

# Appendix A

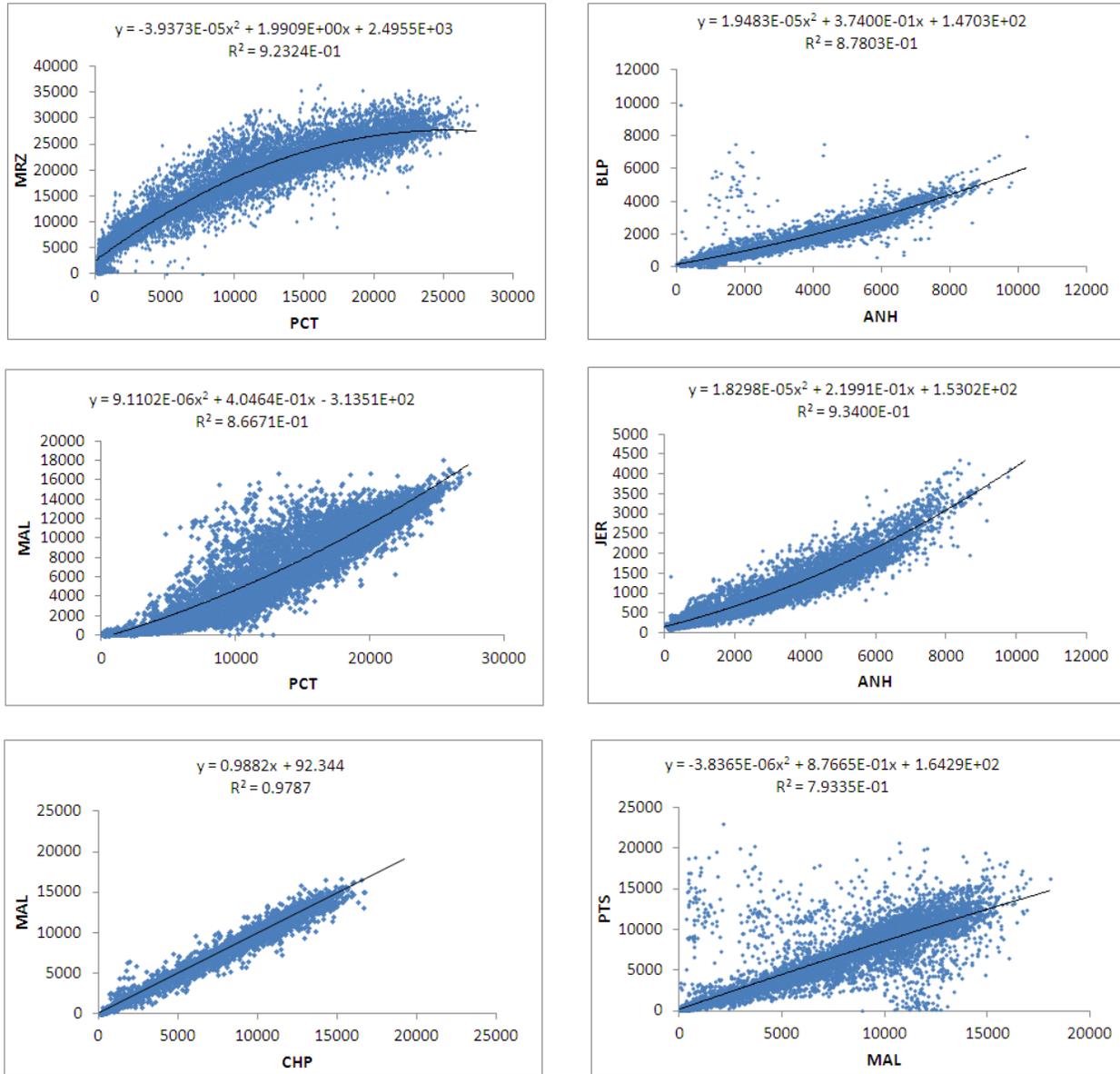
## Correlations Used to Fill Data Gaps in CDEC Stations

