



National Report

Korea Sea Level Observation and Service

Korea Hydrographic and Oceanographic Agency (KHOA)

Status of Korea Sea Level Observation Network

1

Sea Level Observation Network

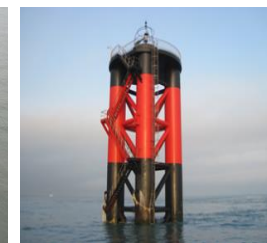
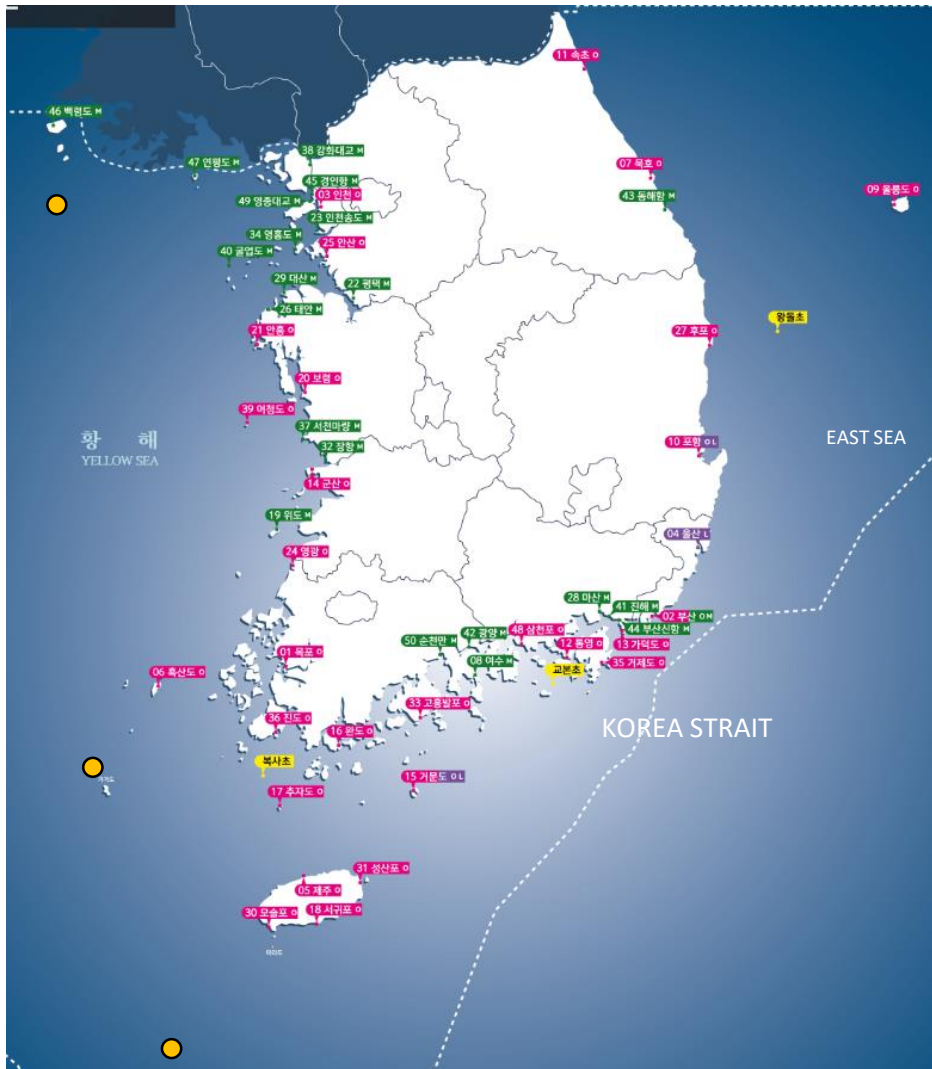
- Tidal Station 50
- Ocean Station 3
- Ocean Research Station 3

Station	West	South	East
Tidal Station	24	19	7
Ocean Station	1	1	1
Ocean Research Station	2	1	-

