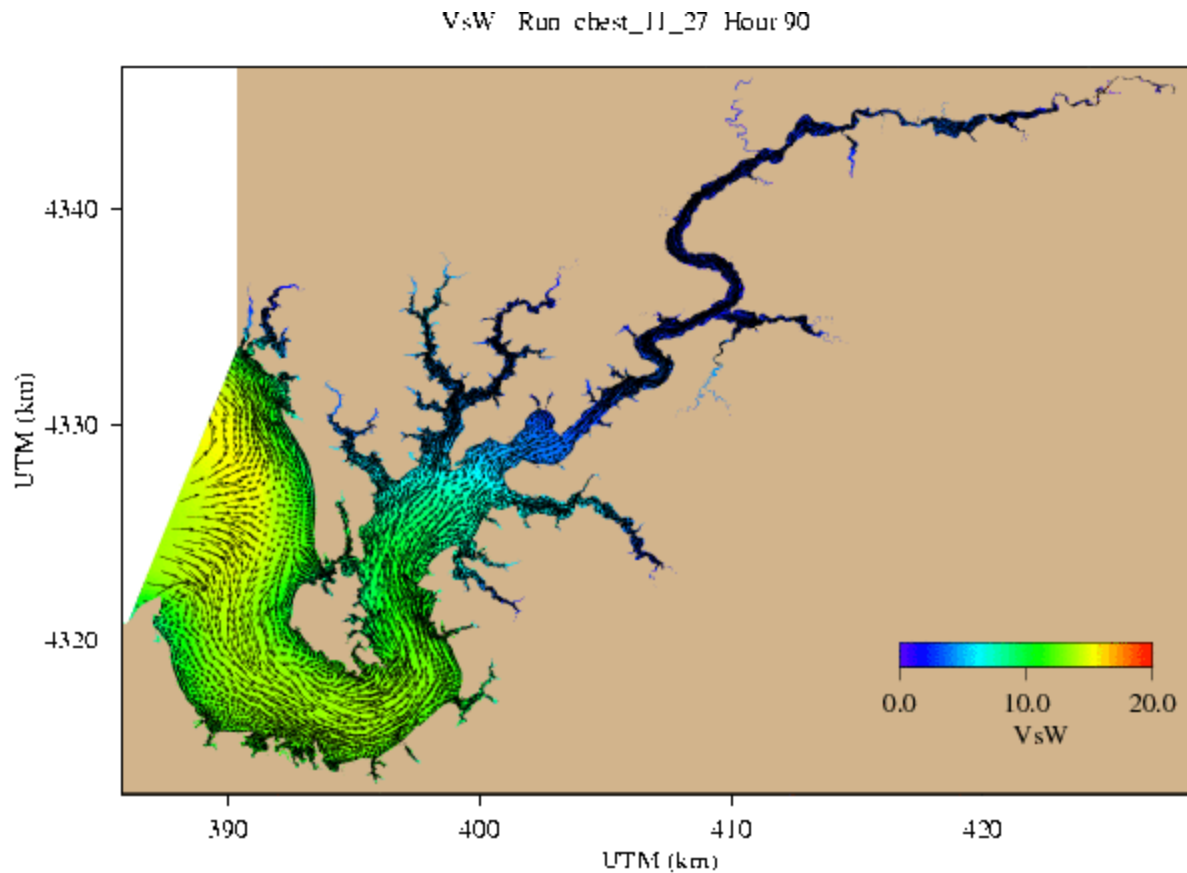
NARR Shortwave Radiation (2003)



NARR Net Heat Flux)