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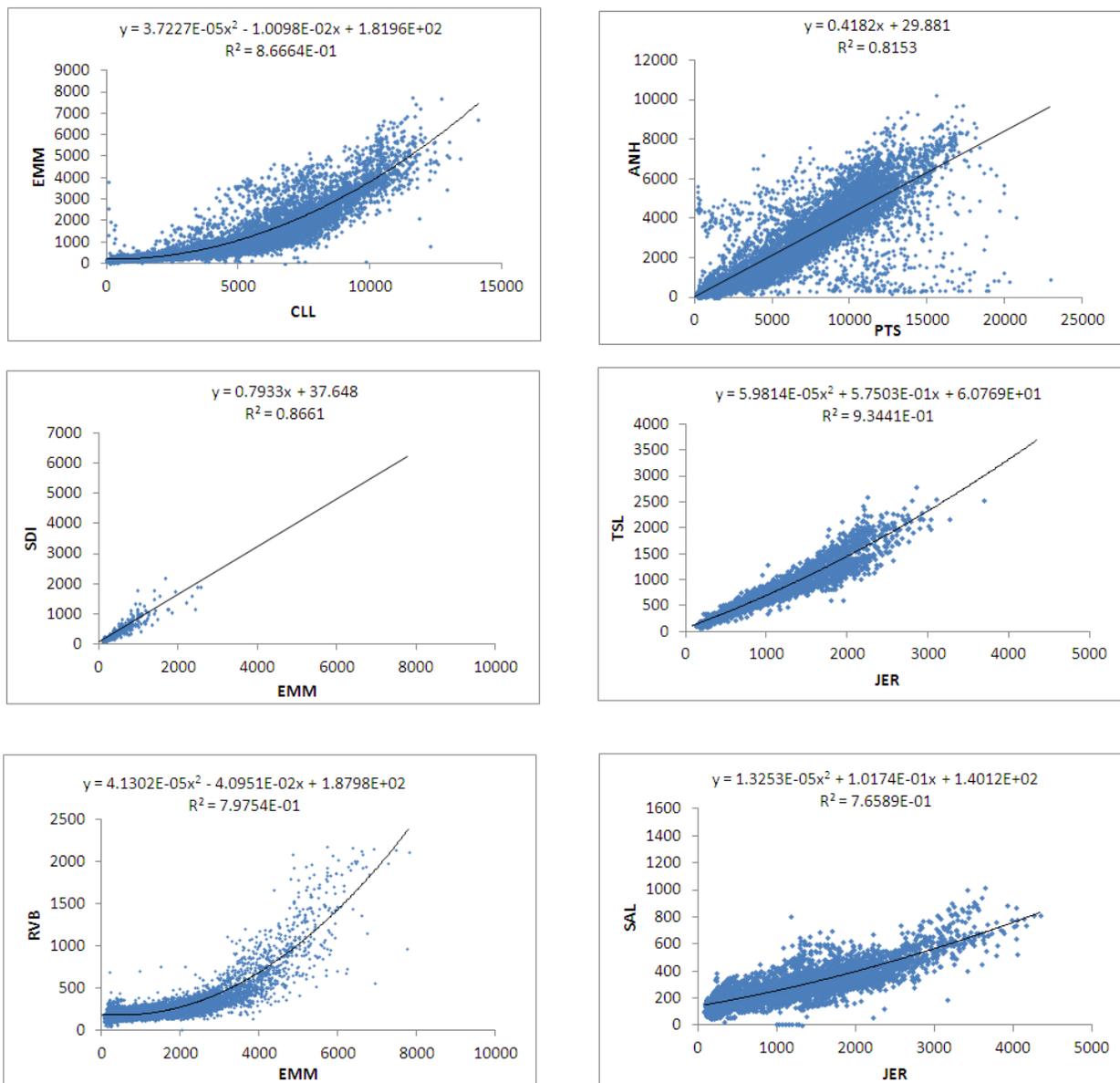
Correlations of EC between adjacent stations were used to fill larger data gaps (>8 days) in the cleaned CDEC dataset. These adjacent data pairs include:

- Martinez vs. Pt Chicago
- Pt. Chicago vs. Mallard
- Mallard vs Chipps
- Mallard vs Collinsville
- Collinsville vs Emmaton
- Emmaton vs Decker Island
- Emmaton vs Rio Vista
- Malard vs Pittsburg
- Pittsburg vs Antioch
- Antioch vs Blind Point
- Antioch vs Jersey Point
- Jersey Point vs 3-Mile Slough
- Jersey Point vs San Andreas

