

Sea level activities in Sri Lanka





**National Aquatic Resources Research and
Development Agency (NARA).
Under the ministry of fisheries and aquatics
recourses - Sri Lanka.**

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Maintained - Oceanography Division

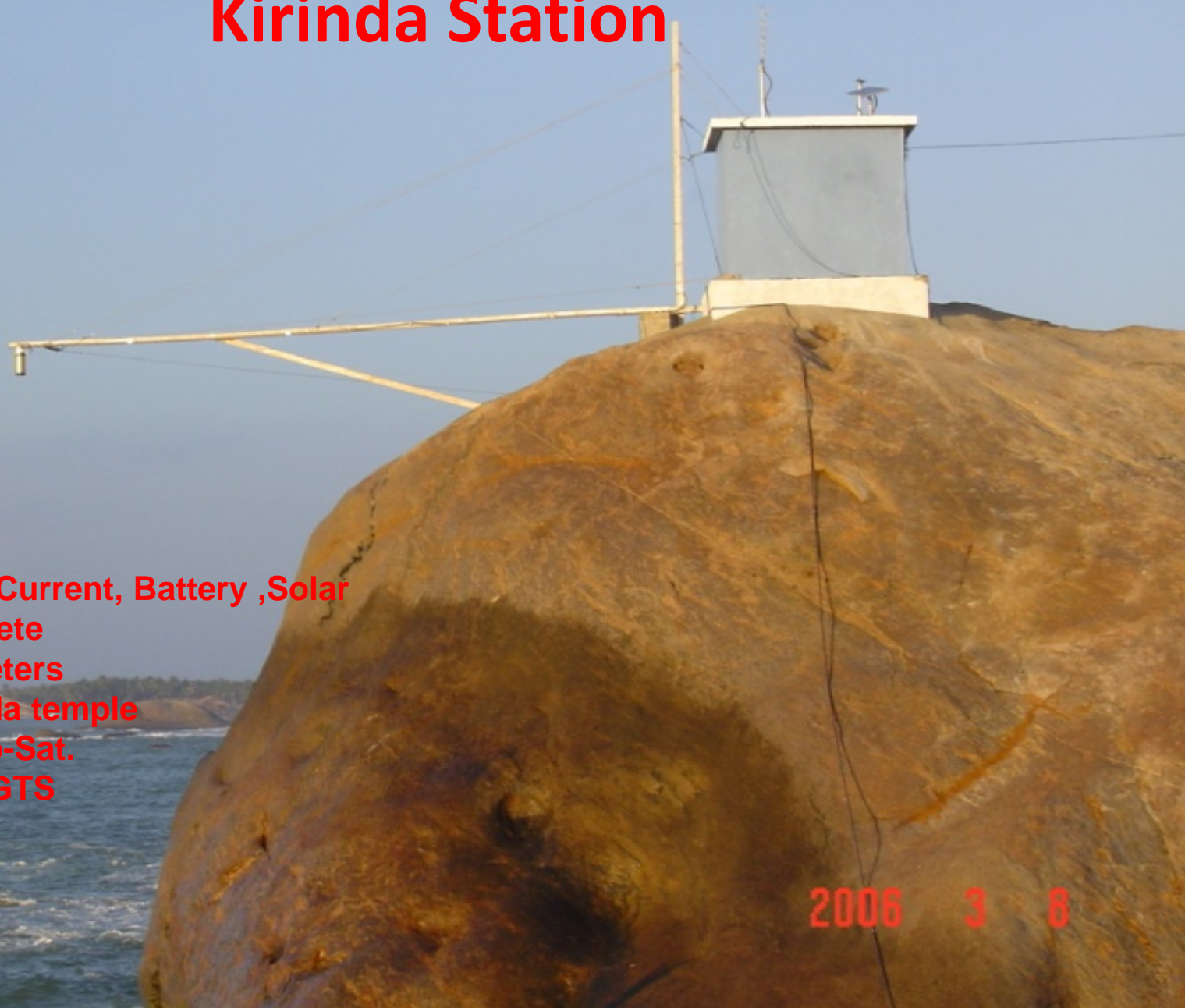
1. Research

2. Consultancy

Sea level Stations around Sri Lanka



Kirinda Station



Power - Main Current, Battery ,Solar

Made - Concrete

Height - 10 meters

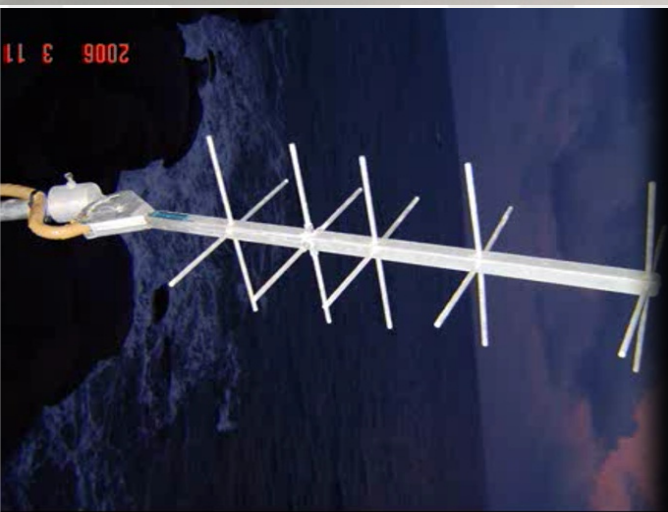
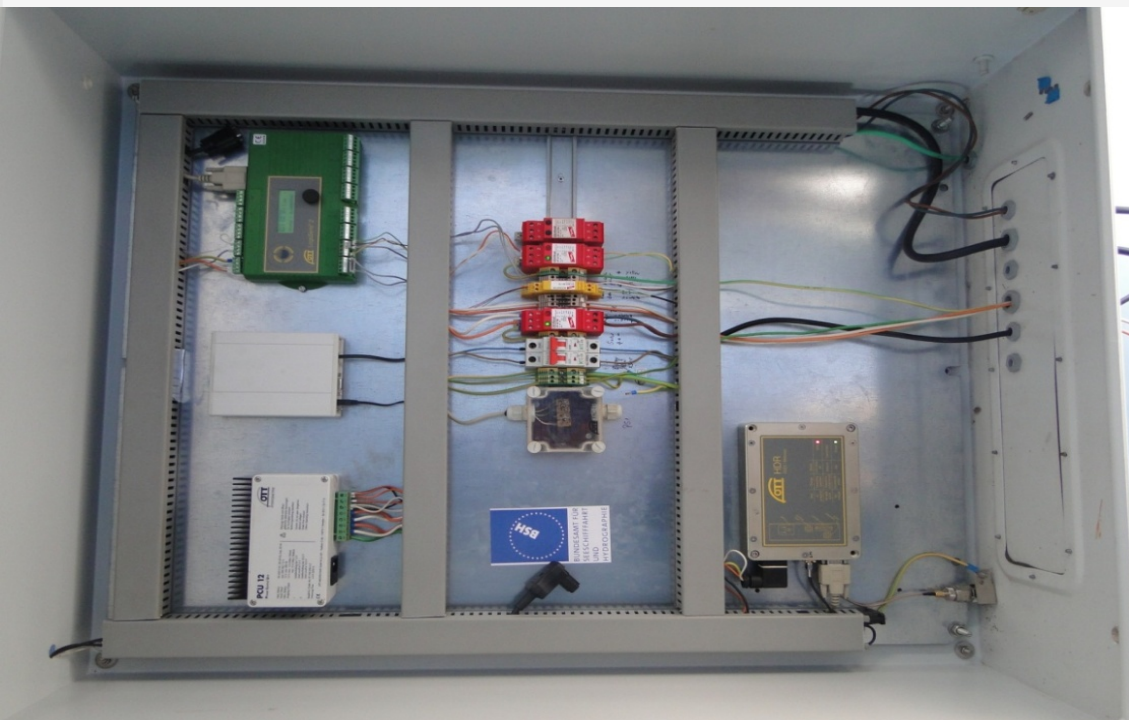
Location - Kirinda temple

Transmit - Meteo-Sat.

