

**IKMP Regional Workshop on Discharge and Sediment Monitoring
and Geomorphological Tools for the Lower Mekong Basin**

MRCS, in Vientiane Lao PDR on 21-22 October 2008

Discharge and Sediment Monitoring in Cambodia

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Content

- Existing hydrological station
- River Monitoring
- Water Quality Monitoring
- Water Quality Parameter
- Flow Measurement
- ADCP Problem
- Comment

River Monitoring

Water Level	Discharge	Sediment	Water Quality
102 Main River: 15 Tributary: 67 Flood Plain: 20	37 Main River: 8 Tributary: 29	15	21
Recorder: 45 (Mindata, Thalimedes, Orphimedes, OTT Nimbus, SEBA)	Current Meter, ADP/ADCP	Samplers: P- 61, DH59, D- 49	

Water Quality Monitoring

- In 1993: 5 stations
- In 1995: 11 stations
- From 2004: 21 stations (some from WUP-FIN in Tonle Sap Catchment, and Tran-boundary rivers in Se Kong, Se San, and Srepok rivers)

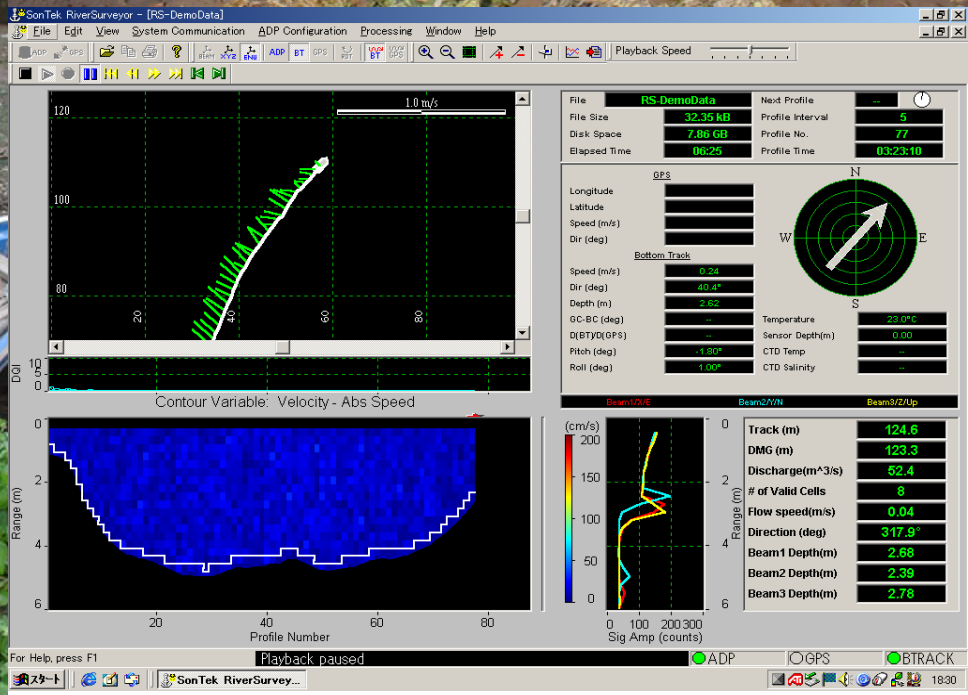


Water Quality Parameter

No.	Parameters	Unit	Method Use
Physical and Chirical			
1	pH	oC	Electrometric
2	EC	ms/m 25 oC	Electrometric
3	TSS	mg/l	Residue Filtration 103-105 oC
4	Ca	mg/l	EDTA Titration
5	Mg	mg/l	EDTA Titration
6	Na	mg/l	Flam photometer
7	K	mg/l	Flam photometer
8	Alk.	mg/l as CaCO ₃	Titration
9	SO ₄	mg/l	Turbidity Method
10	CL	mg/l	Mercurimetric
11	NO ₃ -N	mg/l	Cd redator
12	Tot.P	mg/l	Indophenol blue
13	NH ₄ -N	mg/l	Digestion with K ₂ S ₂ O ₈
14	Tot.N	mg/l	
15	Chlorophyll-a	mg/l	Spectrometric
16	DO	mg/l	Winkler
17	CODMn	mg/l	Permanganate oxidation
Biological			
18	Feacal Coliform	MPN in 100 ml	