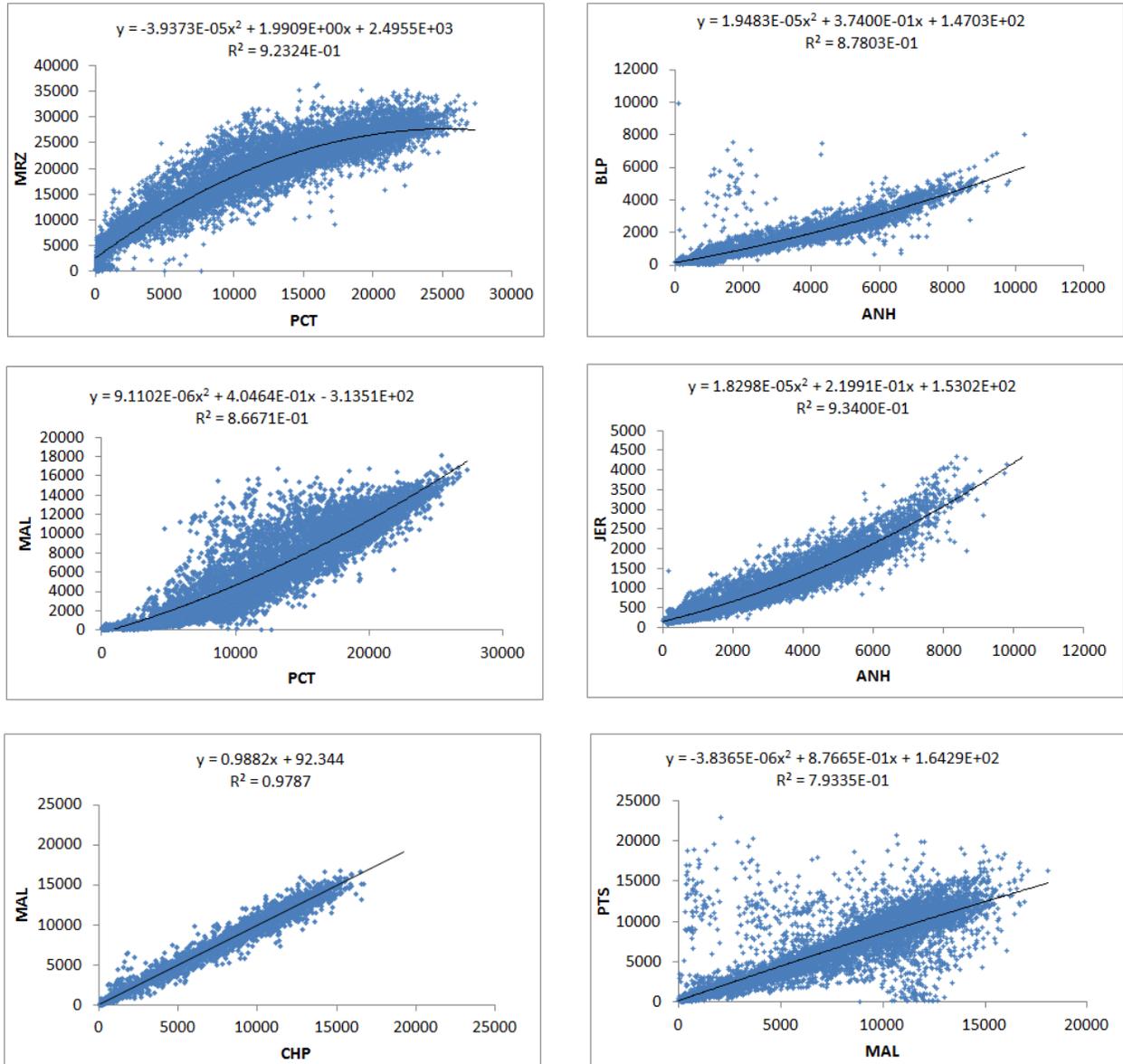
The filing of the data follow the sequence listed above. Correlations for the adjacent stations are shown in Figure A-1 to Figure A-4.



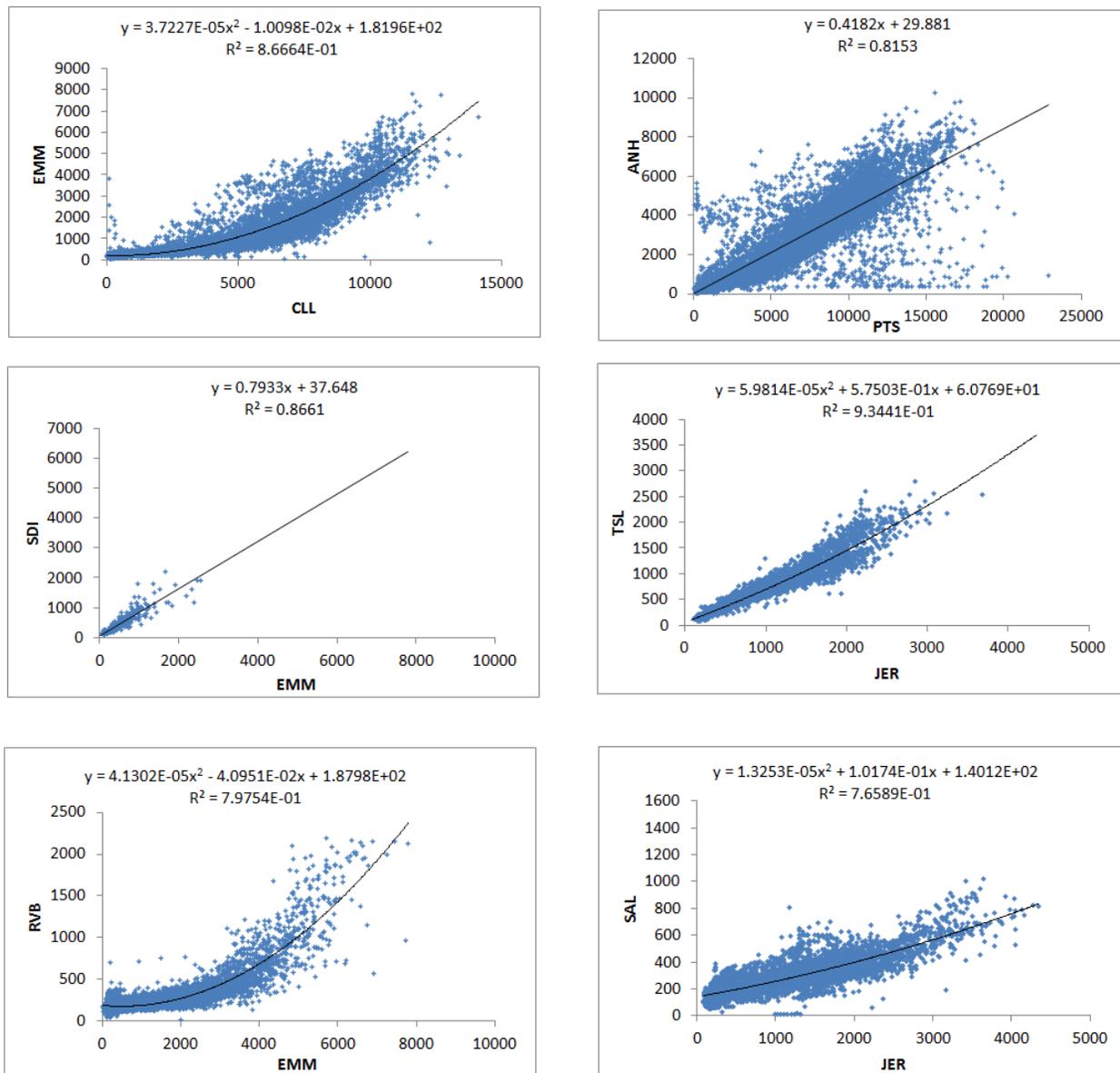
**Figure A-1 Correlation of EC between adjacent stations (MRZ vs PCT, PCT vs MAL, MAL vs CHP, BLP vs ANH, JER vs ANH, PTS vs MAL).**