27

8

Observation period	Total	West	South	East
More than 50 years	9	3	3	3
30~49 years	12	4	6	2
10~29 years	19	13	5	1
Less than 10 years	10	4	5	1



Status of Korea Sea Level Observation Network

2

Observation Facility and Equipment



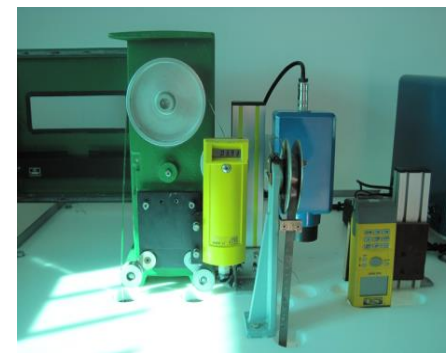
Gunsan



Float type



Ulsan



Laser type



Guleobdo



Radar type



Float type
without chart recorder

Station	Main	Float	Radar	Laser	Pressure
Boryeong	Radar		O	O	O
Mokpo	Float	O		O	
Chujado	Float	O		O	
Geomundo	Float	O		O	
Jeju	Float	O		O	
Geojedo	Float	O		O	
Busan	Float	O	O		
Ulsan	Laser			O(2)	
Hupo	Float	O		O	
Ullengdo	Float	O		O	
Mukho	Laser	O		O	
Sokcho	Float	O		O	

Dual 12 stations →

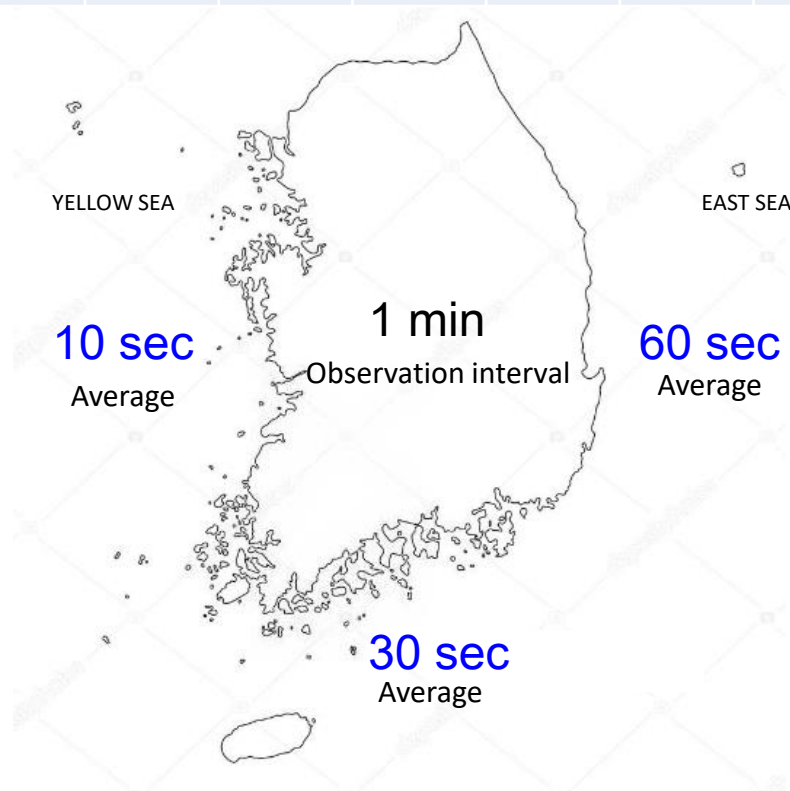
Sea Level Observation Data

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Sea Level Observation Rate

YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	AVE.
2016	98.0	97.6	98.0	97.7	97.2	97.3	96.8	98.2	97.7	97.2	97.1	97.1	97.5
2017	98.8	98.2	98.2	97.8	98.6	98.8	94.9	97.6	98.6	97.4	98.0	96.2	97.8
2018	91.4	90.2	94.2	97.0	96.6	97.1	97.5	97.9	96.3	98.2	96.7	95.1	95.7
AVE.	96.1	95.3	96.8	97.5	97.5	97.7	96.4	97.9	97.5	97.6	97.3	96.1	97.0

