



EDI

Nav Reference: BT

GGA

VTG

Comp Tracks: ON

OFF



Main

SysTest

Compass

Temp/Sal

! MovBedTst

BT

! GPS

Depth

WT

Extrap

Edges

Summary

Details

Premeasurement

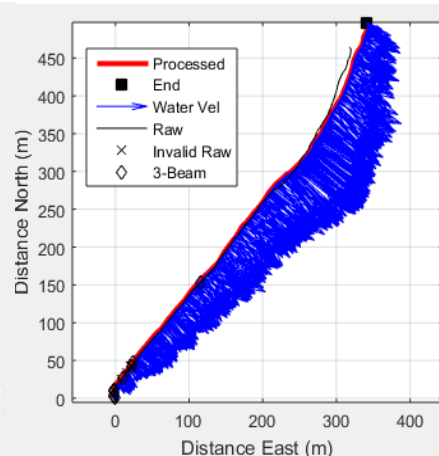
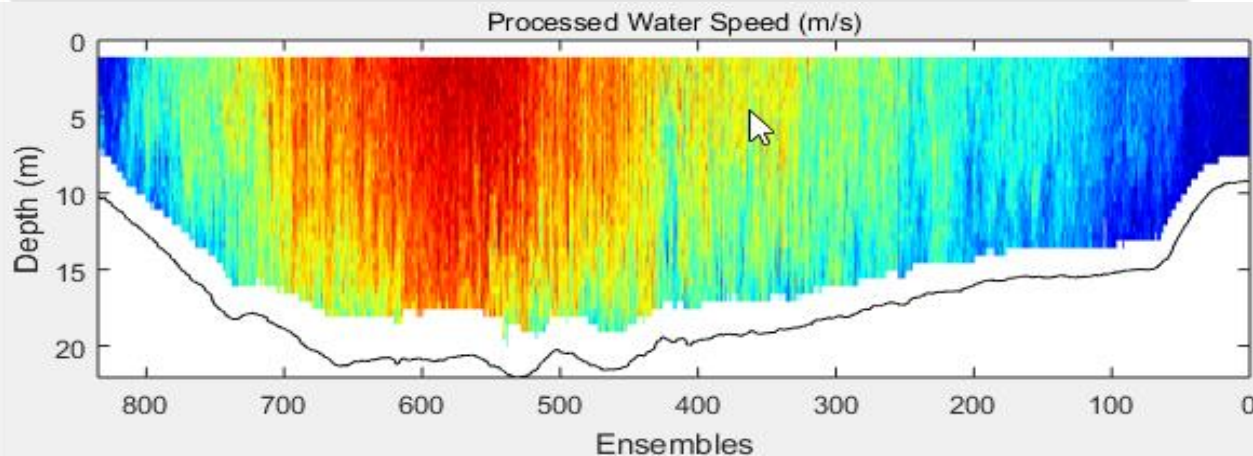
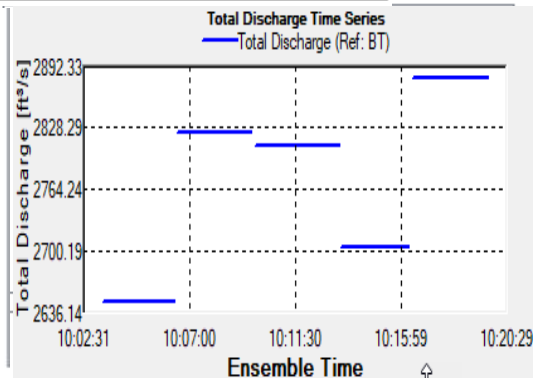
Settings

	Start Time	Duration (s)	Total Q (ft3/s)	Top Q (ft3/s)	Middle Q (ft3/s)	Bottom Q (ft3/s)	Left Q (ft3/s)	Right Q (ft3/s)
	12:41:44	965	4906.989	1440.56	2813.513	519.59	69.241	64.085
20171214124143r.mat	12:41:44	R	239	4939.36	1397.385	2887.4	516.859	63.799
20171214124605r.mat	12:46:06	L	255	4832.541	1496.533	2715.836	506.259	54.48
20171214125037r.mat	12:50:38	R	228	4920.301	1421.702	2797.599	548.589	83.193
20171214125444r.mat	12:54:45	L	243	4935.754	1446.62	2853.218	506.654	75.491
								53.77

Messages

Comments

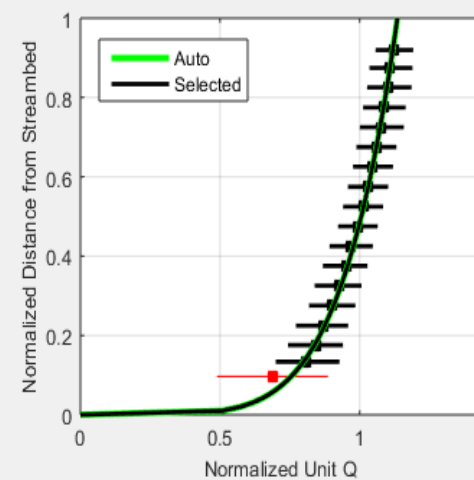
- ! **MOVING-BED TEST: The moving-bed test(s) have critical errors and will be rejected.**
- ! **BT-All: Int. Q for consecutive invalid ensembles exceeds 5%;**
- ! **BT-All: Int. Q for invalid ensembles in a transect exceeds 25%;**
- ! **BT-Original: Int. Q for consecutive invalid ensembles exceeds 5%;**
- ! **BT-Original: Int. Q for invalid ensembles in a transect exceeds 25%;**
- ! **BT-3Beams: Int. Q for consecutive invalid ensembles exceeds 5%;**



Measurement Quality Assessment

	COV %		% Q
Q:	1.45	Left/Right Edge:	0.50 / 0.12
Width:	0.20	Invalid Cells:	0.01
Area:	0.32	Invalid Ens:	6.88
Parameter		Automatic	User
Random 95% Uncertainty		4.8	
Invalid Data 95% Uncertainty		1.4	
Edge Q 95% Uncertainty		0.2	
Extrapolation 95% Uncertainty		0.2	
Moving-Bed 95% Uncertainty		0.0	
Systematic 68% Uncertainty		1.5	
Estimated 95% Uncertainty		5.8	5.8

Profile Extrapolation




EDI

Nav Reference:

BT

GGA

VTG

Comp Tracks:

ON
OFF

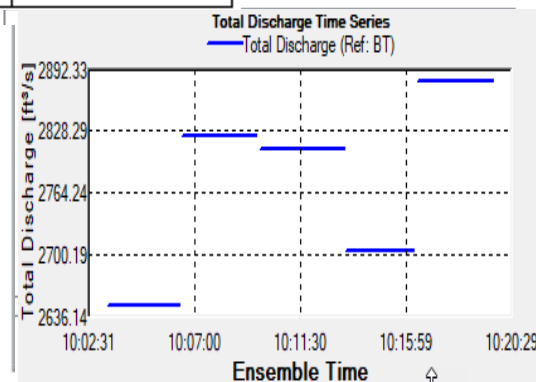
Main SysTest Compass Temp/Sal **MovBedTst** BT GPS Depth WT Extrap Edges

Summary Details Premeasurement Settings

	Width (ft)	Area (ft2)	Avg Boat Speed (ft/s)	Course Made Good (deg)	Q/A (ft/s)	Avg Water Direction (deg)
Average	415.50	2744.20	1.56		1.79	82.82
20171214124143r.mat	416.80	2786.50	1.63	352.00	1.77	82.67
20171214124605r.mat	411.30	2661.50	1.48	174.20	1.82	83.04
20171214125037r.mat	414.90	2734.60	1.59	352.30	1.80	82.28
20171214125444r.mat	419.10	2794.10	1.52	176.80	1.77	83.30