**Figure A-2 Correlation of EC between adjacent stations (EMM vs CLL, SDI vs EMM, RVB vs EMM, ANH vs PTS, TSL vs JER, SAL vs JER).**



**Figure A-3 Correlation of EC between adjacent stations (PCT vs MRZ, PCT vs MAL, CHP vs MAL, ANH vs BLP, ANH vs JER, and MAL vs PTS).**



**Figure A-4** Correlation of EC between adjacent stations (CLL vs EMM, EMM vs SDI, EMM vs RVS, PTS vs ANH, JER vs TSL, and JER vs SAL).



# Appendix B

## Processes Used to Fill Data Gaps in Bay Stations

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Salinity data for stations in the bay (PSP and CAR) at 15 minute time steps were obtained from USGS. The data were converted to daily data and filled for small data gaps (< 8 days) using linear interpolation. For larger data gaps (>8 days), non-linear relationships (Figure B-1, and Figure B-2) between PSP and CAR was used to fill the gaps. Other data gaps are filled using data from the Benicia Bridge (BEN) and Presidio (PRE) stations, using similar non-linear correlations between the stations (Figure B-3 through Figure B-6). Results of filled and unfilled data are shown in Figure B-7 and Figure B-8.

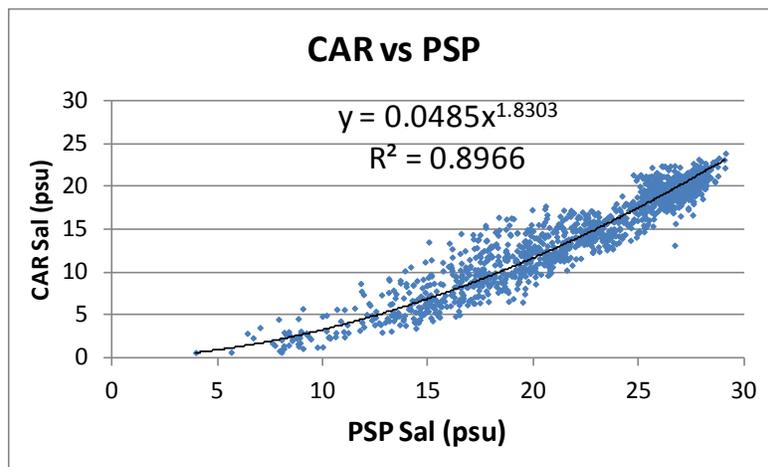


Figure B-1 Relationship between salinity at CAR and PSP.

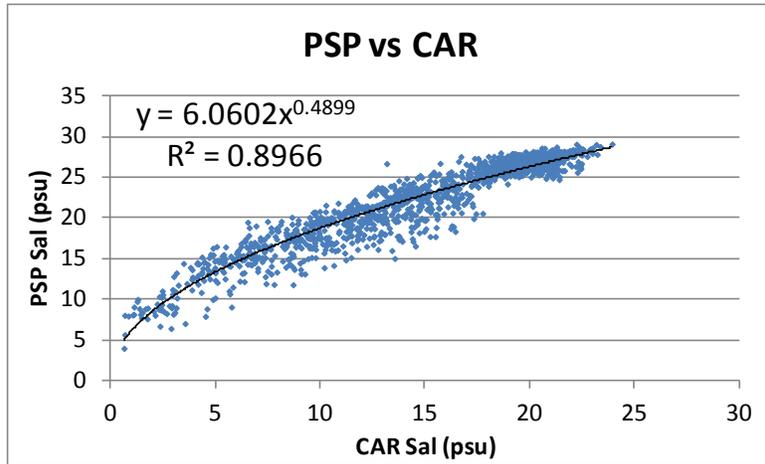


Figure B-2 Relationship between salinity at PSP and CAR.

