NB vs OS ADCP Report

based on data taken on board R/V Endeavor by:

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Introduction

- Data were taken on board R/V Endeavor 22 – 28 February 2001 enroute from Tampa, FL to Narragansett
- Detailed copies of the report are available at the UH FTP site
- The purpose of the study was to collect and evaluate data taken with OS75 and NB 150 systems

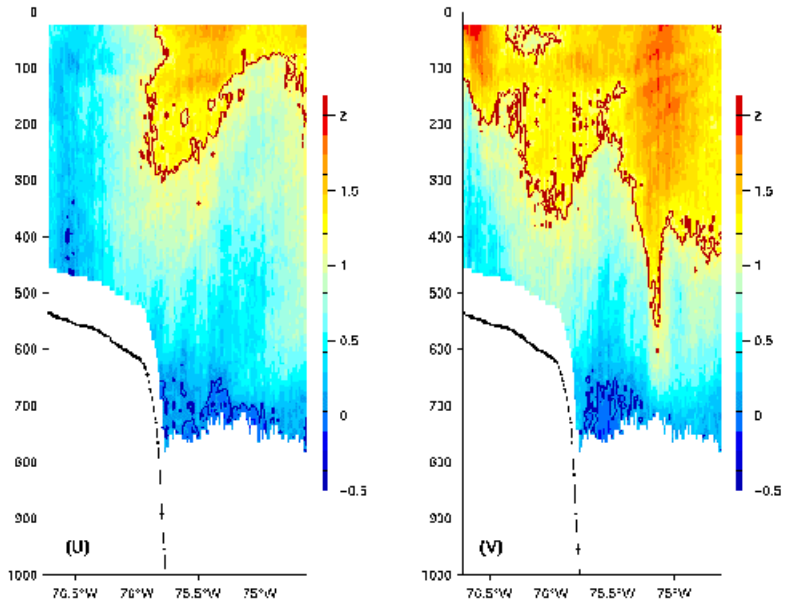
Topics of Discussion

- Historical Background
- Phased array vs: NBADCP
- Cruise Track
- Data Examples
- Conclusions