Real-time data - GTS

2006 3 8

Kirinda Sea level Station



Logger
power control unit - PCU 12
Transmitter

- LogoSens 2
- PCU 12
- OTT HDR

Kirinda Sea level Station

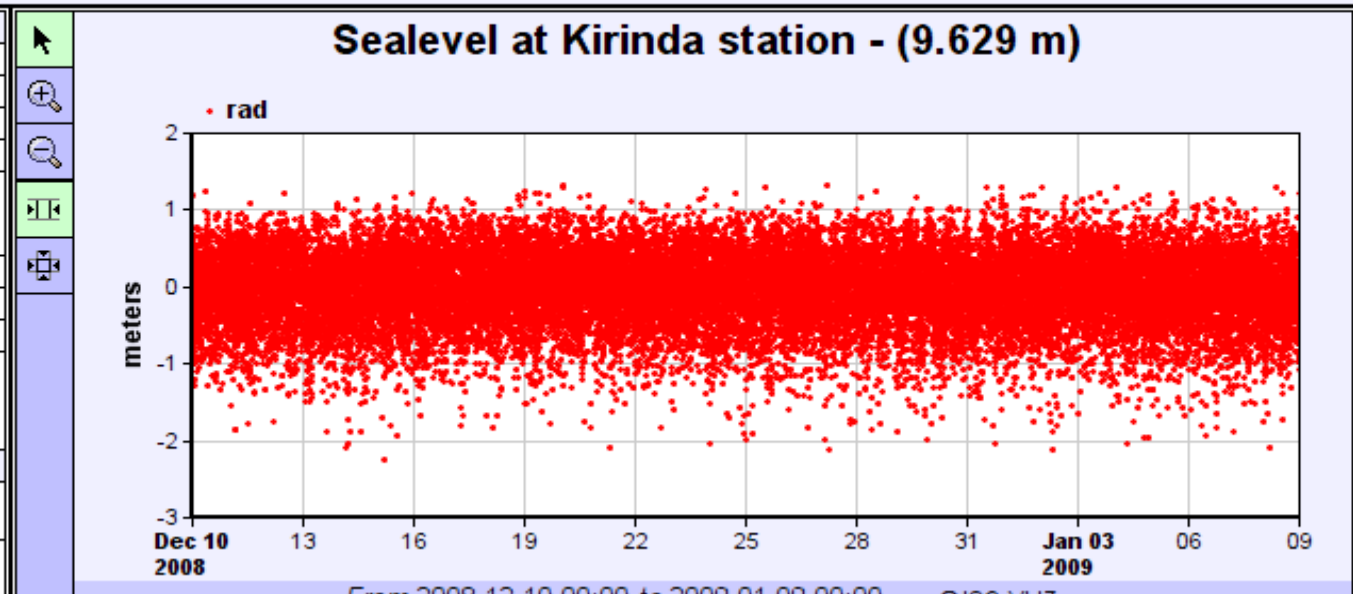


Tide gauge at Kirinda	
Time (UTC)	rad(m)
2008-12-10 00:00:00	10.157
2008-12-10 00:01:00	9.795
2008-12-10 00:02:00	9.447
2008-12-10 00:03:00	9.139
2008-12-10 00:04:00	9.194
2008-12-10 00:05:00	9.423
2008-12-10 00:06:00	11.152

[\[previous station\]](#)
 Station at GMT
 [\[next station\]](#)

[\[more details\]](#)
 [\[GTS message\]](#)
 [\[show data\]](#)
 [\[show on map\]](#)
 [\[monitor\]](#)

Station metadata	
Code	krna
Country	Sri Lanka
Location	Kirinda
Status	Maintenance
Local Contact	National Aquatic Resources Research and Development Agency (Sri Lanka)
Latitude	6.1966
Longitude	81.32
Connection	GTS message
GTS message type	SXXX33
Sensor 1	
Type of sensor	rad
Sampling rate (min)	1



Colombo Station



Made - Concrete
Power - Main, Battery, Solar
Location - Near Colombo
main harbour

Tide gauge at Colombo				
Time (UTC)	bat(V)	enc(m)	prs(m)	rad(m)
2014-03-14 20:22:00			2.123	
2014-03-14 20:23:00			2.109	
2014-03-14 20:24:00		5.505	2.108	6.51
2014-03-14 20:25:00			2.108	
2014-03-14 20:26:00			2.108	
2014-03-14 20:27:00		5.503	2.108	6.502
2014-03-14 20:28:00			2.101	
2014-03-14 20:29:00			2.093	
2014-03-14 20:30:00	12.6	5.489	2.095	6.492

Colombo Sea level Station

Sensors	Num: sensors	Data interval	Location	Satellite
Pressure	2	1 min	CFHC - Mutual Colombo	Japanies metiorological satellite (JMA), Meteo-sat
Floating gauge	2	3 min		
Radar	1	3 min		