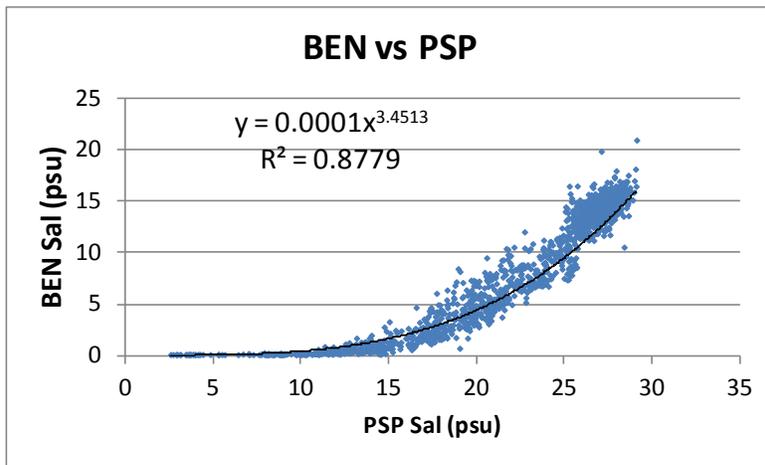
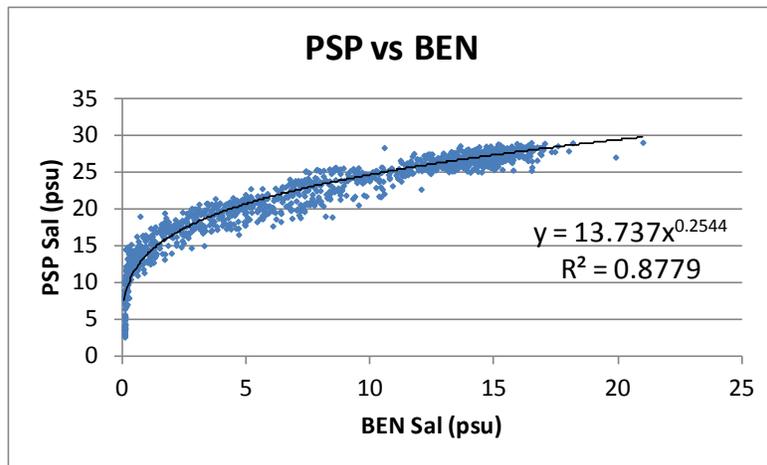
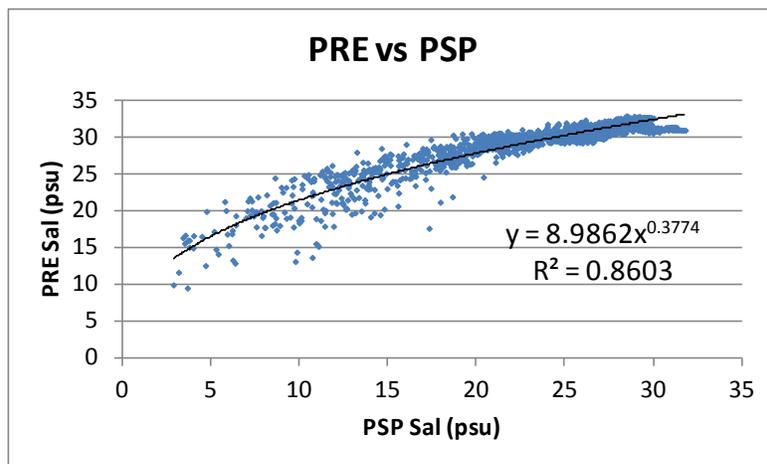


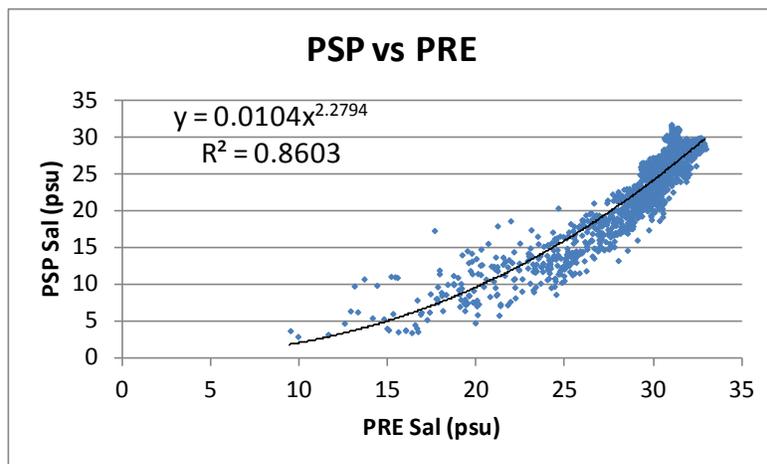
Figure B-3 Relationship between salinity at BEN and PSP.