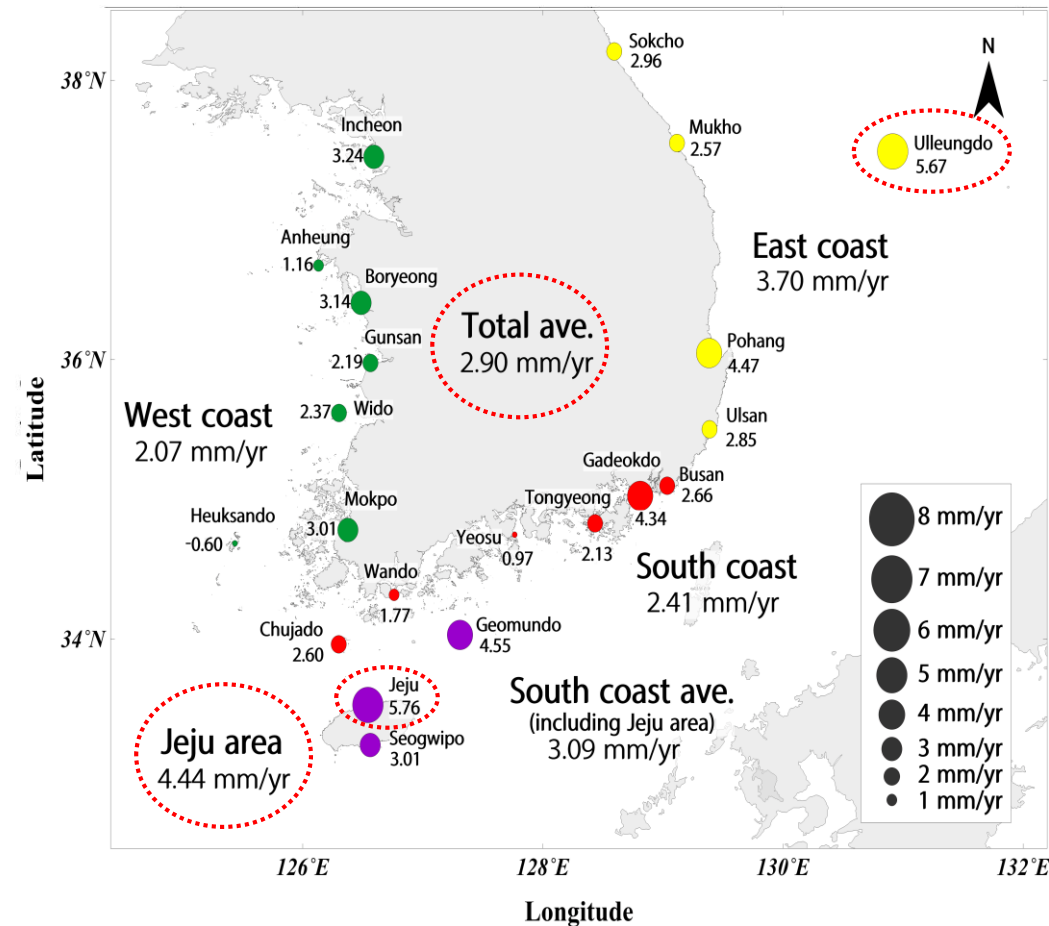
56 stations
1,440 data/day



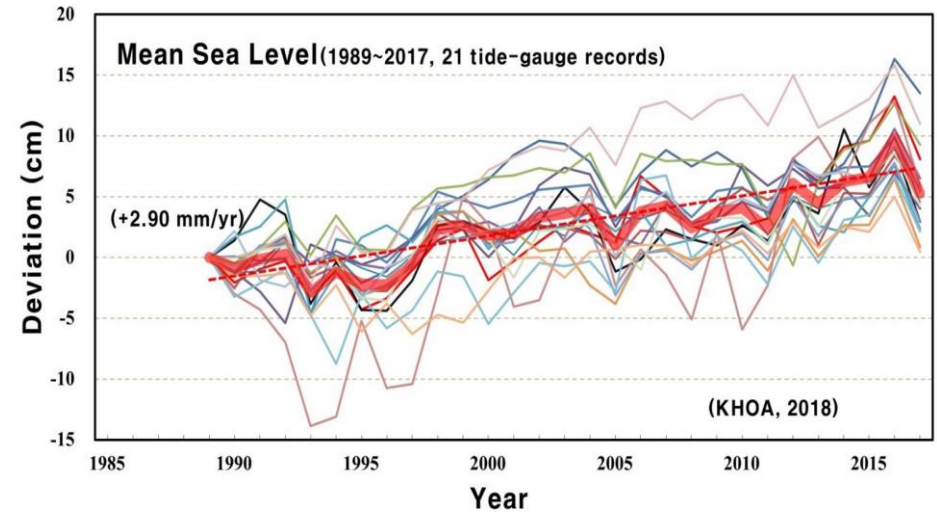
97.0%

Unobserved
About 10days/year

Sea Level Rise



Sea level rise rate in recent 29 years
(`89~`17, 21 tidal stations)



Sea level change in recent 29 years
(`89~`17, 21 tidal stations)

Service of observation data Korea RTDB for NEAR-GOOS

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KHOA Korea Hydrographic and Oceanographic Agency **NEAR-GOOS**

REAL-TIME DATA 72 HOURS DATA KOON NEAR-GOOS

Observation Items: Total, Tidal Height, Wave Height, Current Speed & Direction, Water Temperature, Salinity, Air Temperature, Air Pressure, Wind Speed & Direction

Map of Korea showing 20 stations: Busan, Gadeokdo, Gunsan, Heuksando, Incheon, Janghang, Jeju, Mokpo, Mukho, Pohang, Sokcho, Tongyeong, Ulleungdo, Yeosu, Boksacho, Gyoboncho, Wangdolcho, Jeju(Southern), Ulleungdo(Northeast), Surface Currents Stations, Busan(New port).

20 stations

<http://www.khoa.go.kr/koofs/eng>

MEAN SEA LEVEL

STATION : 인천
APPARATUS : (Scale : /10)
DATUM : 464.0cm below the Mean Sea Level
Latitude(WGS84) : 37° 27' 07" N
Longitude(WGS84) : 126° 35' 32" E

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	P.Mean
1999	441	436.3	452.3	455.5	455	467	477.9	481	473.1	470.3	461	446	459.5	459.5