Installation of New parts by University of Hawaii sea level center in 2013



Trincomalee tide house

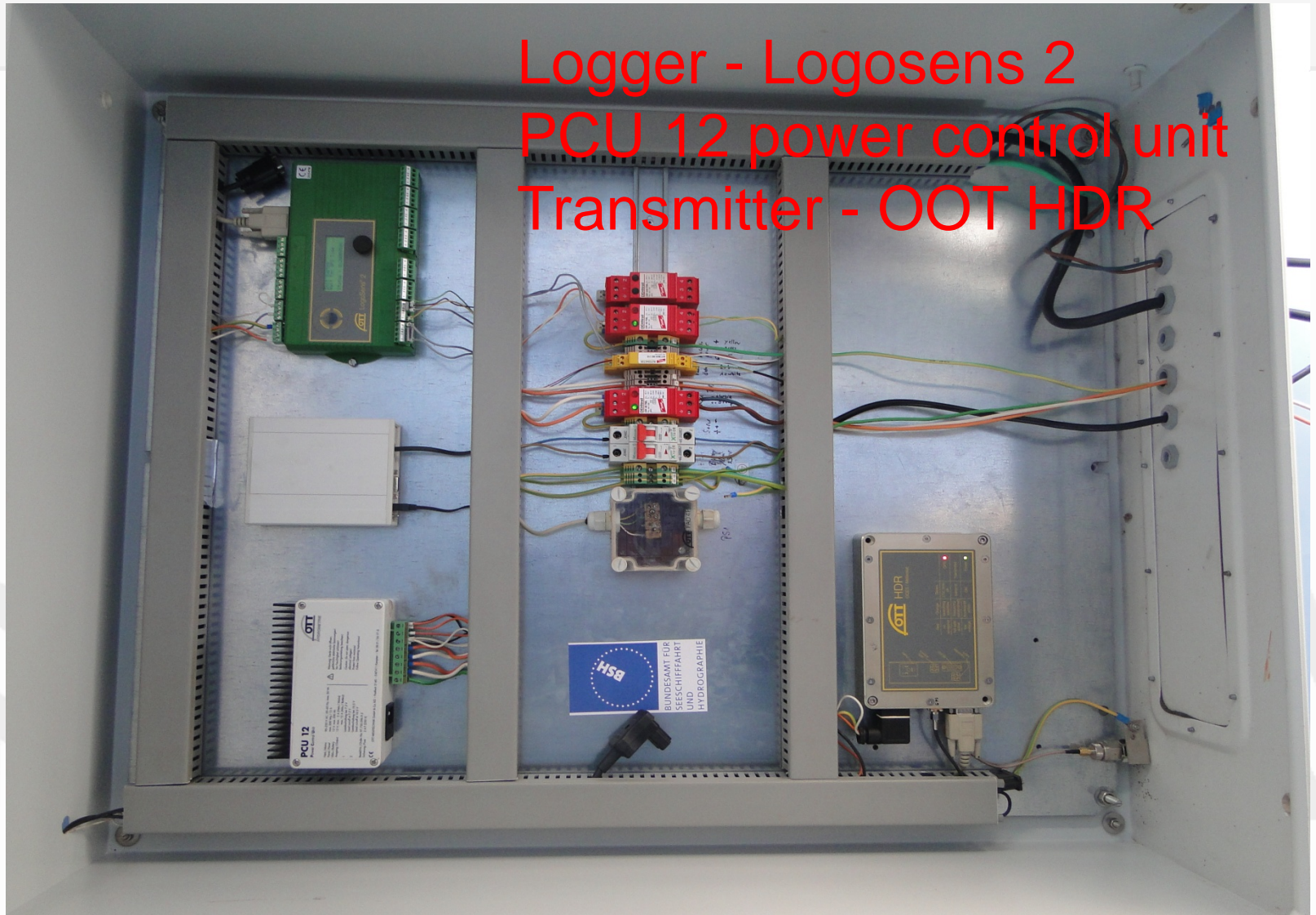
Made - Concrete

Power - Main, Battery, Sola

Location - Near Trinco NAVY base/ Main harbour



Logger - Logosens 2
PCU 12 power control unit
Transmitter - OOT HDR

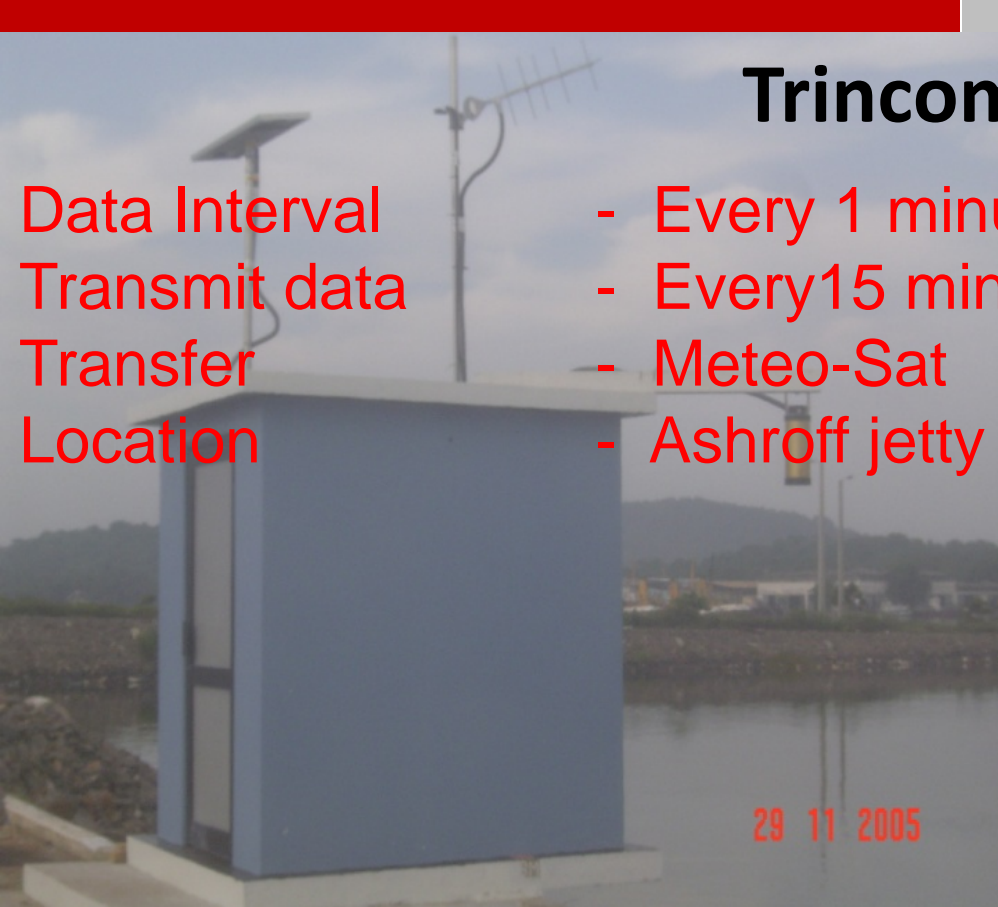


Trincomalee

Trincomalee

Data Interval
 Transmit data
 Transfer
 Location

- Every 1 minute
- Every 15 minutes
- Meteo-Sat
- Ashroff jetty Trincomalee harbour



Tide gauge at Trincomalee		
Time (UTC)	bat(V)	rad(m)
2014-01-28 12:00:00		5.124
2014-01-28 12:01:00		5.122
2014-01-28 12:02:00		5.122
2014-01-28 12:03:00		5.123
2014-01-28 12:04:00		5.137
2014-01-28 12:05:00		5.122
2014-01-28 12:06:00		5.128
2014-01-28 12:07:00		5.13
2014-01-28 12:08:00		5.127
2014-01-28 12:09:00	12.7	5.138
2014-01-28 12:10:00		5.135
2014-01-28 12:11:00		5.137
2014-01-28 12:12:00		5.134
2014-01-28 12:13:00		5.143
2014-01-28 12:14:00		5.13
2014-01-28 12:15:00		5.133
2014-01-28 12:16:00		5.134
2014-01-28 12:17:00		5.125

[previous station] Station Trincomalee at GMT [next station]
 [more details] [GTS message] [show data] [show on map] [monitor]

Station metadata	
Code	trin
Country	Sri Lanka
Location	Trincomalee
Status	Operational
Local Contact	National Aquatic Resources Research and Development Agency (Sri Lanka)
Latitude	8.5637
Longitude	81.1996
Connection	GTS message
GTS message type	SXXX33

Sensor 1	
Type of sensor	rad
Sampling rate (min)	1

Sensor 2	
Type of sensor	
Sampling rate (min)	

Sealevel at Trincomalee station - (4.866 m)