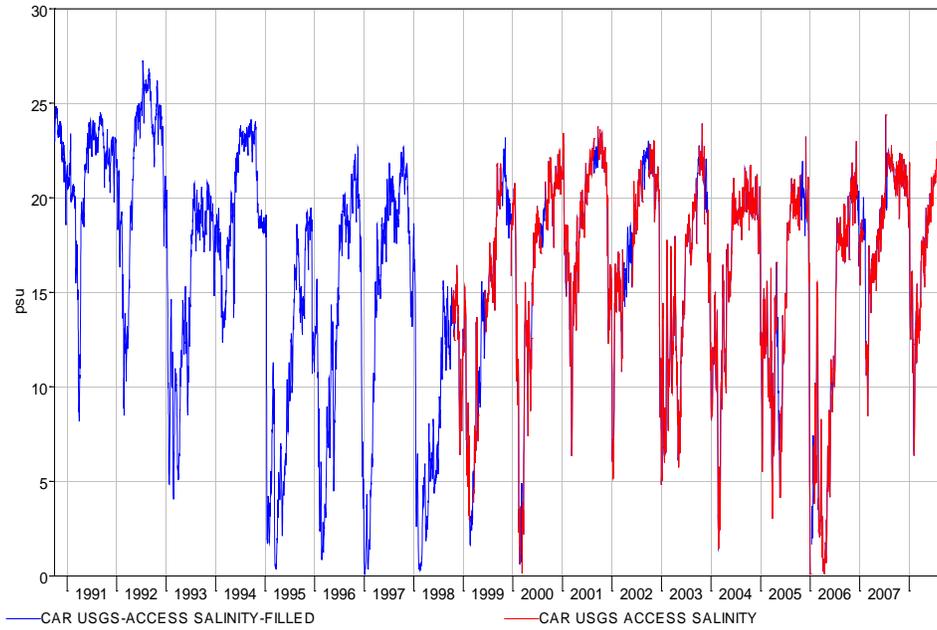
**Figure B-4** Relationship between salinity at PSP and BEN.



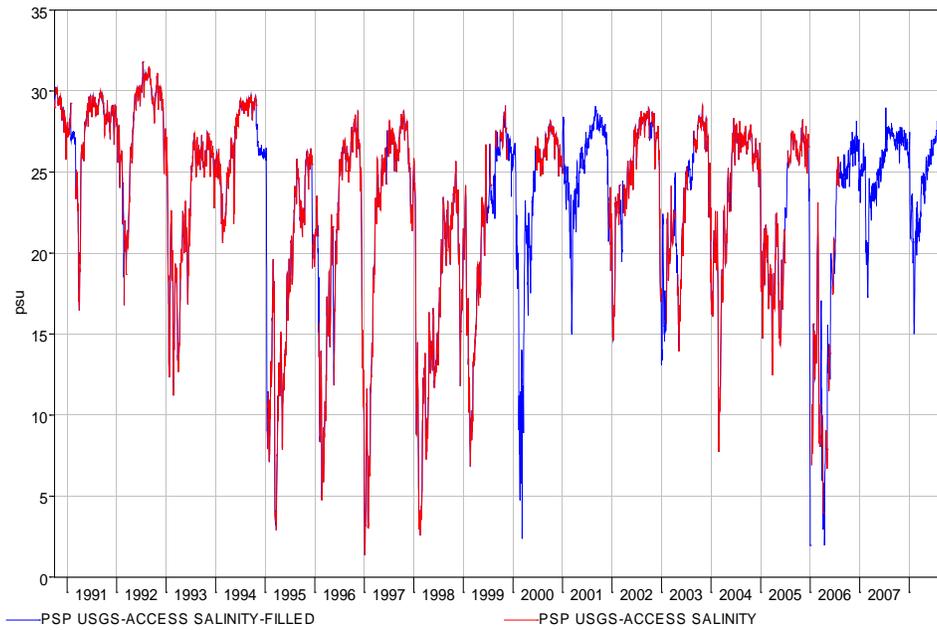
**Figure B-5** Relationship between salinity at PRE and PSP.



**Figure B-6** Relationship between salinity at PSP and PRE.



**Figure B-7 Filled and unfilled salinity at CAR (USGS).**



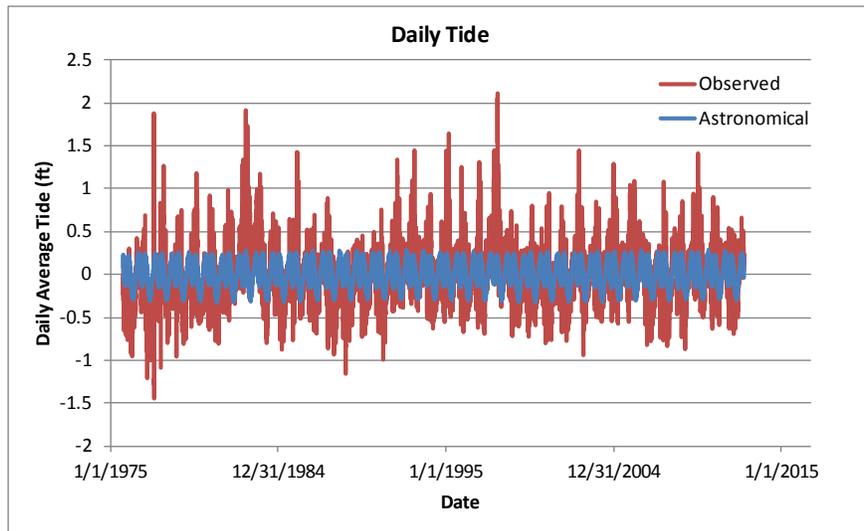
**Figure B-8 Filled and unfilled salinity at PSP (USGS).**