Messages Comments

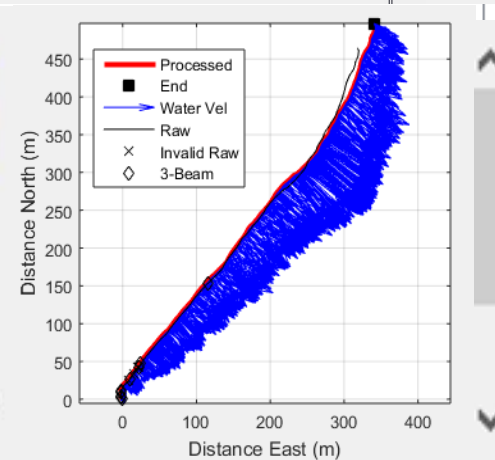
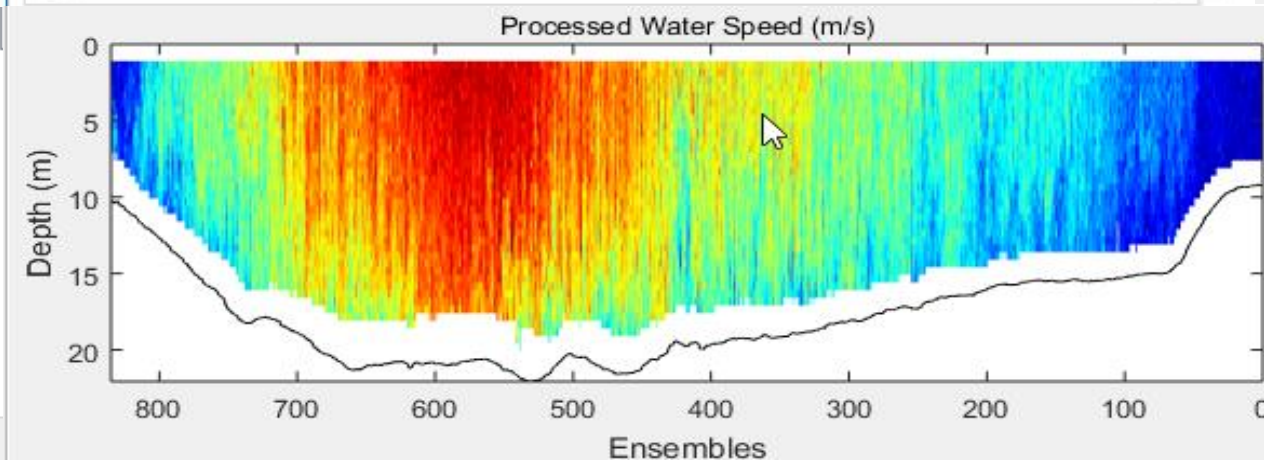
- MOVING-BED TEST: The moving-bed test(s) have critical errors and will fail.**
- BT-All: Int. Q for consecutive invalid ensembles exceeds 5%;**
- BT-All: Int. Q for invalid ensembles in a transect exceeds 25%;**
- BT-Original: Int. Q for consecutive invalid ensembles exceeds 5%;**
- BT-Original: Int. Q for invalid ensembles in a transect exceeds 25%;**
- BT-3Beams: Int. Q for consecutive invalid ensembles exceeds 5%;**



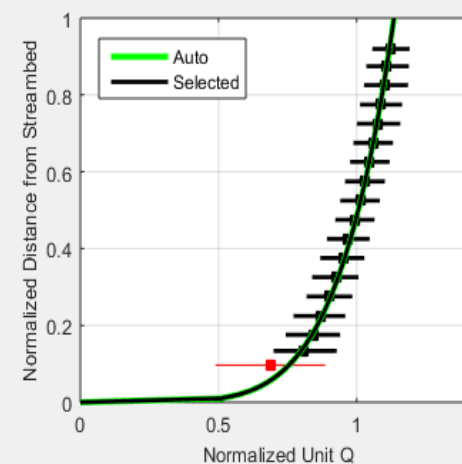
Measurement Quality Assessment

	COV %		% Q
Q:	1.45	Left/Right Edge:	0.50 / 0.12
Width:	0.20	Invalid Cells:	0.01
Area:	0.32	Invalid Ens:	6.88

Parameter	Automatic	User
Random 95% Uncertainty	4.8	
Invalid Data 95% Uncertainty	1.4	
Edge Q 95% Uncertainty	0.2	
Extrapolation 95% Uncertainty	0.2	
Moving-Bed 95% Uncertainty	0.0	
Systematic 68% Uncertainty	1.5	
Estimated 95% Uncertainty	5.8	5.8



Profile Extrapolation



Site Name:







Site Number:

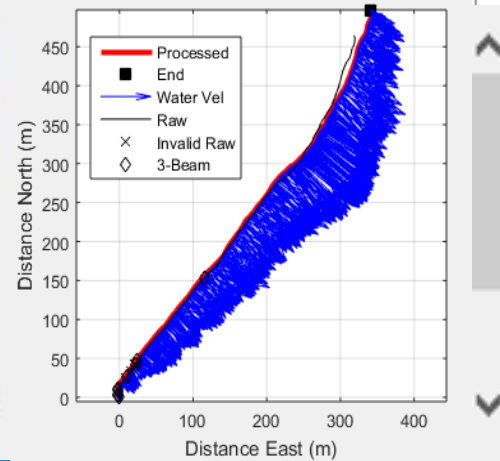
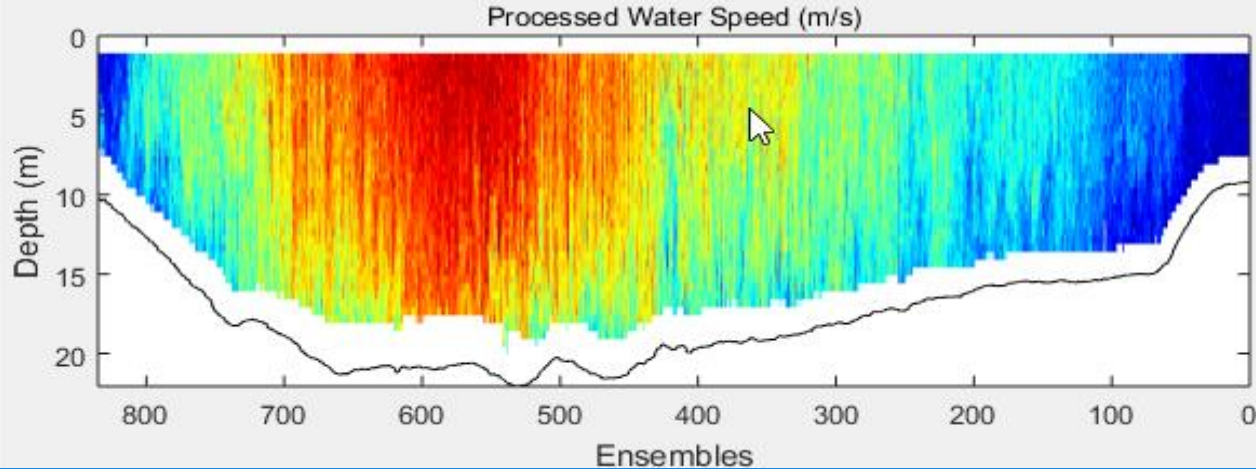
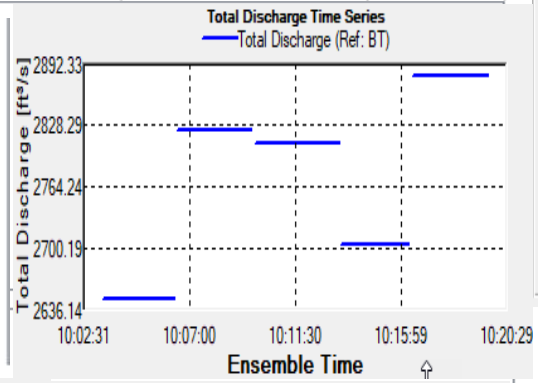
ADCP Test:	Yes	Test Fails:	0	ADCP			
Compass Calibration:	Yes	Compass Evaluation:	0.8	Serial Number:	1339	Manufacturer:	TRDI
Moving-Bed Test:	Yes	Moving Bed?	No	Model:	RiverPro	Firmware:	56.06
External Temperature (C):	11.1	ADCP Temperature (C) :	10.8	Frequency:	1200 kHz	Depth Cell Size:	6 - 12 cm
Magnetic Variation:	3	Heading Offset:	0	Water Mode:	3	Bottom Mode:	8

Measurement Quality Assessment

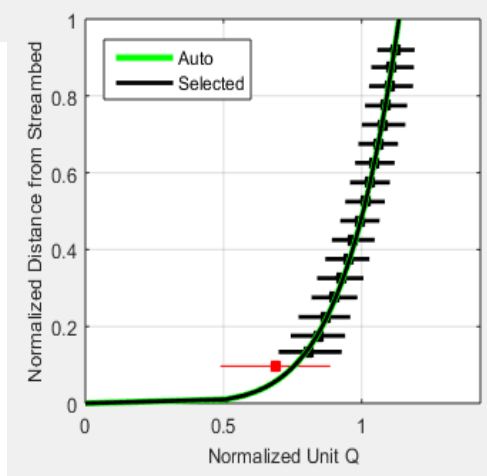
	COV %		% Q
Q:	1.45	Left/Right Edge:	0.50 / 0.12
Width:	0.20	Invalid Cells:	0.01
Area:	0.32	Invalid Ens:	6.88

Parameter	Automatic	User
Random 95% Uncertainty	4.8	
Invalid Data 95% Uncertainty	1.4	
Edge Q 95% Uncertainty	0.2	
Extrapolation 95% Uncertainty	0.2	
Moving-Bed 95% Uncertainty	0.0	
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-  **MOVING-BED TEST: The moving-bed test(s) have critical errors and wil**
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-  **BT-3Beams: Int. Q for consecutive invalid ensembles exceeds 5%;**