From 2014-01-28 12:00 to 2014-01-29 00:00 © IOC-VLIZ

TIDE STAFF READINGS REPORT

NATIONAL AQUATIC RESOURCES RESEARCH AND DEVELOPMENT AGENCY

Crow Island, Mattakkuliya, Colombo - 15,

Colombo

Sri Lanka 2013

June

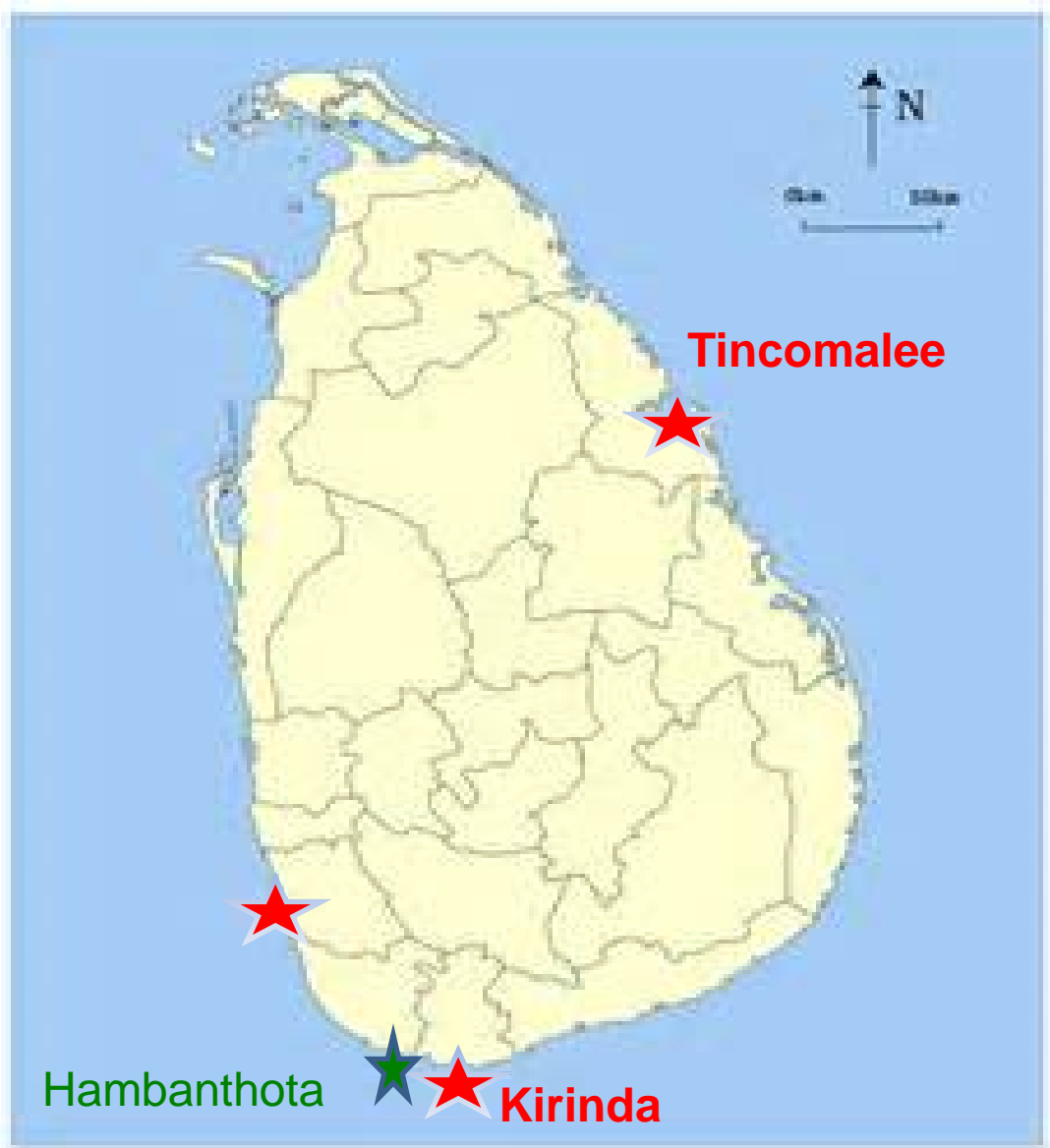
Station Name

Year

Month

Date	Time (Local)	Maximum Water Level	Lowest Water Level	Sea Condition (Cloudy / Sunny / Rough / Clam)	Remark
2013.05.27	09:30	0.95	08.2	Sunny/Clam	2
2013.05.28	08:11	0.84	0.65	Rough/Clam	2
2013.05.29	08:06	4.45	1.25	Rough/Clam	2
2013.06.04	07:46	1:50	0:80	Rough Clam	2
2013.06.05	07:58	1:17	0:90	Rough Clam	2
2013.06.06	07:30	1:10	0:80	Rough Cloudy	2
2013.06.07	07:25	1:10	0:60	Rough/sunny	2
2013.06.08	07:52	1:12	0.62	Rough/Clam	2
2013.06.10	08:26	0.82	0.61	Clam/Clam	2
2013.06.12	08:13	5.02	0.62	Rough/Clam	2
2013.06.13	09:21	5.01	3.03	Clam/Clam	2
2013.06.14	08:05	04:04	02:20	Rough/Clam	2
2013.06.15	09:30	1:50	1:15	Rough/Clam	2
2013.06.16	08:45	1:50	1:10	Rough/Clam	2
2013.06.17	08:20	1:70	1:15	Rough/Clam	2
2013.06.19	10:05	05.03	2.05	Clam/Clam	2
2013.06.20	08:07	1:48	0:96	Rough/Clam	2
2013.06.21	08:15	1:10	0:70	Sunny/Clam	2
2013.06.25	08:02	0.52	0.41	Clam/Clam	2
2013.06.27	08:10	0.93	0.82	Clam/Clam	2

Sea level Stations around Sri Lanka



Hambanthota Station -Testing stations.

Location - CFHC - Hambanthota
Censer - Pressure
Data Interval - 1 Minute

Tide gauge at Hambantota	
Time (UTC)	prs(m)
2009-08-18 00:00:00	1.451
2009-08-18 00:01:00	1.498
2009-08-18 00:02:00	1.574
2009-08-18 00:03:00	1.492
2009-08-18 00:04:00	1.493
2009-08-18 00:05:00	1.52
2009-08-18 00:06:00	1.445
2009-08-18 00:07:00	1.46
2009-08-18 00:08:00	1.451
2009-08-18 00:09:00	1.453
2009-08-18 00:10:00	1.551
2009-08-18 00:11:00	1.429
2009-08-18 00:12:00	1.476
2009-08-18 00:13:00	1.486
2009-08-18 00:14:00	1.524



SEA LEVEL STATION MONITORING FACILITY

Intro | Map | Station lists | **Station details** | Services

[previous station] Station **Hambantota** at GMT [next station]

[more details] [show data] [show on map] [monitor]

Station metadata	
Code	hamb
Country	Sri Lanka
Location	Hambantota
Status	Down
Local Contact	National Aquatic Resources Research and Development Agency (Sri Lanka)
Other Contact	National Oceanography Centre (UK)
Latitude	6.124
Longitude	81.1275
Connection	Email
Sensor 1	
Type of sensor	prs
Sampling rate (min)	1

Sealevel at Hambantota station - (1.562 m)

From 2009-08-18 00:00 to 2009-08-19 00:00 © IOC-VLIZ

Period	Signals	Data
2009-08-19	<input type="checkbox"/> Remove outliers	<input checked="" type="radio"/> Relative levels= signal - average over selected period

- **Usage of Sea Level data in Sri Lanka**

- ✓ **Tsunami early warning**
- ✓ **Research**
- ✓ **Study purposes**
- ✓ **Coastal development program**