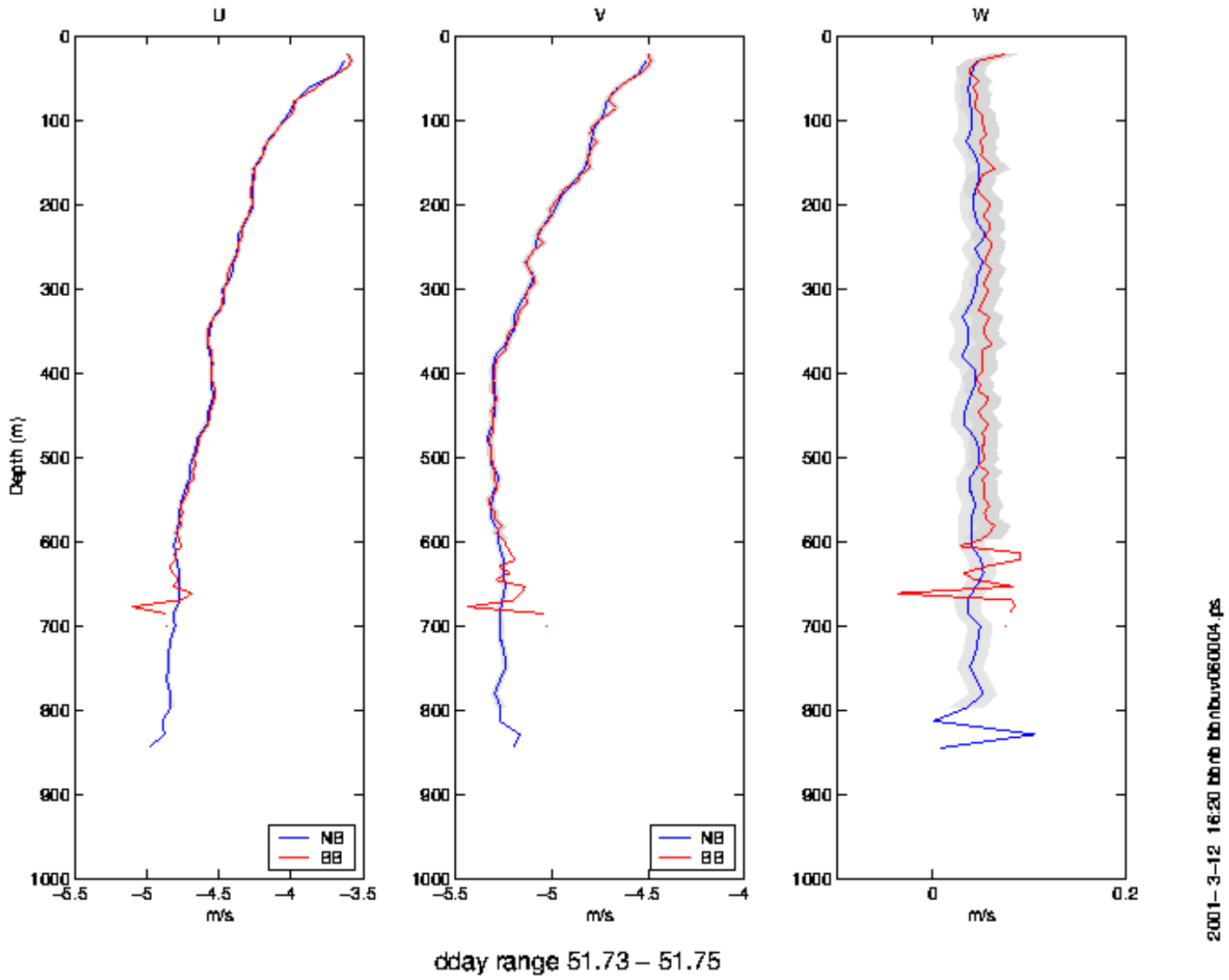
Phased Array Vs NBADCP

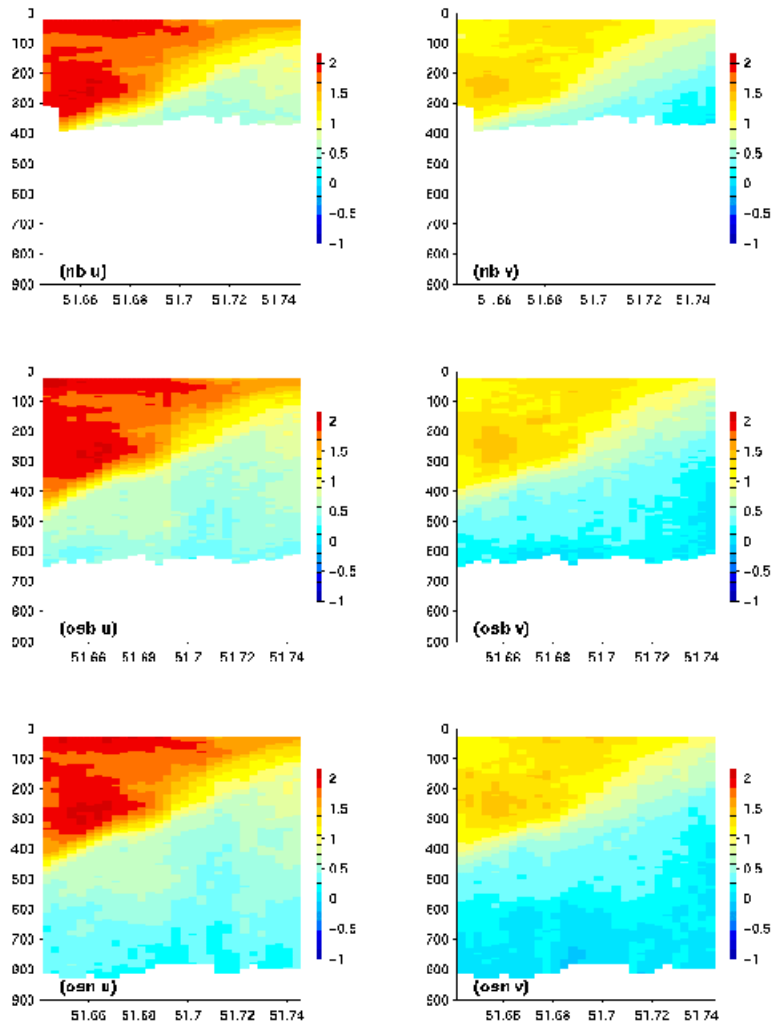
- A test was devised in cooperation with RDI and UH, NSF agreed to fund the effort
- Because Phased Array and Narrow band instruments utilize differing technologies a baseline of concurrent measurements and comparison studies is a requirement for acceptance by the scientific community.
- The test was conducted on board R/V Endeavor during transit from Tampa to Narragansett in February of this year
- The systems utilized in the test were RDI VM150NB and OS75 PAADCP.