Profile Extrapolation




EDI

Nav Reference: **BT**
GGA
VTG

Comp Tracks: **ON**
OFF

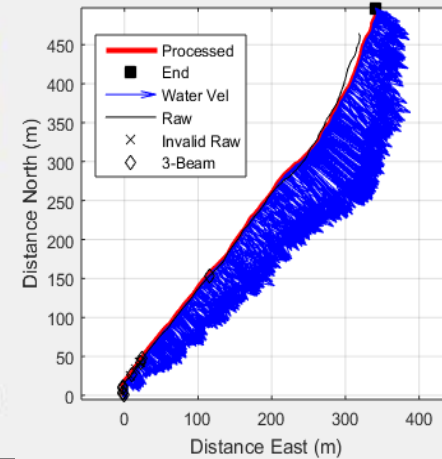
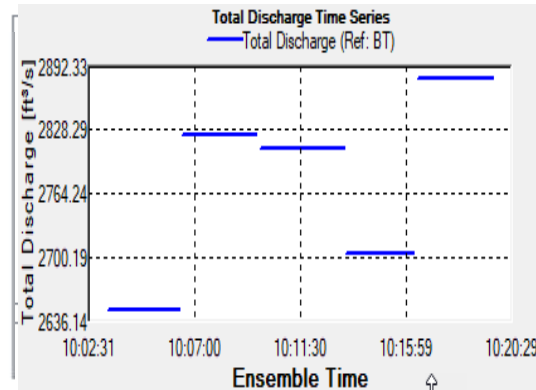
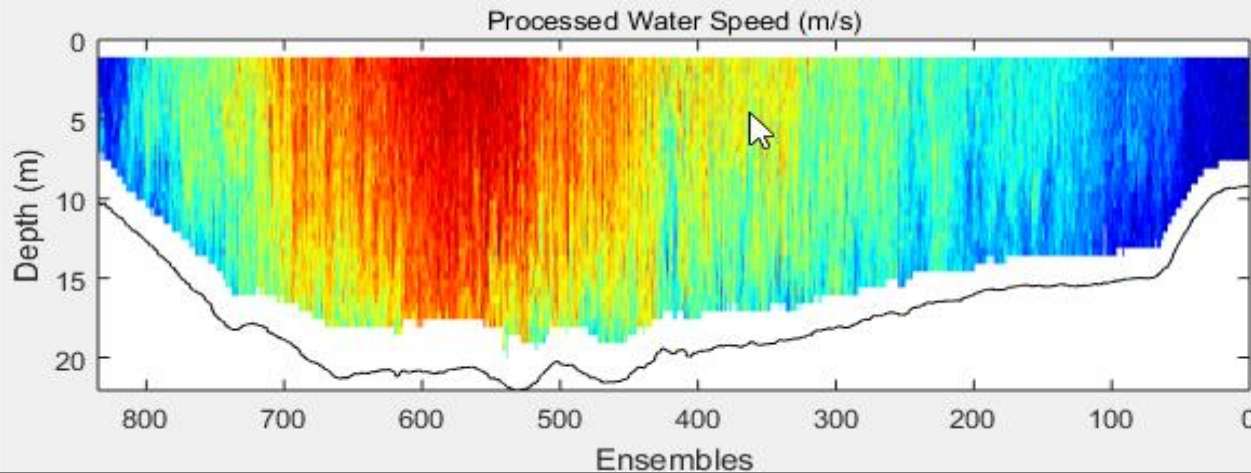
Main SysTest Compass Temp/Sal **MovBedTst** BT **GPS** Depth WT Extrap Edges

Summary Details Premeasurement Settings

	Edge				Draft (ft)	Excluded Distance (ft)	Depth		Navigation		Top Method	Bottom Method	Exp
	Distance (ft)		Type										
	Left	Right	Left	Right			Ref	Comp	Ref	Comp	Constant	No Slip	
20171214124143r.mat	35	26	Tri	Rect	1.27	0.52	BT	On	BT	Off	Constant	No Slip	0.1667
20171214124605r.mat	35	26	Tri	Rect	1.27	0.52	BT	On	BT	Off	Constant	No Slip	0.1667
20171214125037r.mat	35	26	Tri	Rect	1.27	0.52	BT	On	BT	Off	Constant	No Slip	0.1667
20171214125444r.mat	35	26	Tri	Rect	1.27	0.52	BT	On	BT	Off	Constant	No Slip	0.1667

Messages Comments

- MOVING-BED TEST: The moving-bed test(s) have critical errors and will be rejected.**
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- BT-Original: Int. Q for invalid ensembles in a transect exceeds 25%;**
- BT-3Beams: Int. Q for consecutive invalid ensembles exceeds 5%;**

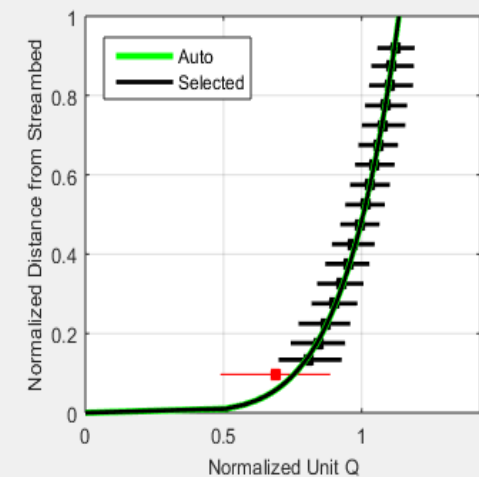


Measurement Quality Assessment

	COV %		% Q
Q:	1.45	Left/Right Edge:	0.50 / 0.12
Width:	0.20	Invalid Cells:	0.01
Area:	0.32	Invalid Ens:	6.88

Parameter	Automatic	User
Random 95% Uncertainty	4.8	
Invalid Data 95% Uncertainty	1.4	
Edge Q 95% Uncertainty	0.2	
Extrapolation 95% Uncertainty	0.2	
Moving-Bed 95% Uncertainty	0.0	
Systematic 68% Uncertainty	1.5	
Estimated 95% Uncertainty	5.8	5.8

Profile Extrapolation





EDI

Nav Reference: BT GGA VTG

Comp Tracks: ON OFF



Main SysTest Compass Temp/Sal ! MovBedTst BT GPS Depth WT Extrap Edges

Results Messages

System Test

Date/Time	No. Tests	Failed	PT3
20180807_0852	10	0	Pass
20180807_0854	12	0	Failed
20180807_0856	4	1	N/A

```
=
CBREAK

RiverPro
Teledyne RD Instruments (c) 2017
All rights reserved.
Firmware Version: 56.06

>CR1
[Parameters set to FACTORY defaults]

>IS?
TS 18/07/02,09:37:04.88 - Set System Date and Time (yy/mm/dd,hh:mm:ss)
>PS0
    System: RiverPro
    Serial Number: 1339
    Frequency: 1228800 Hz
    Transducer Type: PISTON
    Beam Angle: 20 Degrees
    Beam Pattern: CONVEX
    Vertical Beam: PISTON
    Sensors:
        Temperature: DS18B20 1-Wire
        Heading/Pitch/Roll: RDI (ISM)
        GPS: Internal DGPS

CPU Firmware: 56.06
FPGA Version:7.00.002 [0x7002]
```



EDI

Nav Reference: **BT**

GGA

VTG

Comp Tracks: ON

OFF



Main

SysTest

Compass

Temp/Sal



MovBedTst

BT



GPS

Depth

WT

Extrap

Edges

Results

Messages

Quality Check Messages

Suggested Solutions

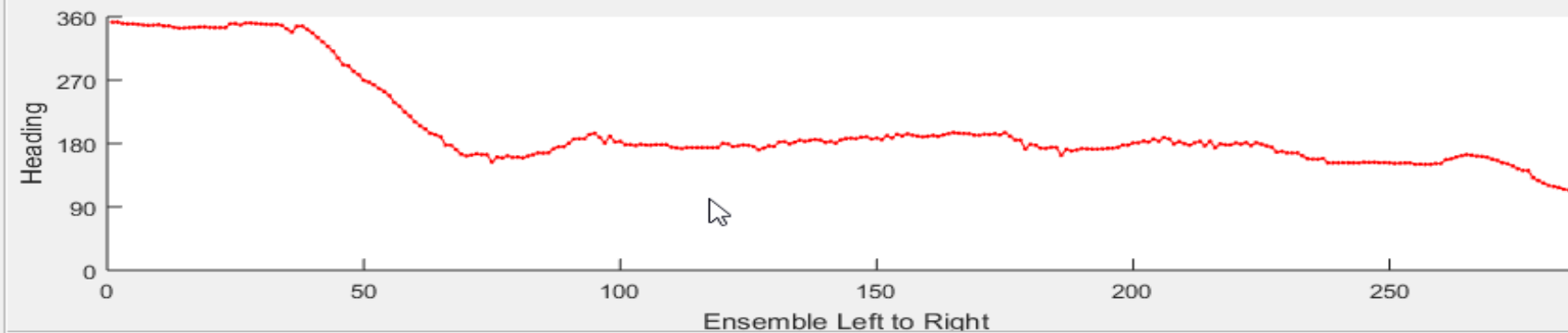
Comments



Plot	Filename	Magnetic Variation	Heading Offset	Heading Source	Pitch Mean	Pitch Std. Dev.	Roll Mean	Roll Std. Dev	Discharge Prev. (ft3/s)	Discharge Now (ft3/s)	Discharge % Change
<input checked="" type="checkbox"/>	apple_171107__000.PD0	-3.6	0.0	Internal	-1.7	0.6	-2.3	0.7	3544.6	3544.6	0.0
<input type="checkbox"/>	apple_171107__002.PD0	-3.6	0.0	Internal	-1.4	0.5	-2.7	0.4	3376.1	3376.1	0.0
<input type="checkbox"/>	apple_171107__003.PD0	-3.6	0.0	Internal	-1.5	0.5	-2.7	0.5	3374.2	3374.2	0.0
<input type="checkbox"/>	apple_171107__004.PD0	-3.6	0.0	Internal	-1.3	1.0	-2.7	0.9	3312.8	3312.8	0.0