Tidal Record from Colombo Station - 2004 December

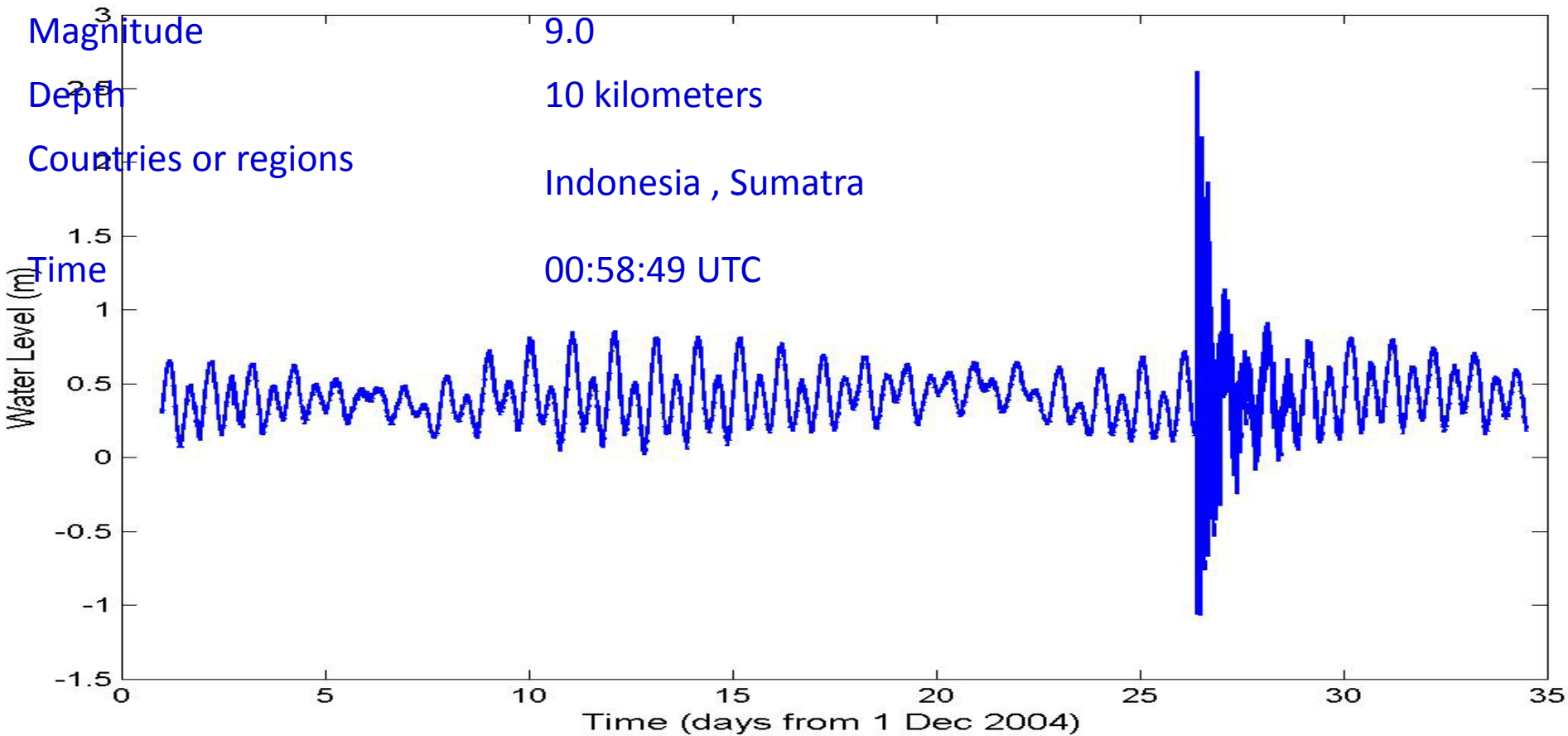
Date 26 December 2004

Magnitude 9.0

Depth 10 kilometers

Countries or regions Indonesia , Sumatra

Time 00:58:49 UTC



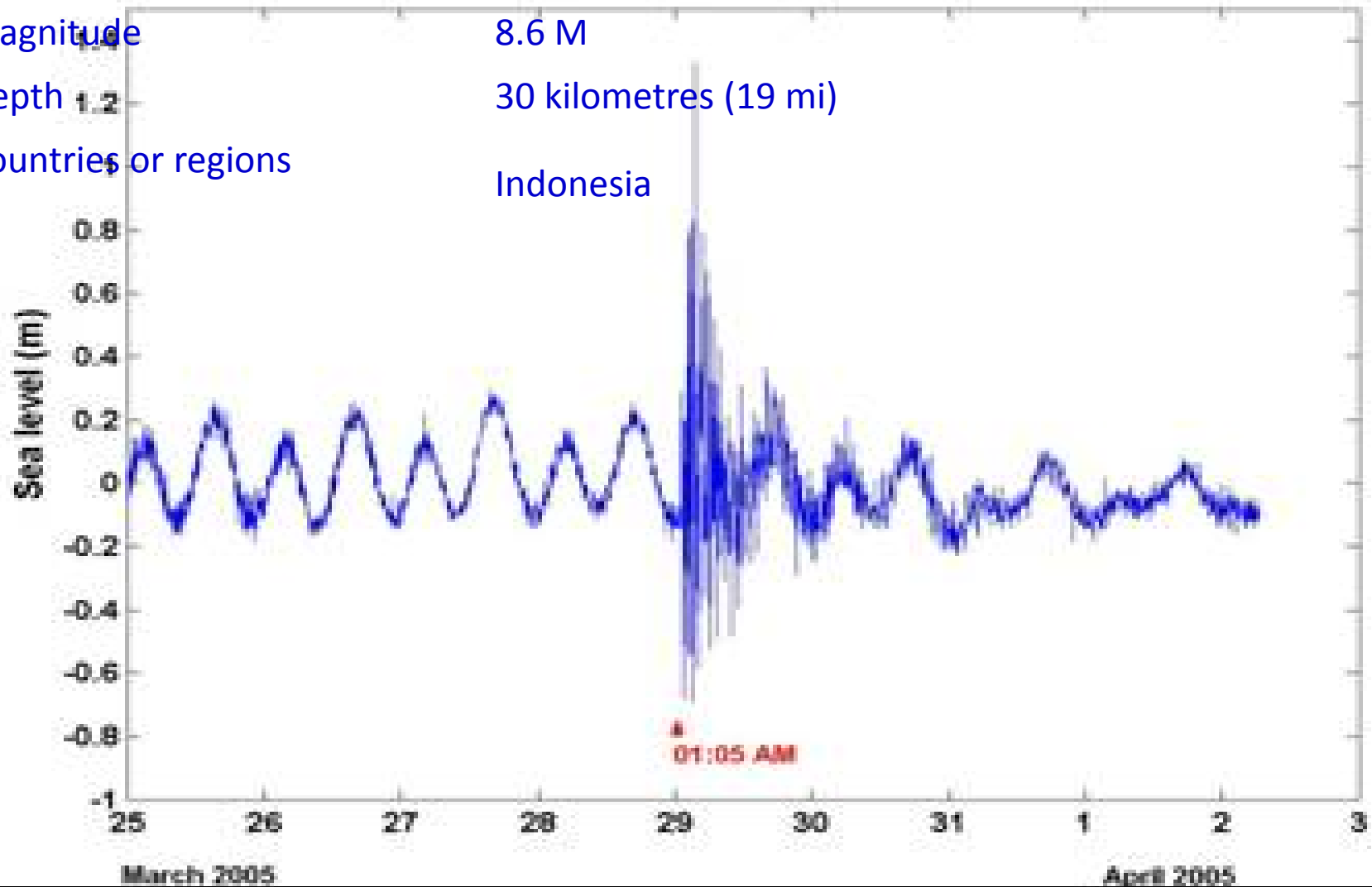
Tidal Record from Kirinda - 2005 March

Date 28 March 2005

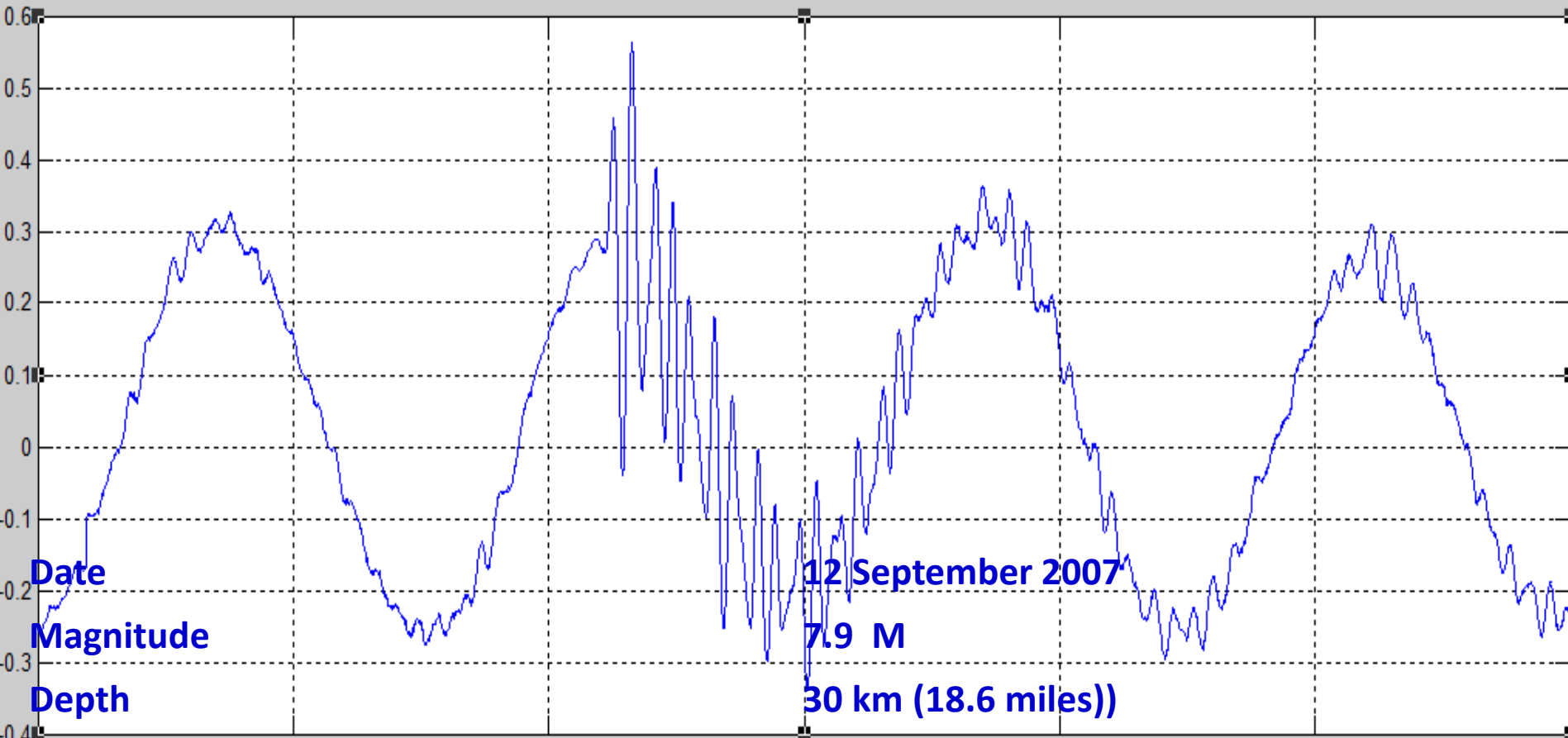
Magnitude 8.6 M

Depth 30 kilometres (19 mi)

Countries or regions Indonesia



Sea level Observation Trincomalee - August 2007



Date

Magnitude

Depth

12 September 2007

7.9 M

30 km (18.6 miles))