40°N
36°N
32°N
28°N
24°N
84°W
81°W
78°W
75°W
72°W
69°W
test 30
test 27
test 23
test 22
test 21
test 20
test 19
test 18
test 15
test 14
test 13
test 12
test 11
test 10
test 9
test 8
test 7
test 6
test 5
test 4
test 3
test 1
test 2
(NB) 1 m/s
(OSB) 1 m/s
(OSN) 1 m/s
0
−0.5
−1
−1.5
−2
−2.5
−3
−3.5
−4
Depth (km)
- 3-12 11:0 plot_db

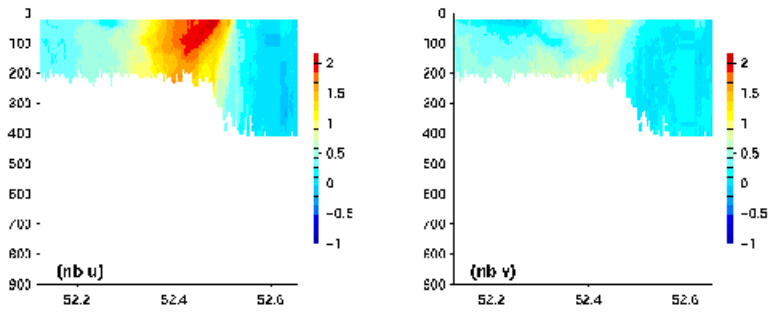


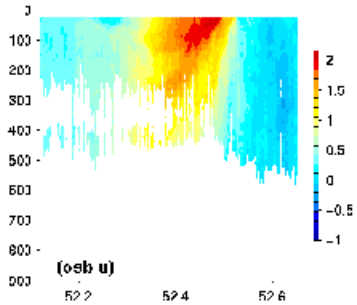
Ocean Surveyor, NB pings, 8m cells

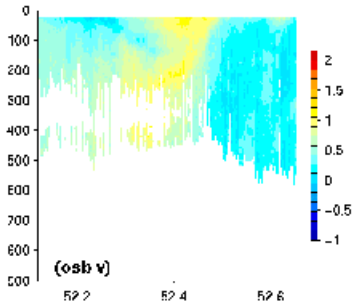

U
V
W
Depth (m)
0
100
200
300
400
500
600
700
800
900
1000
−5.5
−5
−4.5
−4
−3.5
0
0.2
m/s
NB
BB
dday range 51.73 – 51.75
2001– 3–12 16:20 bbnb bbnbuvv060004.ps

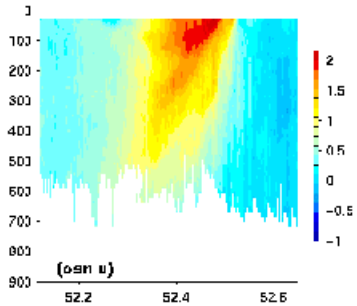


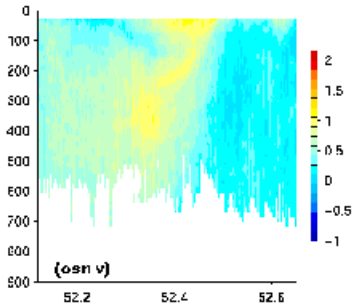
test 22: N = 31 (nb8, osb8, csn16)