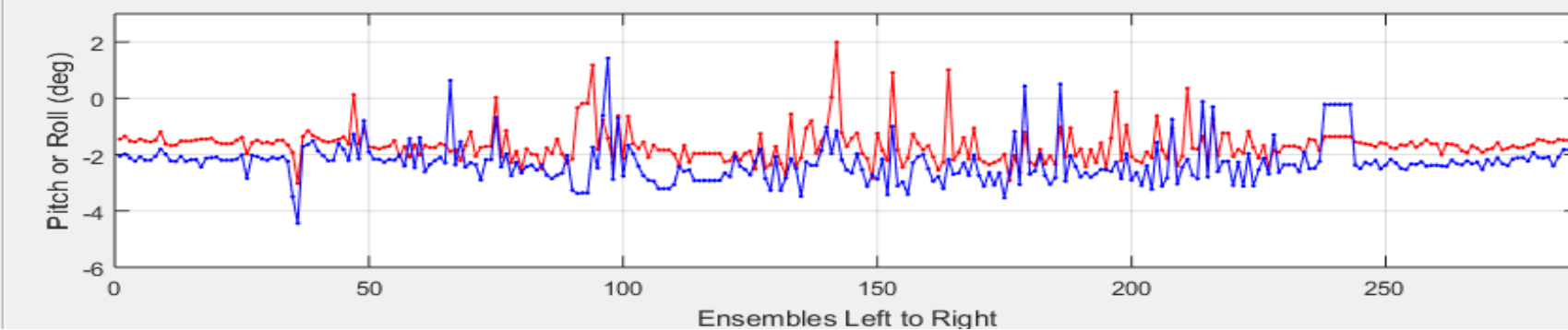


Heading & Magnetic Field



- ☒ ADCP Compass
- ☐ Ext. Compass
- ☐ Mag. Field

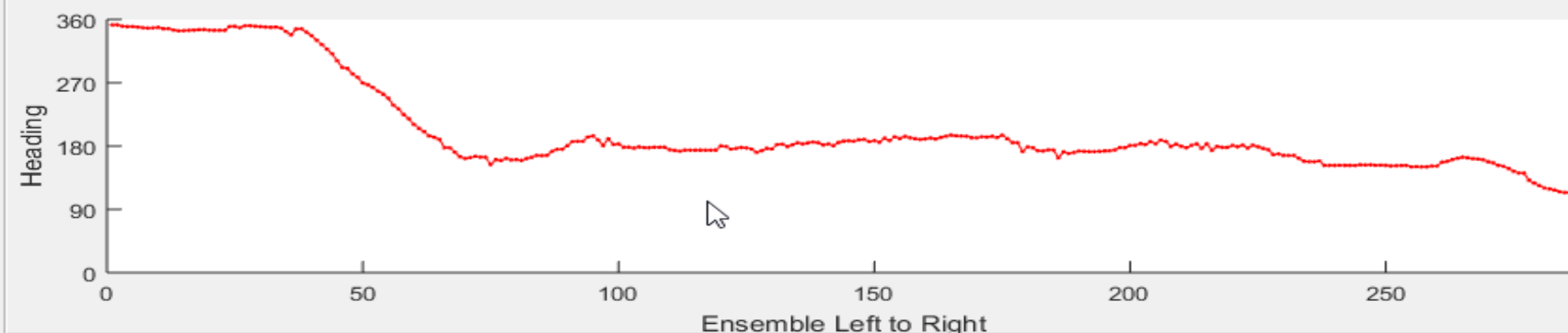
Pitch & Roll



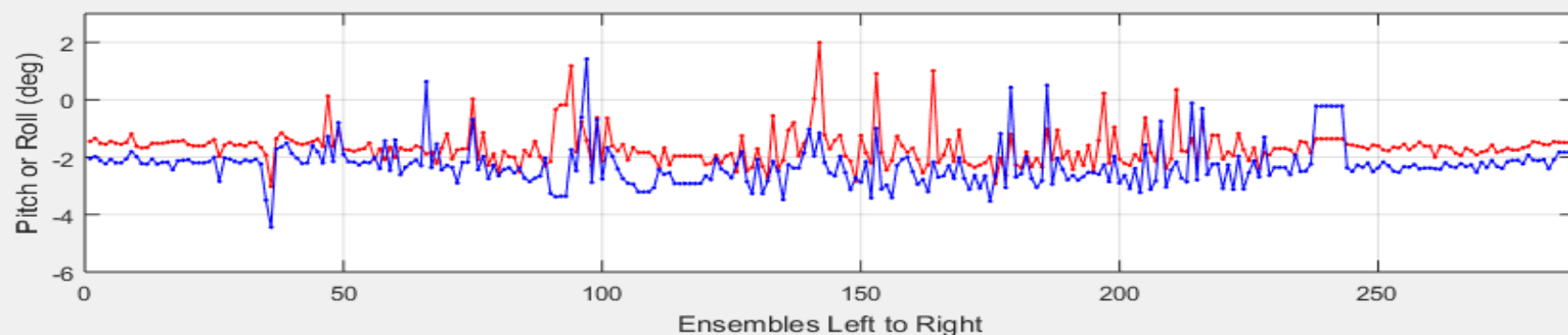
- ☒ Pitch
- ☒ Roll

Filename	Magnetic Variation	Heading Offset	Heading Source	Pitch Mean	Pitch Std. Dev.	Roll Mean	Roll Std. Dev.	Discharge Prev. (ft3/s)	Discharge Now (ft3/s)	Discharge % Change
apple_171107__000.PD0	-3.6	0.0	Internal	-1.7	0.6	-2.3	0.7	3544.6	3544.6	0.0
apple_171107__002.PD0	-3.6	0.0	Internal	-1.4	0.5	-2.7	0.4	3376.1	3376.1	0.0
apple_171107__003.PD0	-3.6	0.0	Internal	-1.5	0.5	-2.7	0.5	3374.2	3374.2	0.0
apple_171107__004.PD0	-3.6	0.0	Internal	-1.3	1.0	-2.7	0.9	3312.8	3312.8	0.0

Heading & Magnetic Field



Pitch & Roll



- ☒ ADCP Compass
- ☐ Ext. Compass
- ☐ Mag. Field

- ☒ Pitch
- ☒ Roll



EDI

Nav Reference: BT GGA VTG

Comp Tracks: ON OFF



Main SysTest Compass/P/R Temp/Sal ! MovBedTst BT ! GPS Depth WT Extrap Edges

Data Calibration / Evaluation Messages

Compass Calibration

Data/Time

20180807_0857

Compass Evaluation

Data/Time

Error

20180807_0900

0.5

Data for Calibration Used:

No. Sample Groups: 12

Level Hdg Error Coeffs

Offset: 0.0051

One Cycle: 0.191

Two Cycle: 0.518

One Cycle Phase: 40.304

Two Cycle Phase: -110.376

Dip Angle: -70.938

Typical Heading Error: < 0.552°

Vector Addition Of Single And Double Cycle Errors: 0.708°



EDI

Nav Reference: BT

GGA VTG

Comp Tracks: ON OFF



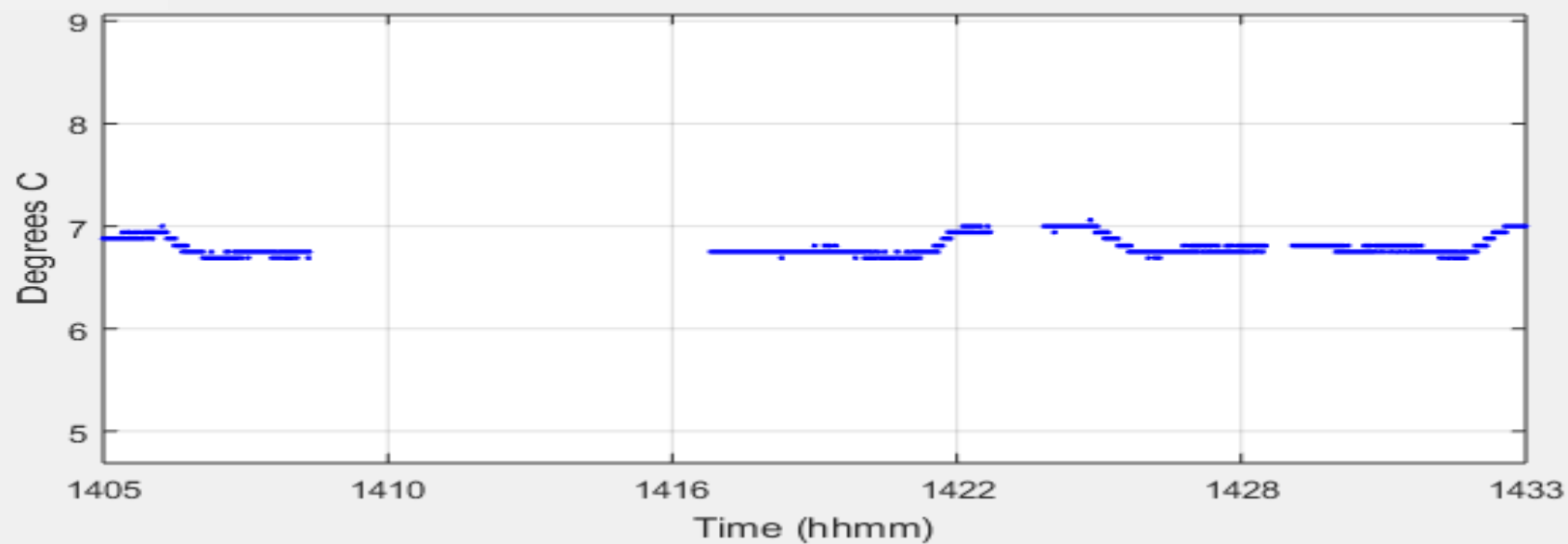
Main SysTest Compass/P/R Temp/Sal ! MovBedTst BT ! GPS Depth WT Extrap Edges