Countries or regions

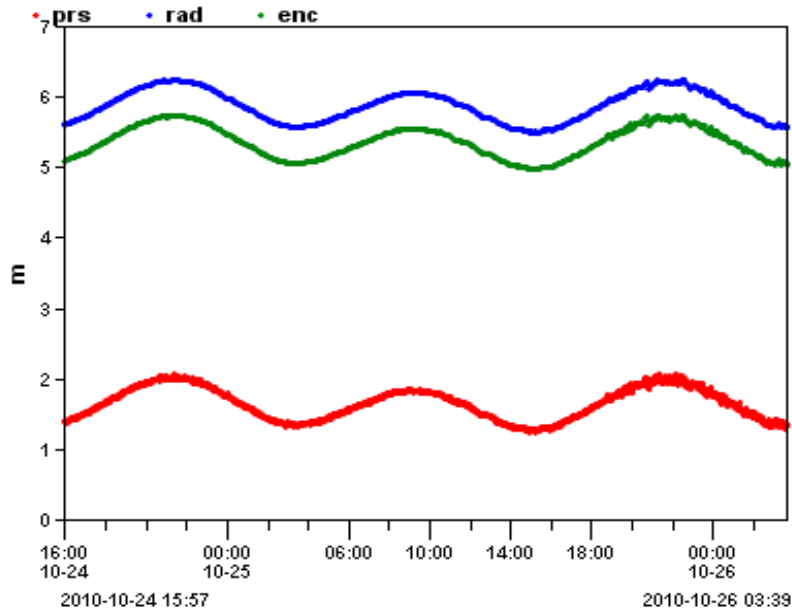
KEPULAUAN MENTAWAI REGION, INDONESIA

Location

2.506°S, 100.906°E

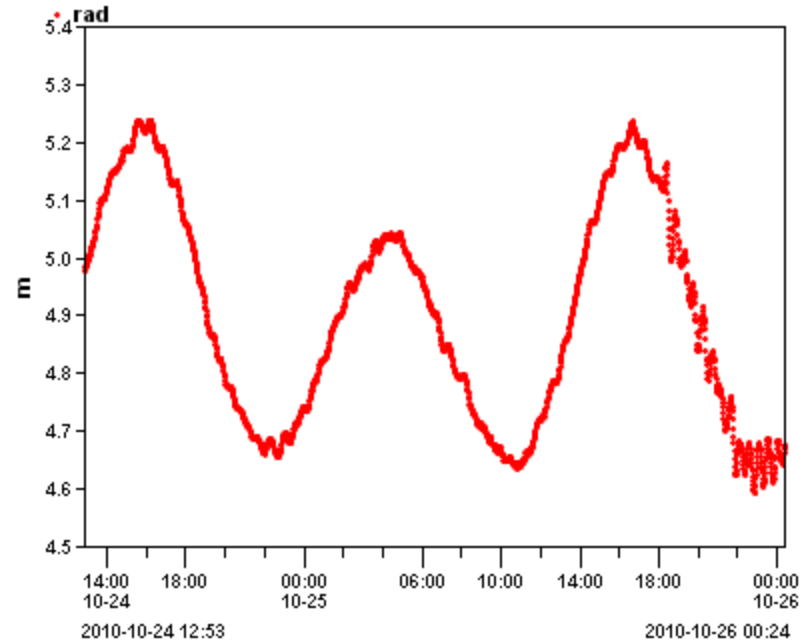
Monitoring of Tsunami - 2010

Tide gauge at Colombo



© IOC-VLIZ

Tide gauge at Trinconmalee



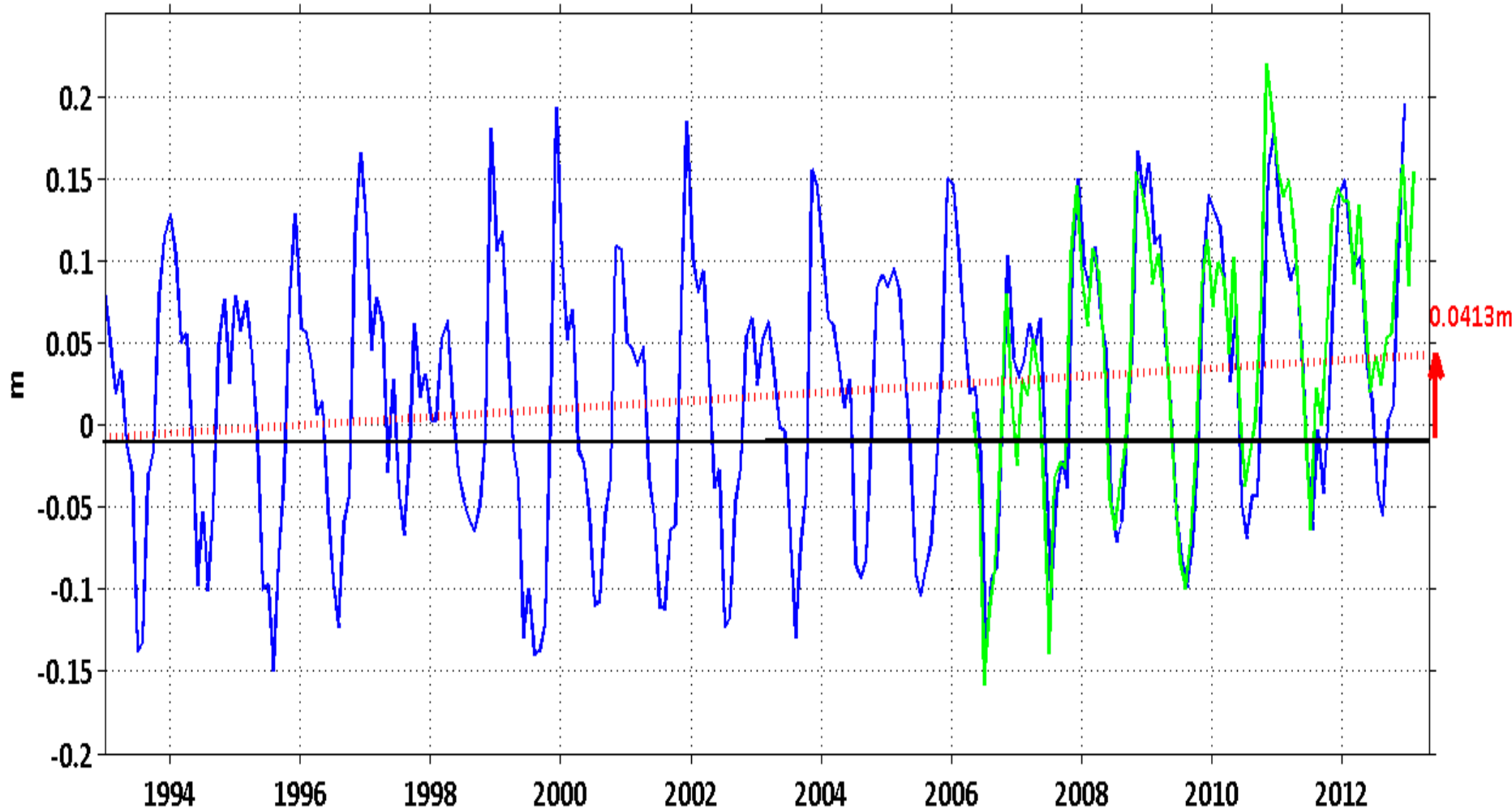
© IOC-VLIZ

Date : 2010.10.25
Time : UTC-14:42:23 Local 9:12 pm
Magnitude : 7.7 Richter scale
Location : KEPULAUAN MENTAWAI REGION, INDONESIA