# Appendix C

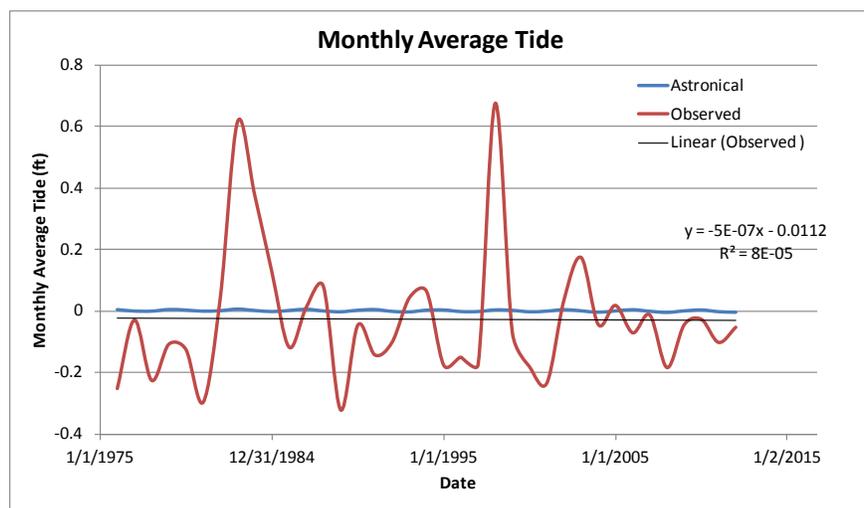
## Correlations of Astronomical Tide and Meteorological Variables

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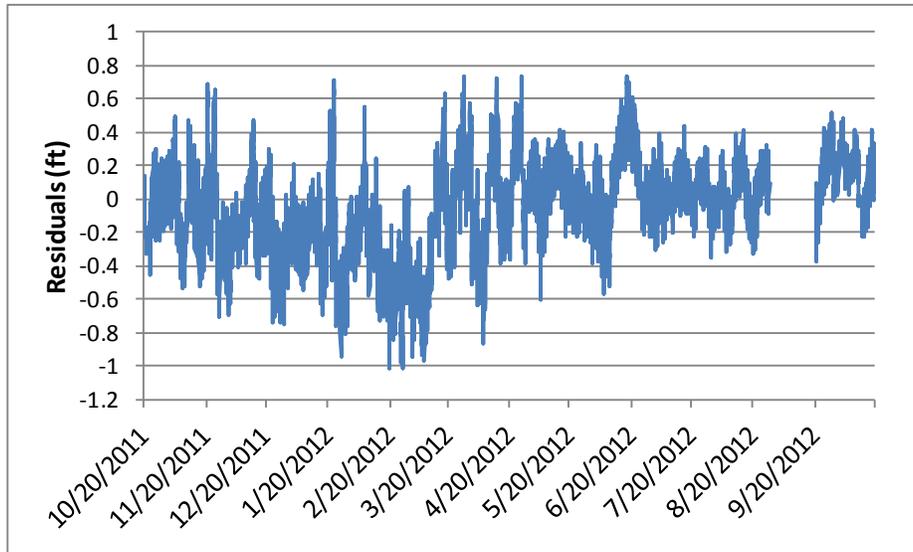
Astronomical tide (a-tide) generally showed lower range and no trends over time (Figure C-1 and Figure C-2). Residuals are variable and a function of air pressure, but not functions of wind speed, air and water temperature (Figure C-3 through Figure C-7).



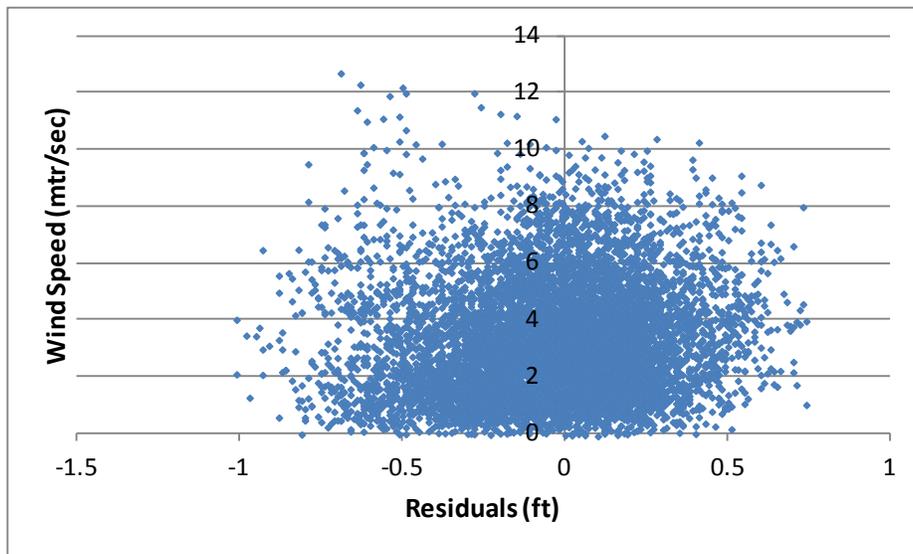
**Figure C-1** Daily average astronomical and observed tide at San Francisco Golden Gate (NOAA).