Data Messages

Filename	Temperature Source	Average Temperature	Average Salinity (ppt)	Speed of Sound Source	Speed of Sound (ft/s)	Discharge (ft3/s)	Discharge % Change
apple_171107__000.PD0	Internal (ADCP)	6.8	0	Internal (ADCP)	4702.7	3544.59	0.0
apple_171107__002.PD0	Internal (ADCP)	6.8	0	Internal (ADCP)	4702.1	3376.15	0.0
apple_171107__003.PD0	Internal (ADCP)	6.8	0	Internal (ADCP)	4703.0	3374.20	0.0
apple_171107__004.PD0	Internal (ADCP)	6.8	0	Internal (ADCP)	4703.2	3312.82	0.0

Independent: ADCP:

ADCP Average: 6.9

Fahrenheit ☐Celsius ☒



EDI

Nav Reference: **BT** GGA VTG

Comp Tracks: ON **OFF**



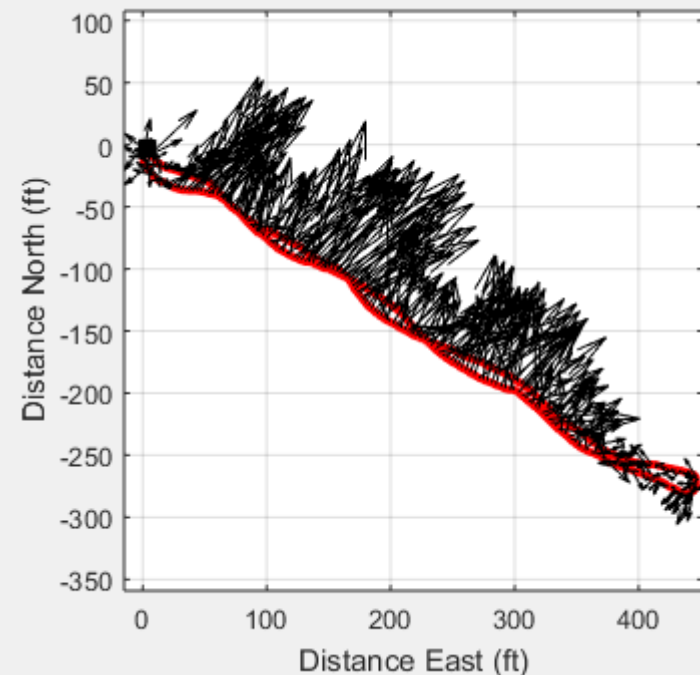
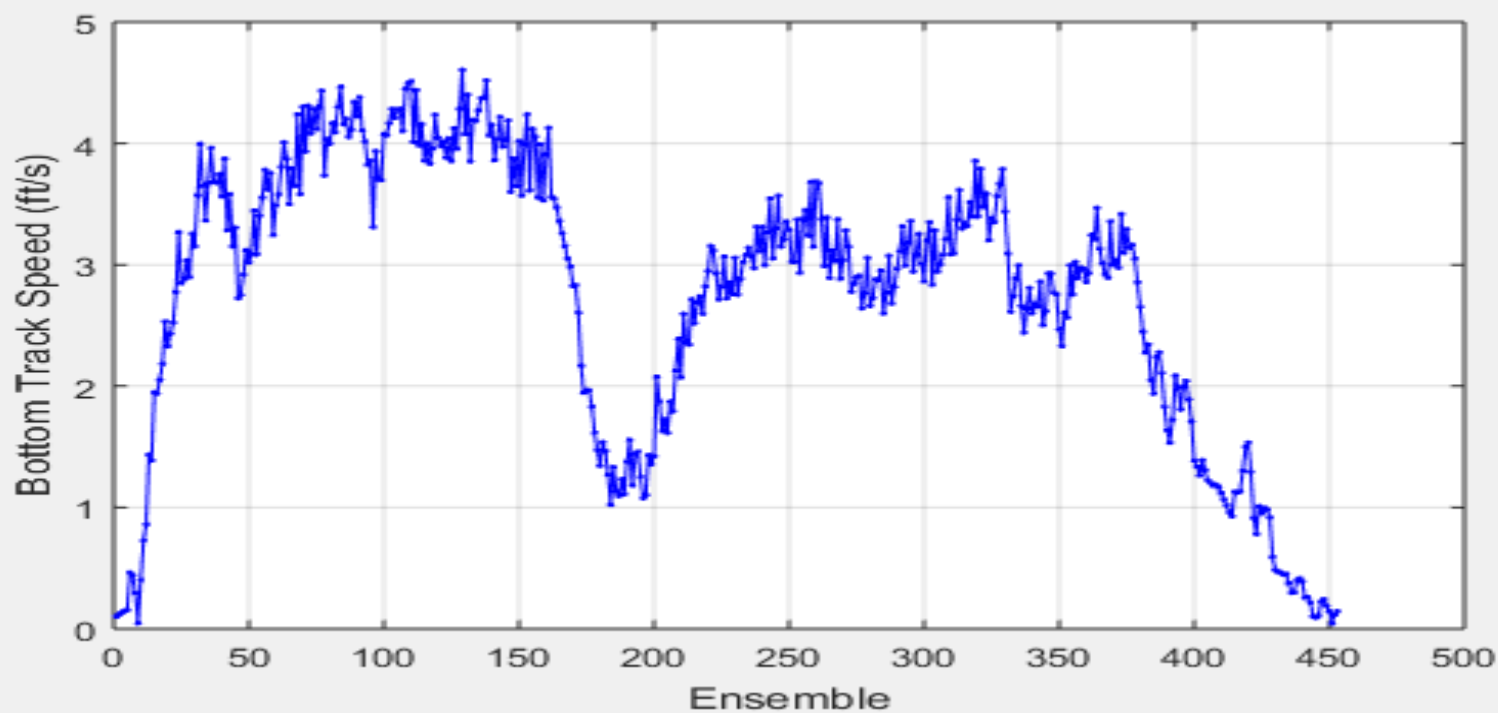
Main SysTest Compass/P/R Temp/Sal **! MovBedTst** BT **!** GPS Depth WT Extrap Edges

Data Messages

User Valid	Use for Correction	Filename	Type	Duration (s)	Distance Upstream (ft)	Moving-Bed Speed (ft/s)	Moving-Bed Direction	Flow Speed (f...	Flow Direction	% Invalid BT	Compass Error	% Moving Bed	Moving Bed	Quality
<input checked="" type="checkbox"/>	<input type="checkbox"/>	apple_171107_000_L...	Loop	391.7600	5.5066	0.0141	127.4431	0.7136	38.2193	0	4.4020	1.9318	Unknown	Errors