DISCHARGE MEASUREMENT

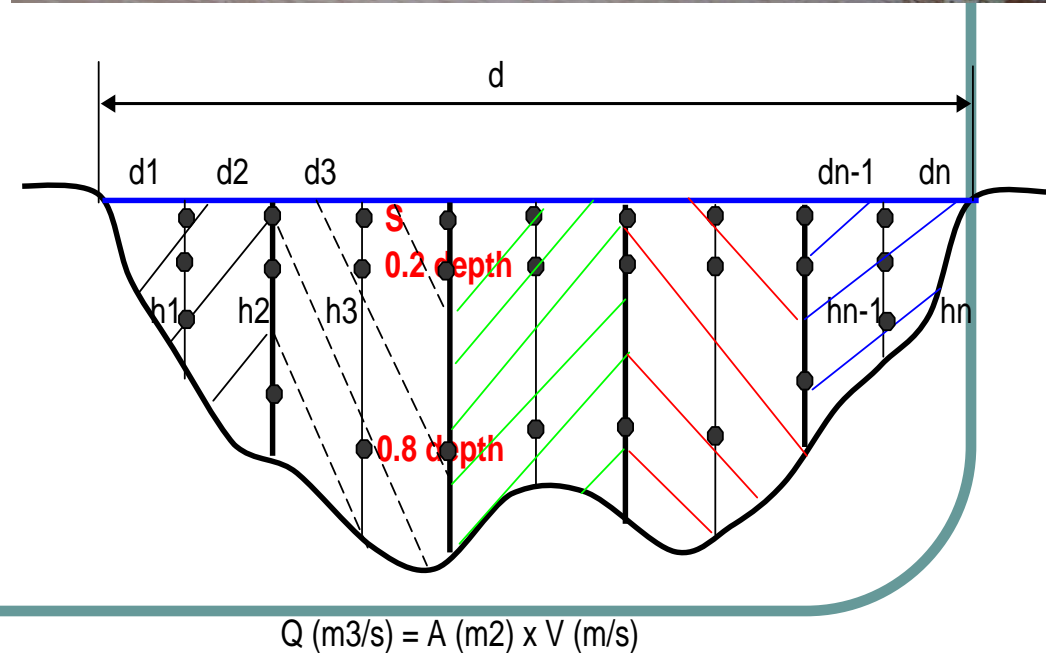
Meas. Equipment: By ADP/ ADCP



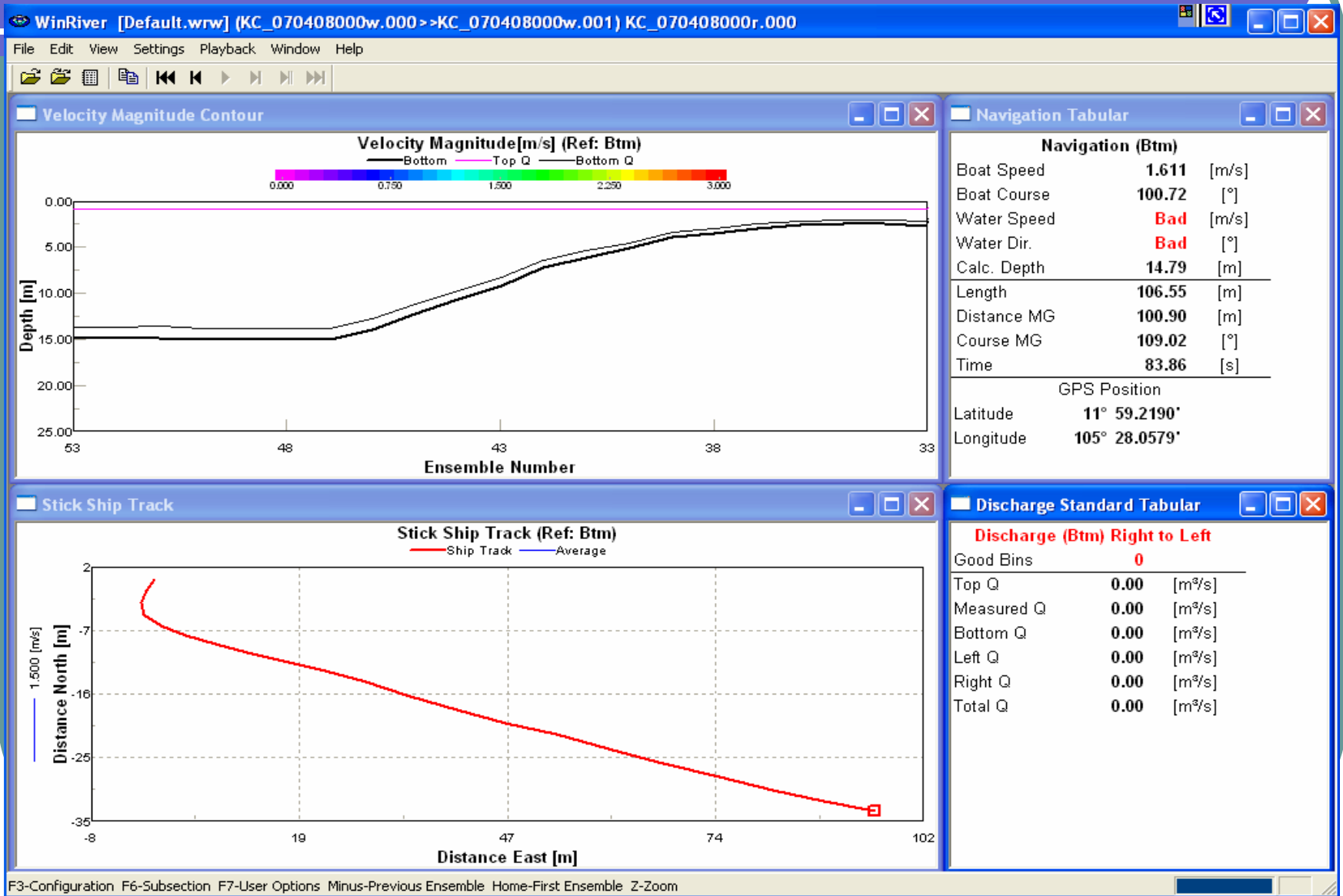
DISCHARGE MEASUREMENT

Meas. Equipment:

- **By current meter:** OSS-B1, propeller type, 100 mm dia., 0.125 pitch,
- Velocity measured at Surface, 0.2 & 0.8 depth.



ADCP problem



Comments

- MRCS should amend cost of petrol since June 2008 because it increased sharply
- ADP/ADCP need to Re-Calibrate and recheck again
- Need to repair ADCP
- Need comfortable boat with engine to take sediment sampling
- Station improvement is very important to monitor hydrological data.
- Discharge and sedimentation observation should be extended to tributaries for update the rating.
- Laptop is required for ADP/ADCP measurement
- Need training and on the job training
- Hydrological Laboratory (Hygrometry Laboratory)
- Upgrade Water Quality Laboratory;...



THANK YOU

Very Much