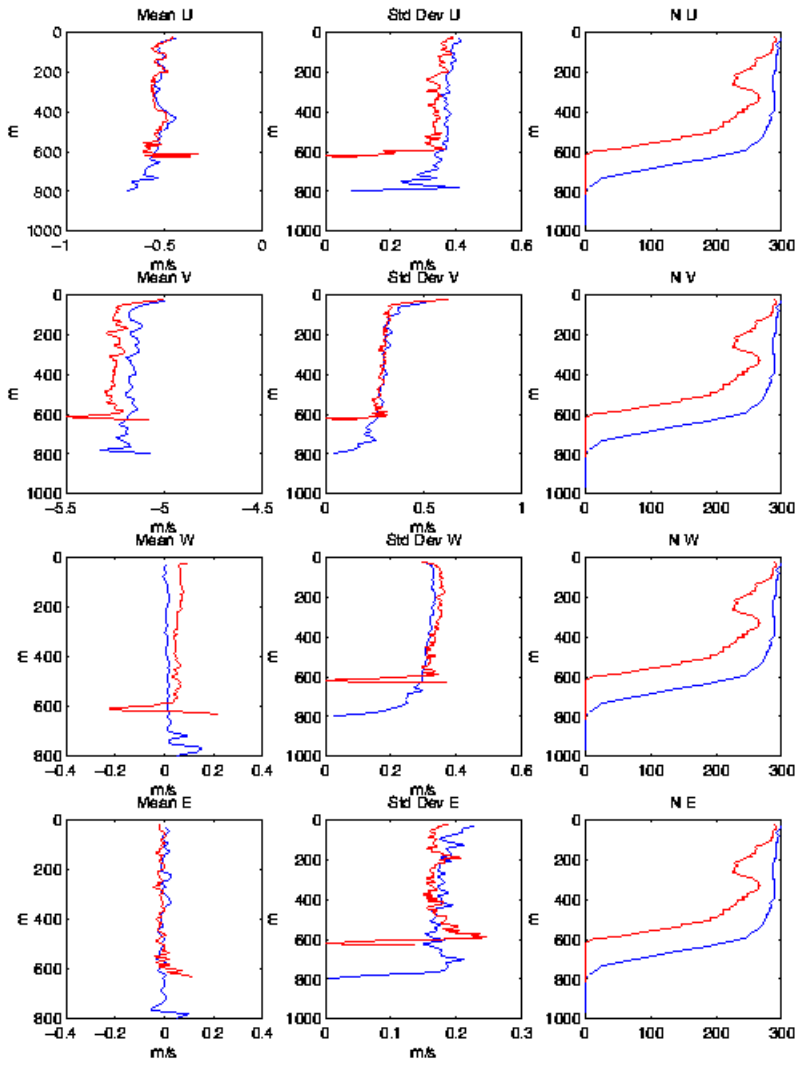




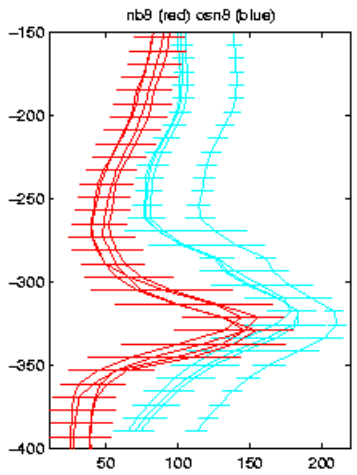


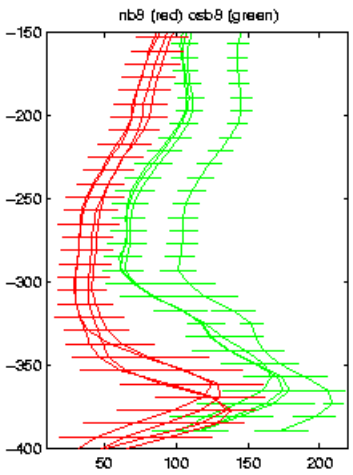


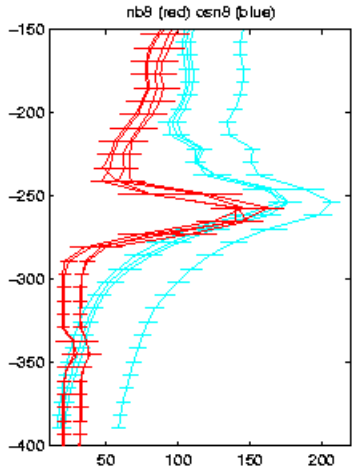
test 27: N = 147 (nb8, osb8, osn16)

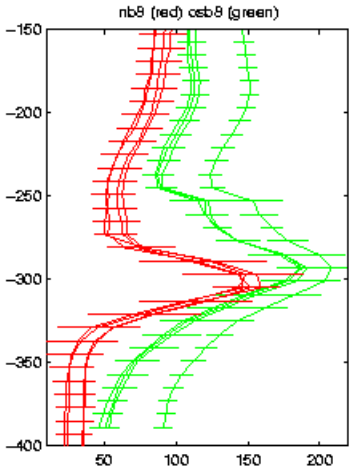


dday range 52.56 – 52.58


nb8 (red) csn8 (blue)
−150
−200
−250
−300
−350
−400
50
100
150
200


nb8 (red) csb8 (green)
−150
−200
−250
−300
−350
−400
50
100
150
200


nb8 (red) csn8 (blue)
−150
−200
−250
−300
−350
−400
50
100
150
200


nb8 (red) csb8 (green)
−150
−200
−250
−300
−350
−400
50
100
150
200