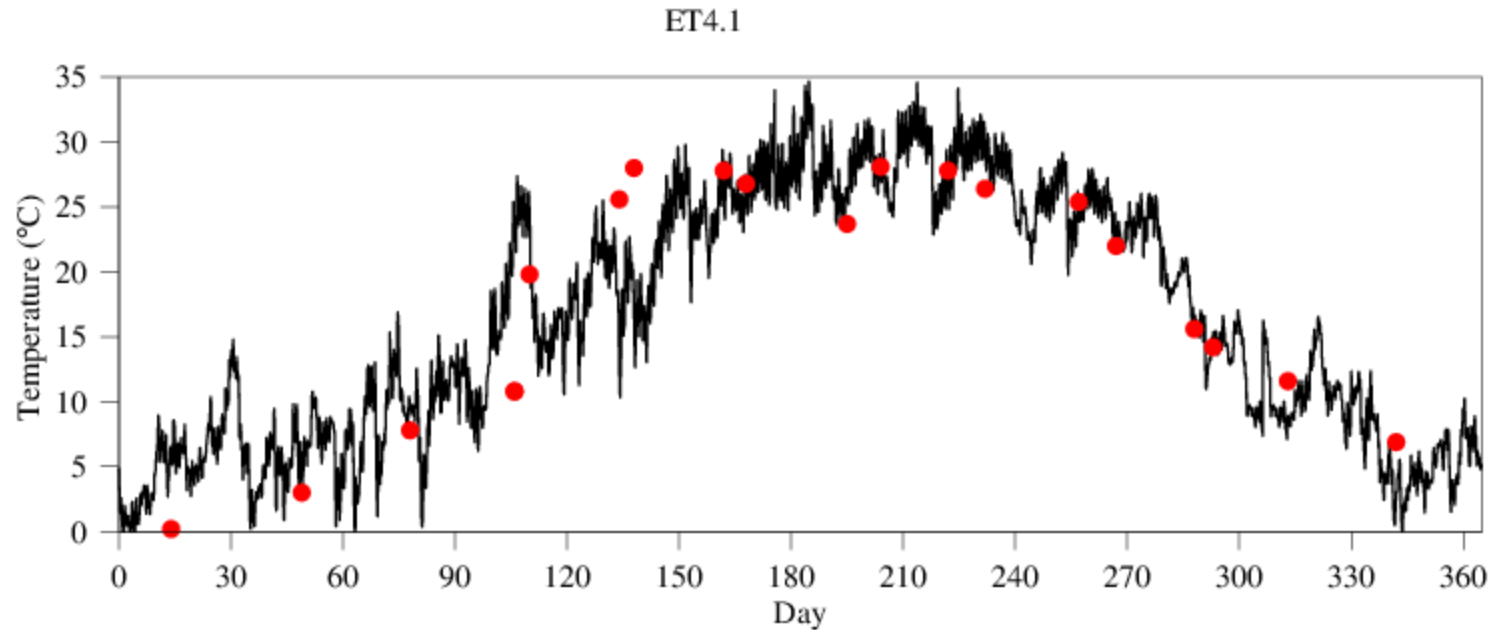


Movie of simulated surface current and salinity in March

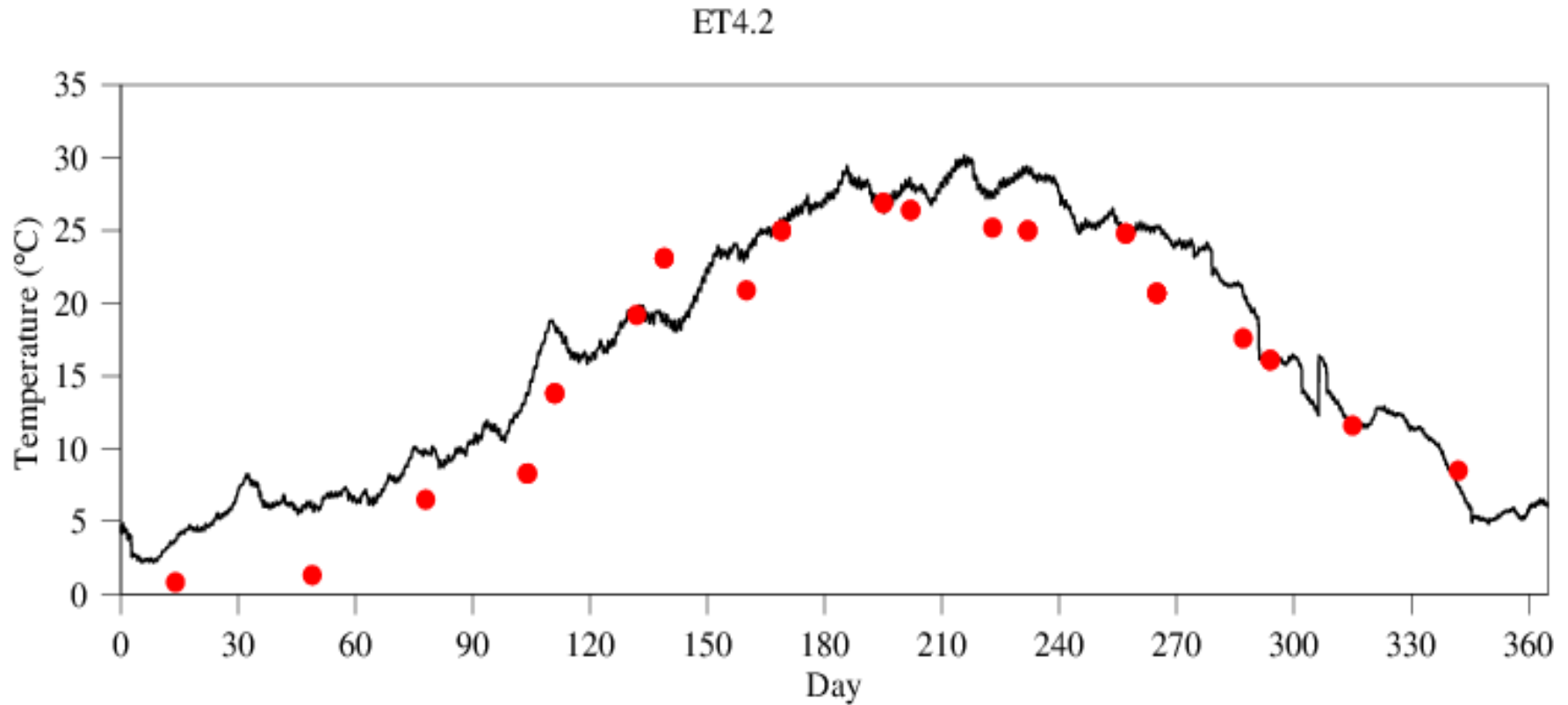


Surface temperature at ET4.1

Simulation (line) versus data (dot)