☒ BT ☐ GGA ☐ VTG ☒ Vectors





EDI

Nav Reference: **BT** GGA VTG

Comp Tracks: ON **OFF**



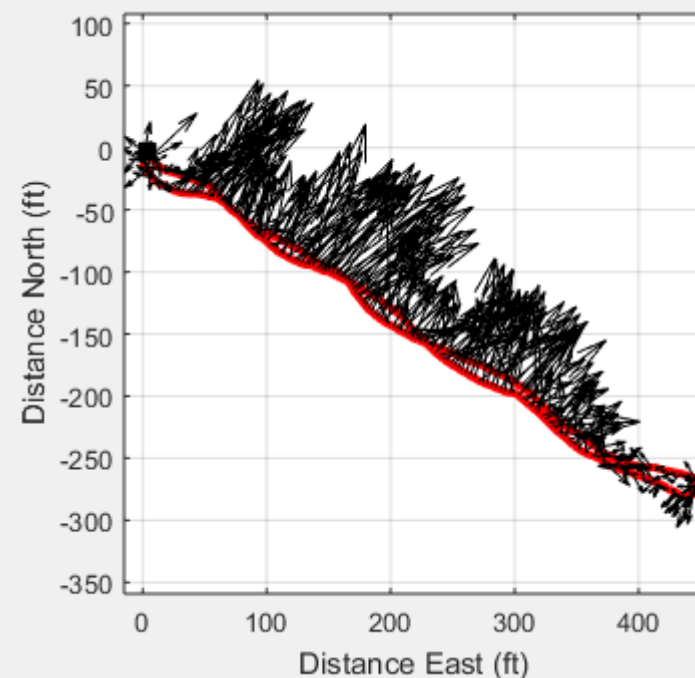
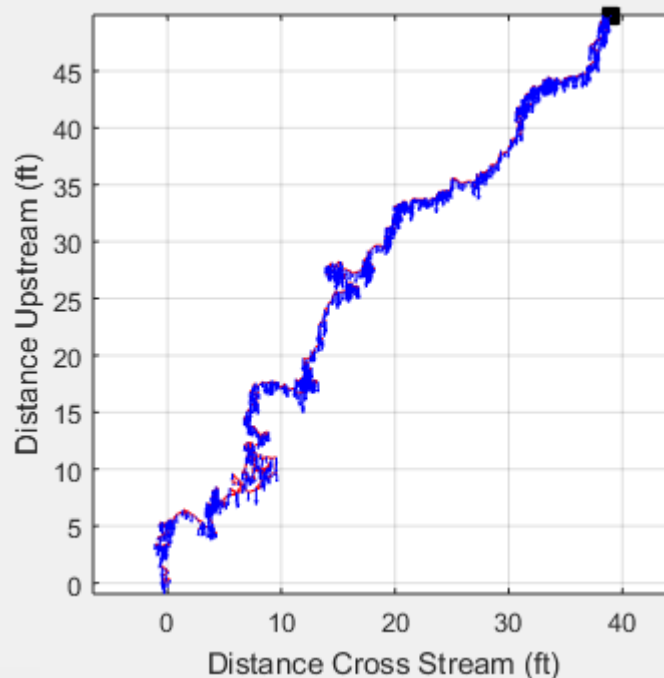
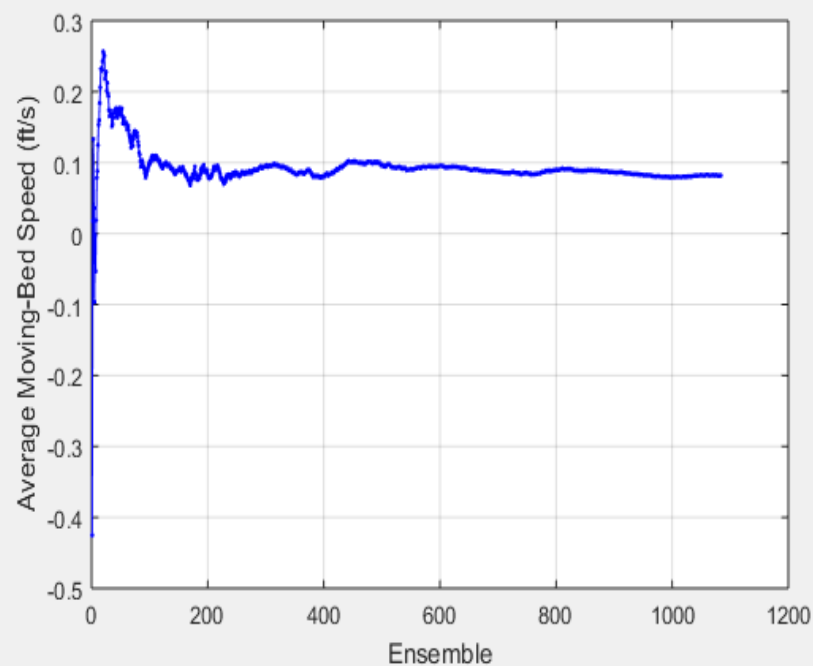
Main SysTest Compass/P/R Temp/Sal **! MovBedTst** BT **!** GPS Depth WT Extrap Edges

Data Messages

User Valid	Use for Correction	Filename	Type	Duration (s)	Distance Upstream (ft)	Moving-Bed Speed (ft/s)	Moving-Bed Direction	Flow Speed (f...	Flow Direction	% Invalid BT	Compass Error	% Moving Bed	Moving Bed	Quality
<input checked="" type="checkbox"/>	<input type="checkbox"/>	03303280_272_000_S...	Stationary	605.2200	49.8757	0.0820		0.7218		0		11.3552	Yes	Good



☒ **BT** ☐ GGA ☐ VTG ☒ Vectors





EDI

Nav Reference: BT

GGA

VTG

Comp Tracks: ON

OFF



Main

SysTest

Compass/P/R

Temp/Sal



MovBedTst

BT



GPS

Depth

WT

Extrap

Edges

Data

Messages

Filename	# Ensembles	#<4 Beam	# Invalid Total	# Invalid Orig Data	# Invalid <4 Beam	# Invalid Error Vel	# Invalid Vert Vel	# Invalid Other	Discharge Prev. (ft3/s)	Discharge Now (ft3/s)	Discharge % Change
03303280_272_001.PD0	1088	2	6	2	2	0	4	0	12023.03	12023.03	0.00
03303280_272_002.PD0	1593	3	8	3	3	1	4	0	11998.23	11998.23	0.00



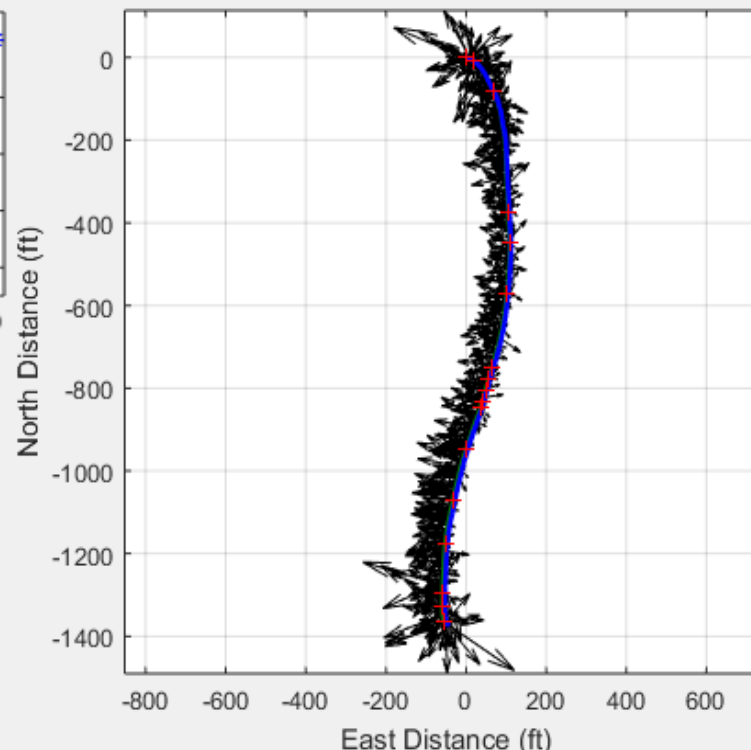
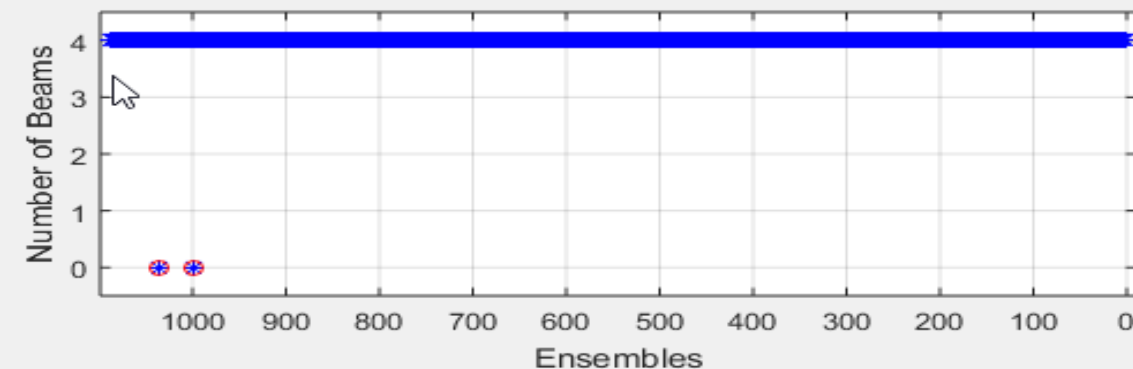
☒ 3 Beam Solutions ☐ Error Velocity ☐ Vertical Velocity ☐ Other ☐ Source

☒ GGA

☒ VTG

☒ BT

☒ Vectors



Filters

3 Beam Solutions

Auto

Error Velocity

Auto

Threshold (+/-) Auto

Vertical Velocity

Auto

Threshold (+/-) Auto

Other Filter

Off



EDI

Nav Reference: BT

GGA VTG

Comp Tracks: ON OFF



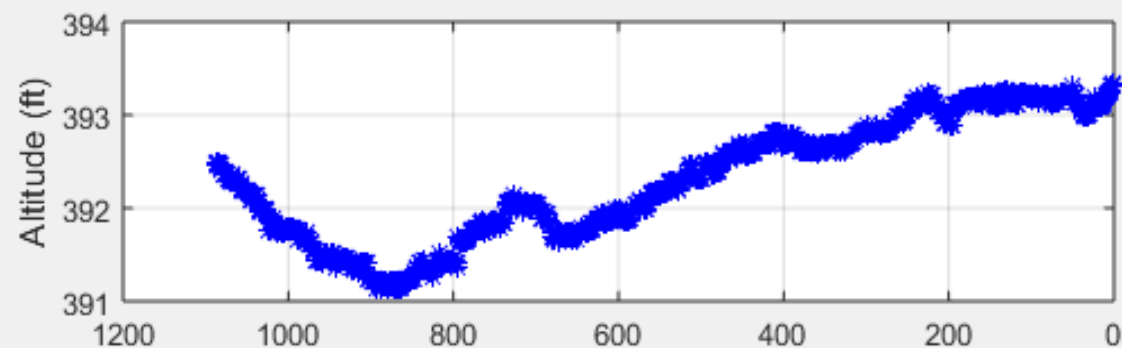
Main SysTest Compass/P/R Temp/Sal ! MovBedTst BT ! GPS Depth WT Extrap Edges