Depth : 20.6 km
Distance from Sri Lanka : 2251 km

Usage of sea level data for research purposes

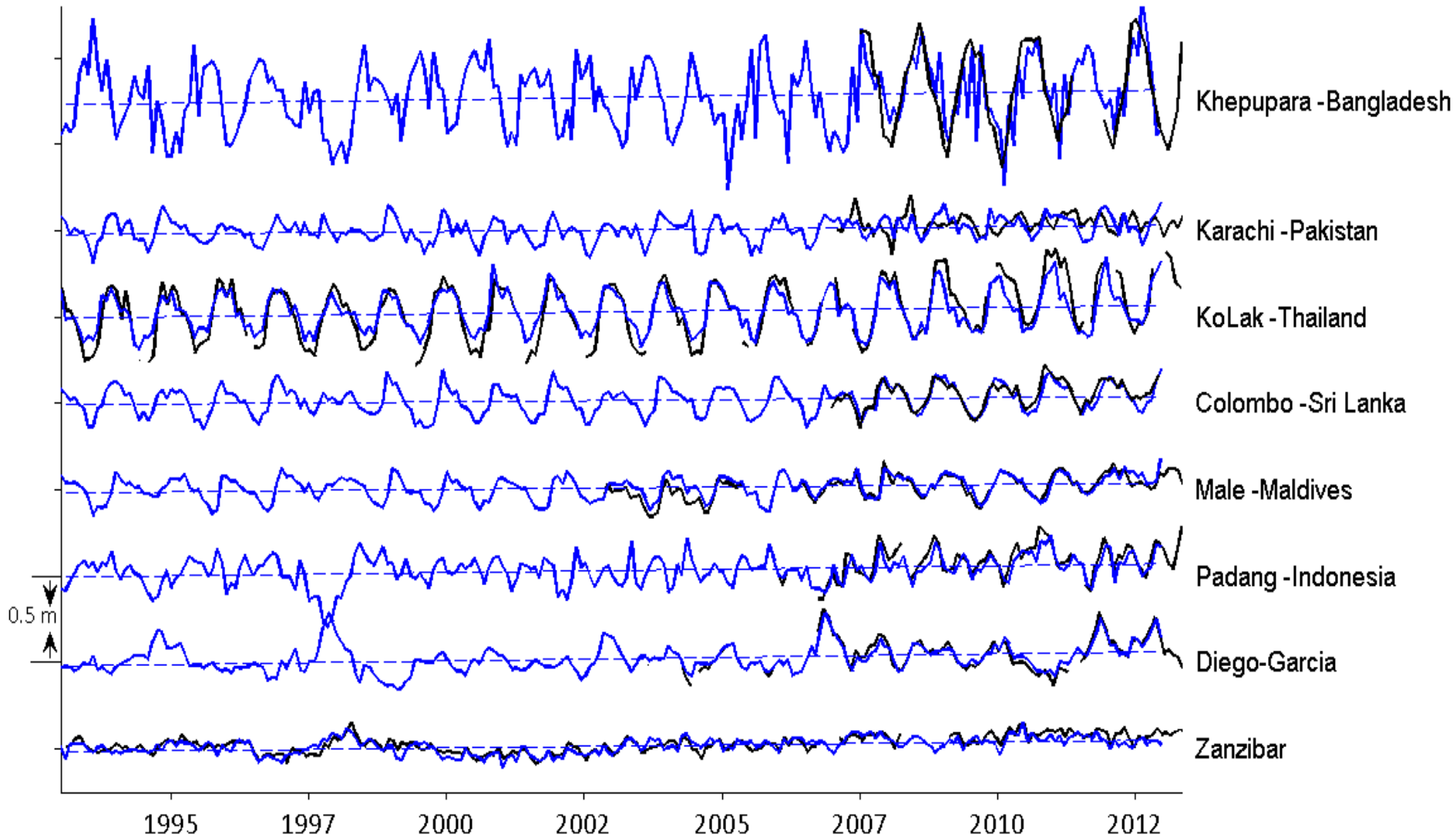
	Station ID	Name Of Station	Annual rate of Sea Trend(m)
01	33	Colombo	0.0025
02	26	Diego-Garcia	0.0041
03	105	Rodrigues	0.0038
04	28	Male	0.0028
05	297	Zanzibar	0.0034
06	124	Chittagong	0.0046
07	30	Karachi Island	0.0026
08	39	Ko-Lak	0.0053
09	45	Padang	0.0038

Sea level changes at Colombo 2006 - 2012.