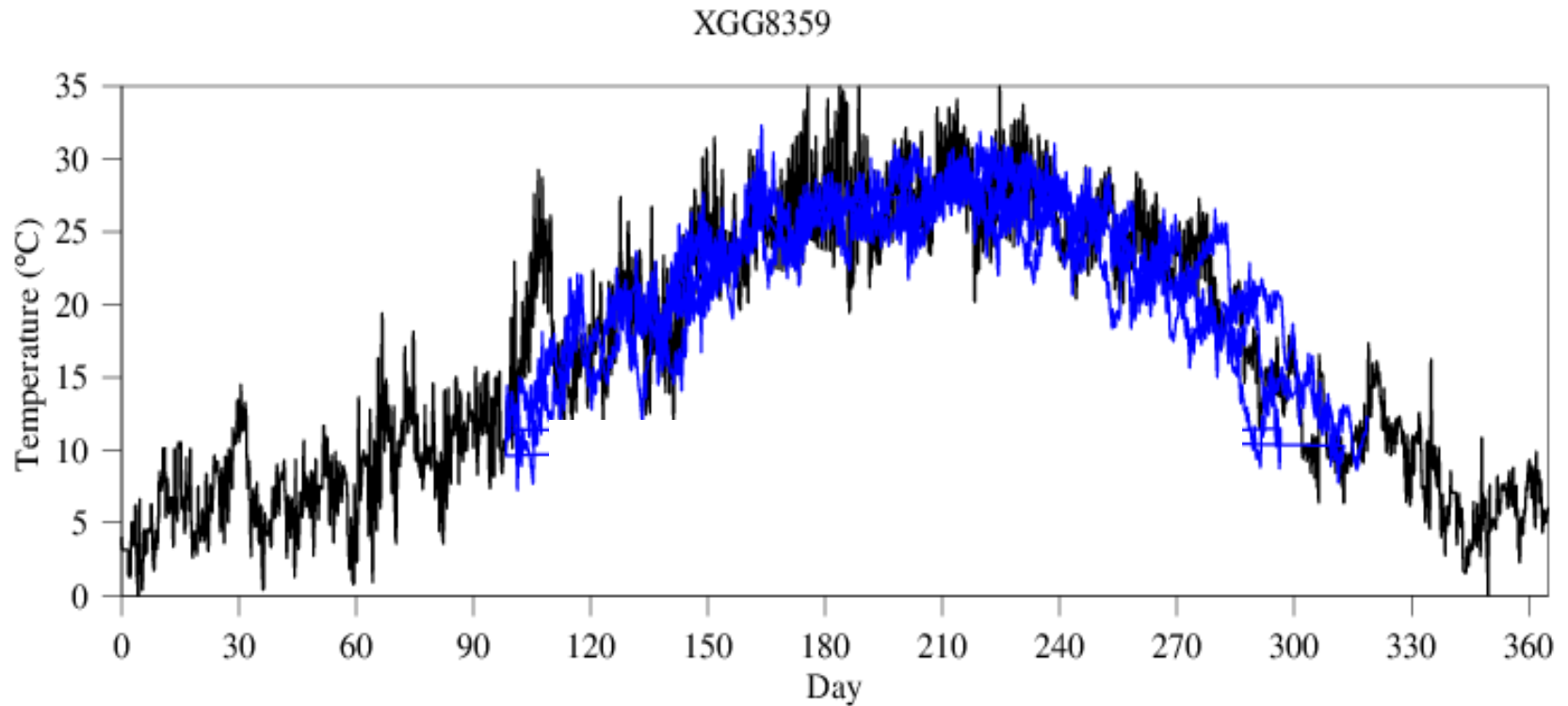


Surface temperature at ET4.2



Surface temperature at XGG8359

Simulation (black) versus CMON data (blue)



Salinity is off in oligo-haline region