Data Messages

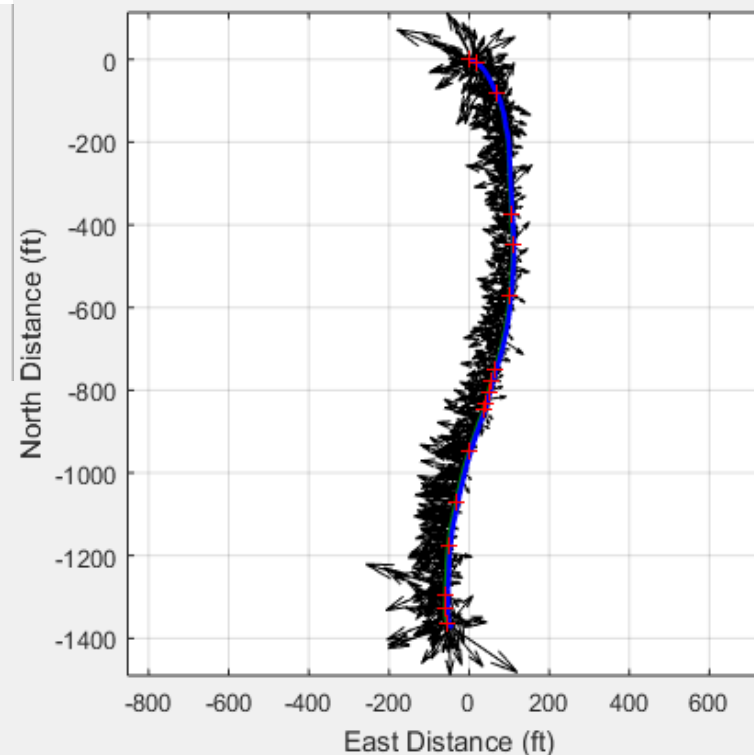
Filename	Ensembles	Invalid GGA	Invalid VTG	Invalid Diff Quality	Invalid Delta Alt.	Invalid Max HDOP	Invalid Delta HDOP	# Sat Chg	Discharge Prev. (ft3/s)	Discharge Now (ft3/s)	Discharge % Change
03303280_272_001.PD0	1088	1	17	2	0	0	0	0	12023.03	12023.03	0.00
03303280_272_002.PD0	1593	1	23	2	0	0	0	0	11998.23	11998.23	0.00



☐ Diff Quality ☒ Altitude ☐ HDOP ☐ # Sats ☐ Source



☒ GGA ☒ VTG ☒ BT ☒ Vectors



Filters

Minimum Diff Quality (GGA)

2 - Differential

Altitude Change (GGA)

Auto

Threshold (+/-) 1.0

HDOP

Auto

Maximum :

Change :

Other Filter

Off



EDI

Nav Reference: BT

GGA VTG

Comp Tracks: ON OFF



Main

SysTest

Compass/P/R

Temp/Sal

! MovBedTst

BT



GPS

Depth

WT

Extrap

Edges

Data

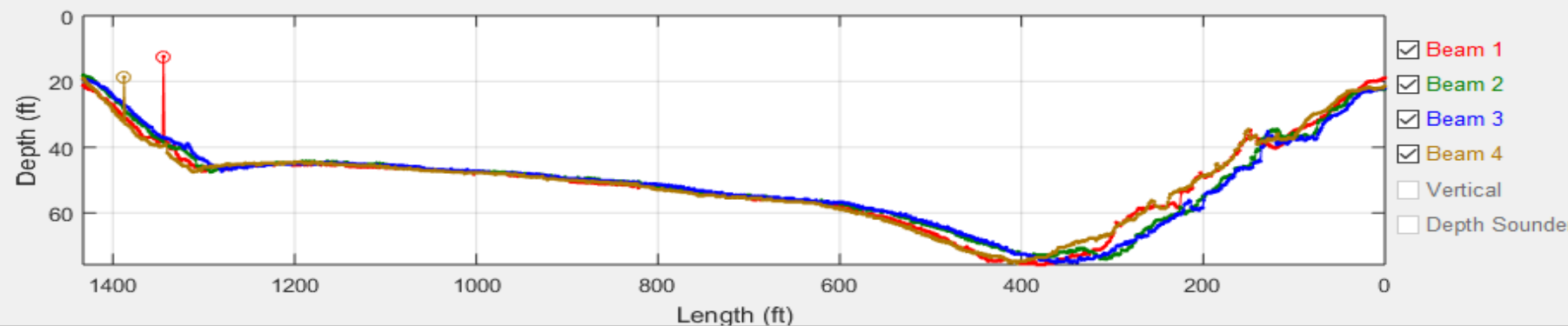
Messages

Filename	Draft (ft)	# Ensembles	# Invalid Beam 1	# Invalid Beam 2	# Invalid Beam 3	# Invalid Beam 4	# Invalid Vert Beam	# Invalid External	Discharge Prev. (ft3/s)	Discharge Now (ft3/s)	Discharge % Change
03303280_272_001.PD0	1.20	1088	1	0	0	1			12023.03	12023.03	0.00
03303280_272_002.PD0	1.20	1593	1	0	0	0			11998.23	11998.23	0.00



03303280_272_001.PD0

Individual Beams



Depth Reference

4-Beam Avg

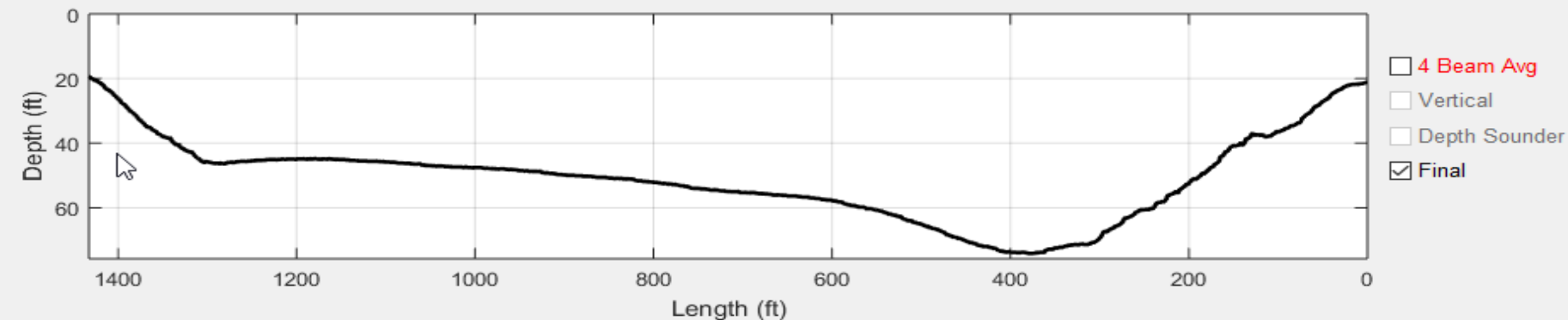
BT Beam Averaging

IDW

Filter

Smooth

Cross Section




EDI

Nav Reference: **BT**
GGA **VTG**

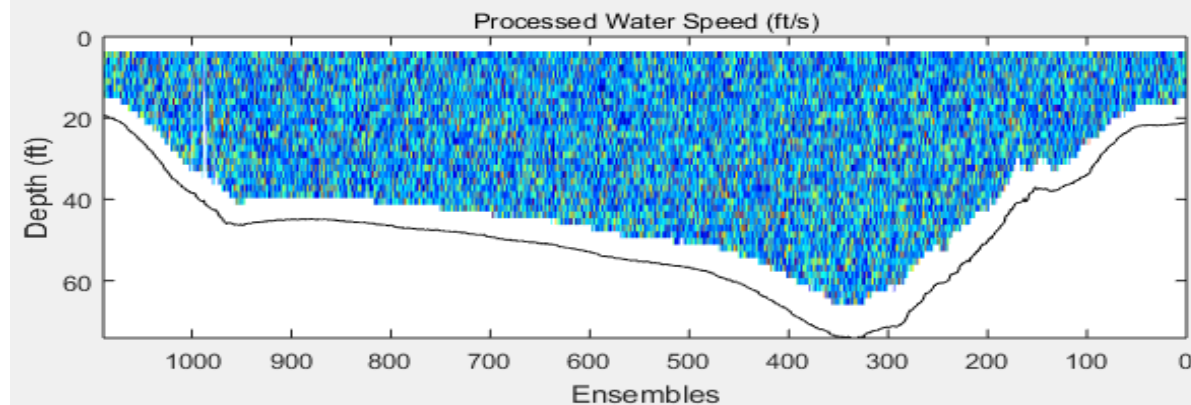
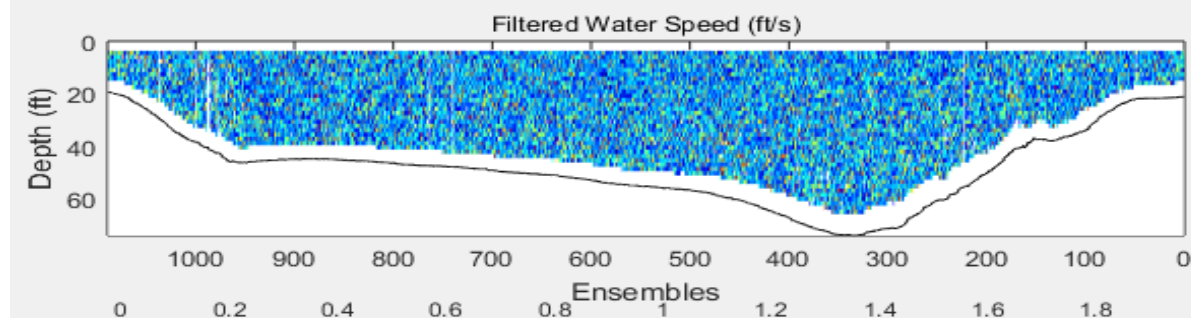
Comp Tracks: **ON** **OFF**