Monthly mean sea levels from 1993 to 2012

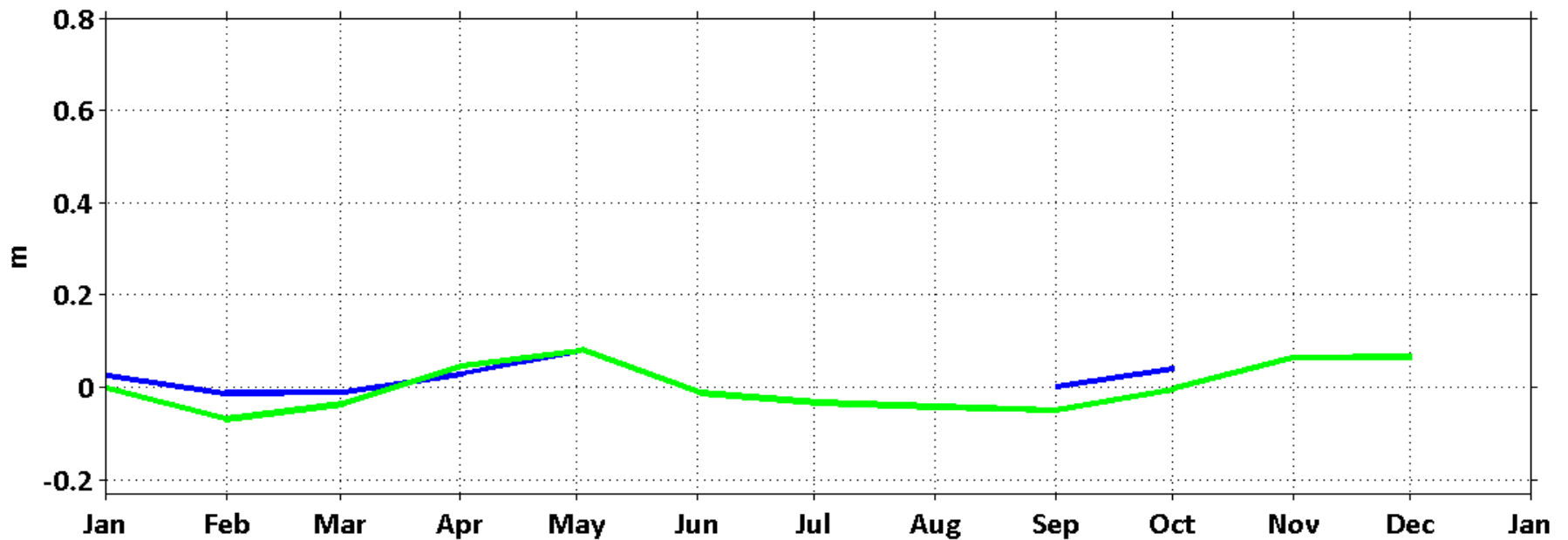
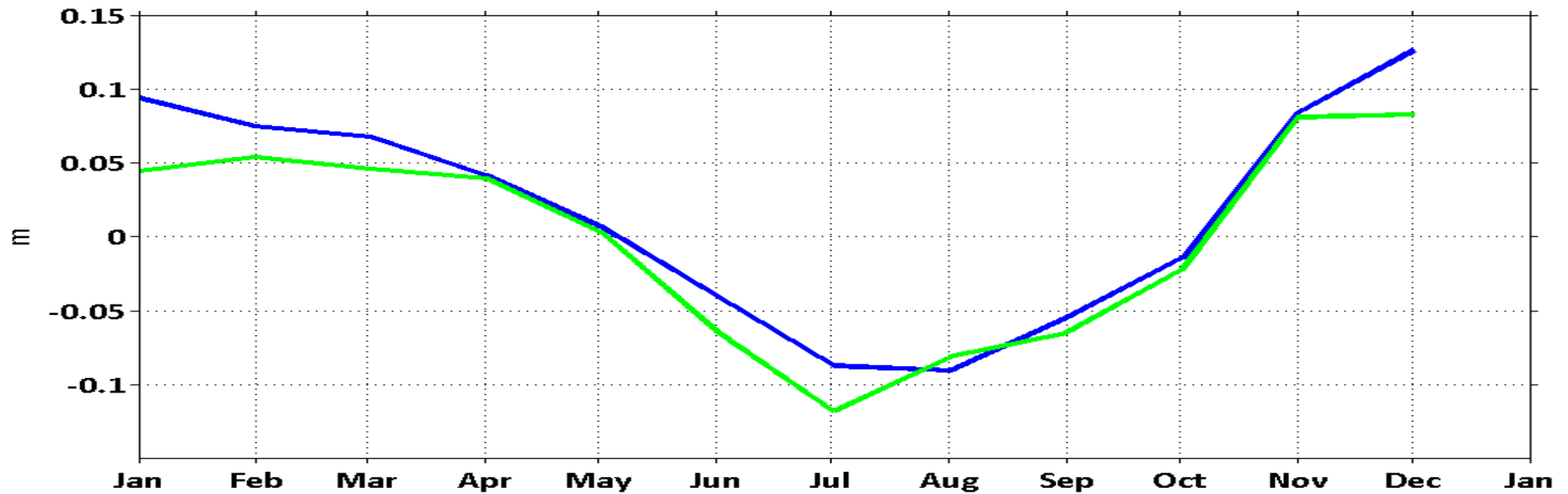
Satellite altimeter data - **Blue**, Tide gauge data - **Black**



Annual sea level variation using selected location

Station	Ocean	Month of maximum sea level	Month of minimum sea level	Seasonal Sea level range
Colombo	Northern	July-August	January- December	0.2 m
Diego-Garcia	Northern	September-October	January- December	0.14 m
Male	Arabian	August-October	January- December	0.16 m
Zanzibar	Arabian	July -August	January- December	0.53 m
Karachi Island	Arabian	January- December	August-September	0.15 m
Ko-Lak	BOB	August-September	January- December	0.16 m
Padang	Northern	January-December and May	February - September	0.05 m

Annual tidal variation - Colombo



Development program of country

1. Road development authority
2. Coastal conservation department
3. Port authority



Predict - Select port

Select a port using the map, or add a port to your list of favourites

Select a port on the map or choose from a list of favourites

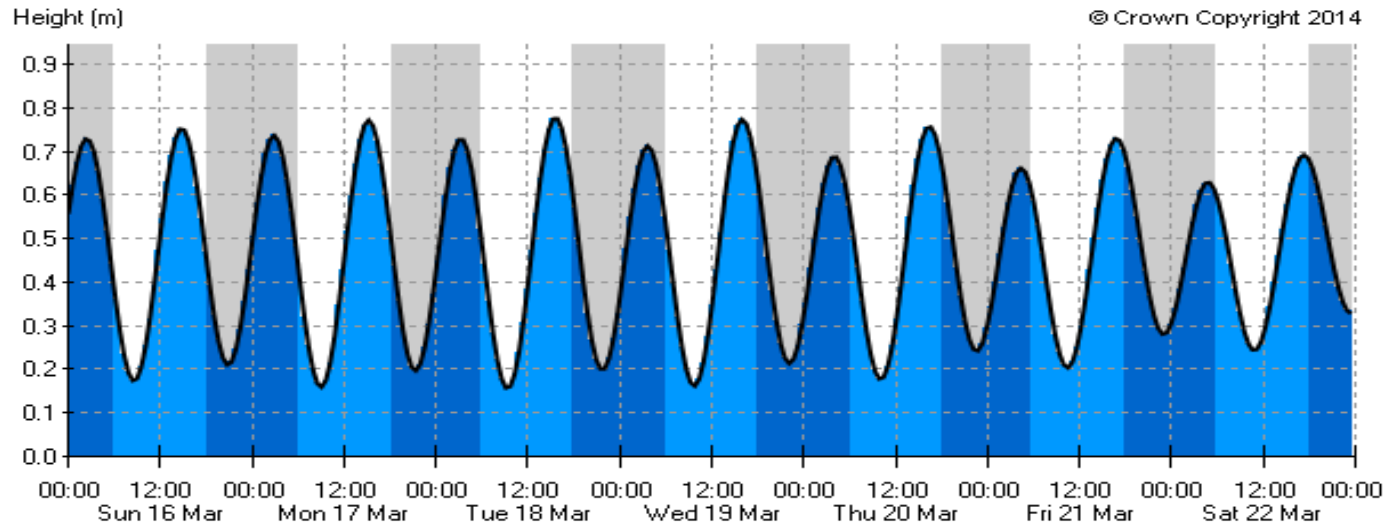
Map

Areas



Click the overview maps (on the left hand side) to zoom in and out. The ports in the main view will be updated accordingly.

Tidal prediction chart



Note: the date shown underneath 12:00 on any given day is applicable to the previous and next periods of 12 hours

Sun 16 Mar				Mon 17 Mar				Tue 18 Mar			
HW	LW	HW	LW	HW	LW	HW	LW	HW	LW	HW	LW
02:24	08:35	14:47	20:51	02:49	08:58	15:11	21:17	03:14	09:19	15:34	21:42
0.7 m	0.2 m	0.8 m	0.2 m	0.7 m	0.2 m	0.8 m	0.2 m	0.7 m	0.2 m	0.8 m	0.2 m
Wed 19 Mar				Thu 20 Mar				Fri 21 Mar			
HW	LW	HW	LW	HW	LW	HW	LW	HW	LW	HW	LW
03:36	09:41	15:57	22:07	03:58	10:02	16:21	22:32	04:21	10:24	16:47	22:58
0.7 m	0.2 m	0.8 m	0.2 m	0.7 m	0.2 m	0.8 m	0.2 m	0.7 m	0.2 m	0.7 m	0.3 m



Te- 011-2521932, 011-3135632
Fax - 011-2521932,011-2546475
Web - <http://www.nara.ac.lk>

Thank you