**Figure C-2** Monthly average astronomical and observed tide at Golden Gate (NOAA).



**Figure C-3** Residuals between astronomical and observed tide at Golden Gate (NOAA).



**Figure C-4** Correlation between residuals and wind speed at Golden Gate (NOAA).

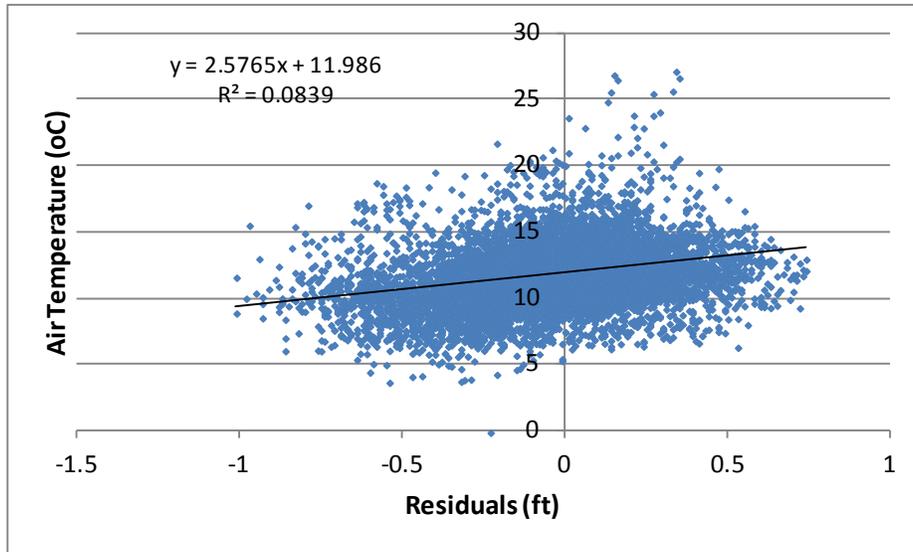


Figure C-5 Correlation between residuals and air temperature at Golden Gate (NOAA).

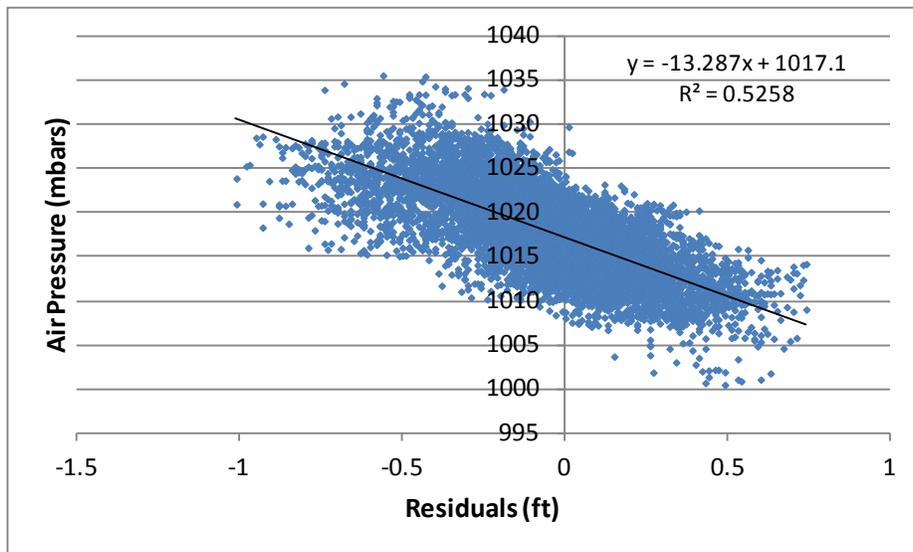


Figure C-6 Correlation between residuals and air pressure at Golden Gate (NOAA).

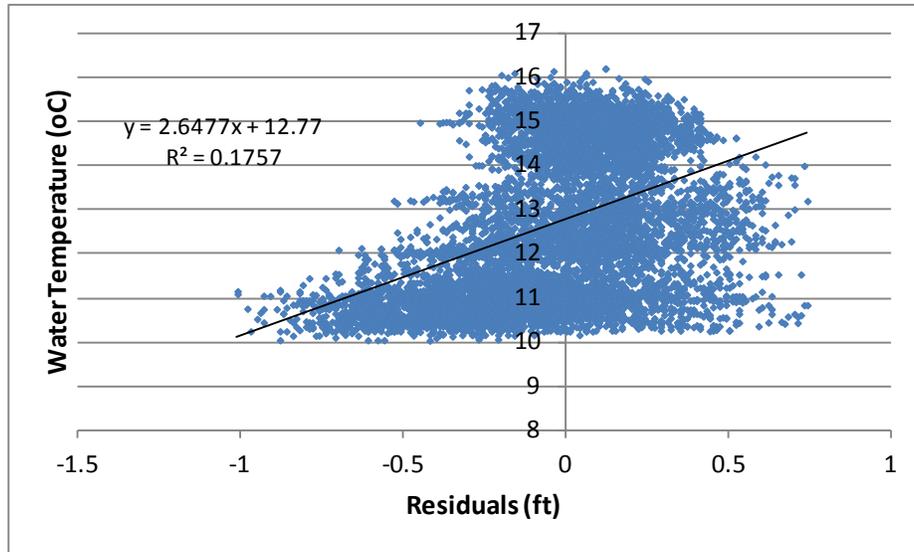


Figure C-7 Correlation between residuals and water temperature at Golden Gate (NOAA).