Main
SysTest
Compass/P/R
Temp/Sal

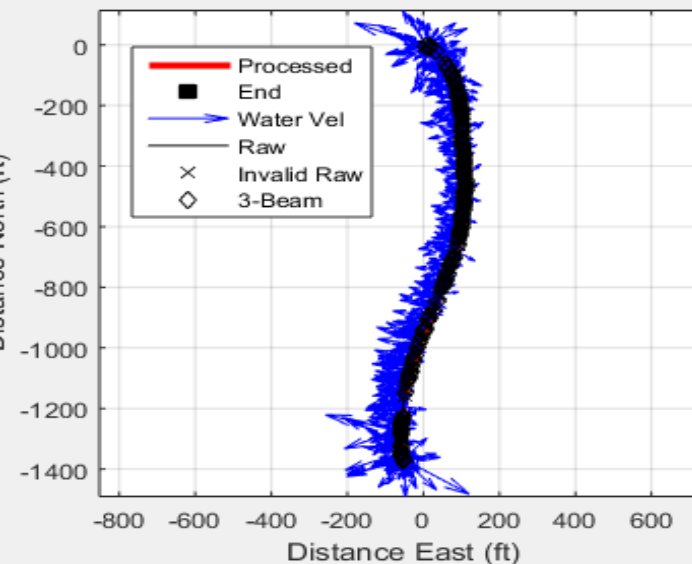
MovBedTst
BT

GPS
Depth
WT
Extrap
Edges
Data
Messages

Filename	# Depth Cells	%<4 Beams	% Invalid Total	% Invalid Orig	% Invalid <4 Beams	% Invalid Error Vel	% Invalid Vert Vel	% Invalid Other	% Invalid SNR	Discharge Prev. (ft3/s)	Discharge Now (ft3/s)	Discharge % Change
03303280_272_001.PD0	25355	1.1	1.5	0.7	0.8	0.0	0.0	0.0	0.0	12023.03	12023.03	0.00
03303280_272_002.PD0	36794	1.3	1.6	0.6	1.0	0.0	0.0	0.0	0.0	11998.23	11998.23	0.00



- ☐ 3 Beam Solutions
 ☐ All Time Series
- ☐ Vertical Velocity
- ☐ Error Velocity
 ☒ Contour showing invalid



Filters

Excluded Distance

Below Xducer

3 Beam Solutions

Error Velocity

Threshold (+/-) :

Vertical Velocity

Threshold (+/-) :



EDI

Nav Reference:

BT

GGA

VTG

Comp Tracks:

ON

OFF



Main

SysTest

Compass/P/R

Temp/Sal



MovBedTst

BT



GPS

Depth

WT

Extrap

Edges

Data

Messages

Data

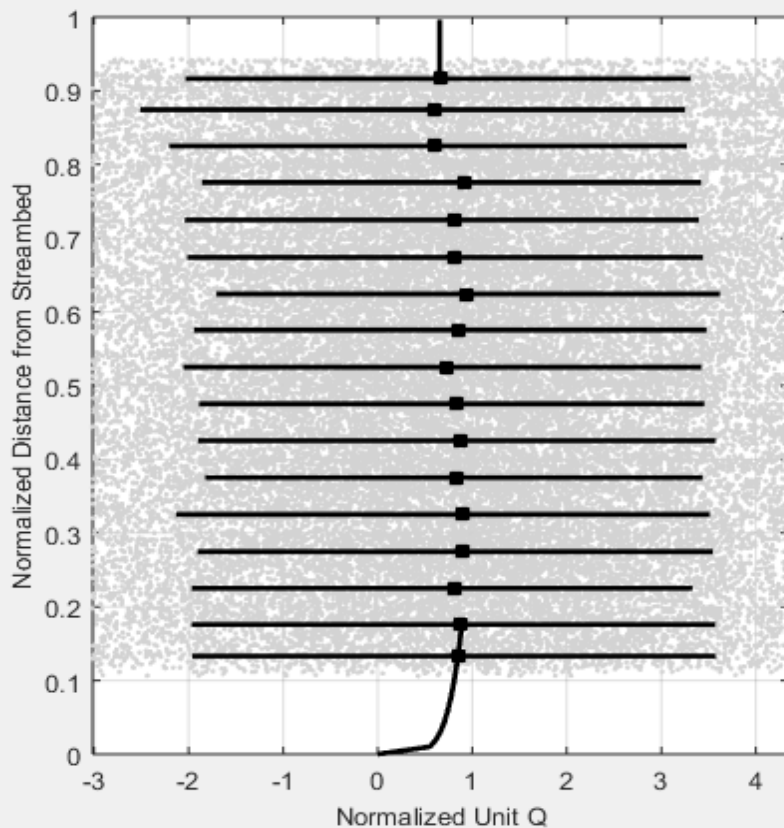
Z	No. Pts.
NaN	0
0.9165	2500
0.8743	3505
0.8250	3822
0.7757	3976
0.7249	3870
0.6741	4035
0.6244	3778
0.5755	3808
0.5250	4027
0.4753	3782
0.4254	3865
0.3752	3974
0.3251	3723
0.2748	3966
0.2250	3424
0.1759	3247
0.1331	1892
NaN	0

Change Threshold

Subsection

Discharge

Profile



Depth Cell

☒ Data

☐ Surface Cells

Transects

☐ Medians

☐ Fit

Measurement

☒ Medians

☒ Fit

Start edge: Left Right

Fit

03303280_272_001.PD0

03303280_272_002.PD0

Measurement

Fit Automatic

Top Constant

Bottom No Slip

Exponent 0.1667

Apply

Previous Extrapolation Settings

Top: Constant

Bottom: No Slip

Exponent: 0.1667

Discharge Sensitivity

Top	Bottom	Exponent	% Difference
Power	Power	0.1667	1.36
Power	Power	0.0500	3.44
Constant	No Slip	0.1667	Reference
Constant	No Slip	0.0522	1.55
3-Point	No Slip	0.1667	-1.35
3-Point	No Slip	0.0522	0.20


EDI

Nav Reference: **BT**

GGA VTG

Comp Tracks: ON **OFF**

Main SysTest Compass/P/R Temp/Sal **! MovBedTst** BT **! GPS** Depth WT Extrap Edges

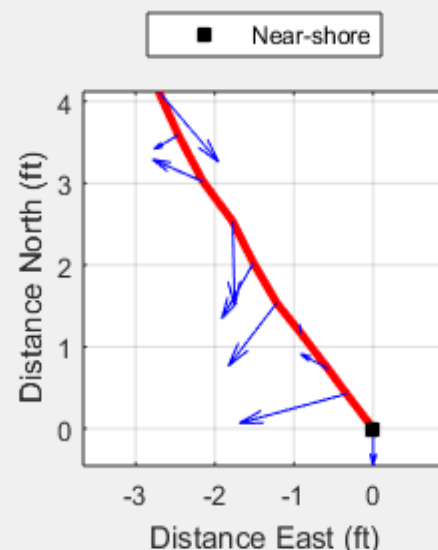
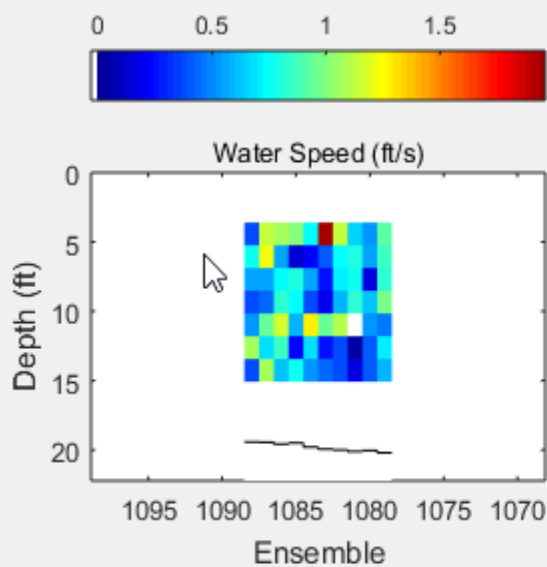
Data Messages

Edges

Filename	Start Edge	Left Type	Left Coef	Left Distance (ft)	Left # Ens	Left # Valid	Left Discharge (ft3/s)	%	Right Type	Right Coef	Right Distance (ft)	Right # Ens	Right # Valid	Right Discharge (ft3/s)	%
03303280_272_001.PD0	Right	Triangular	0.3535	90.0	10	10	134.62	1.12	Triangular	0.3535	49.0	10	10	-16.45	-0.14
03303280_272_002.PD0	Left	Triangular	0.3535	90.0	10	10	9.34	0.08	Triangular	0.3535	58.0	10	10	-39.98	-0.33

03303280_272_001.PD0

Left Edge



Right Edge