2000	443	442.4	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2001	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2002	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2003	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2004	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2005	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2006	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2007	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2008	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2009	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2010	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2011	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3
2012	443	443	452.2	453.9	463.7	468	475.1	477.5	481.2	463.8	454.5	449.7	460.4	460.3

EXTREME HIGHEST AND LOWEST TIDE LEVEL

STATION : 인천
APPARATUS : (Scale : /10)
DATUM : 464.0cm below the Mean Sea Level
Latitude(WGS84) : 37° 27' 07" N
Longitude(WGS84) : 126° 35' 32" E

YEAR	Acme	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Extreme Date	Height
1999	Highest	915	878	914	924	936	934	928	918	911	941	949	909	22-11	949
2000	Highest	918	889	893	916	927	935	941	938	932	918	918	909	23-09	949
2001	Highest	907	920	938	949	952	952	958	962	965	954	951	947	21-08	968
2002	Highest	904	920	938	949	952	952	958	962	965	954	951	947	21-08	968
2003	Highest	904	920	938	949	952	952	958	962	965	954	951	947	21-08	968
2004	Highest	909	919	937	941	941	947	945	939	938	938	938	938	09-11	958
2005	Highest	903	903	899	904	907	930	967	953	958	958	958	958	09-11	958
2006	Highest	911	937	915	932	932	932	932	938	945	926	933	937	09-10	974
2007	Highest	892	914	928	947	947	916	944	924	933	934	934	934	18-10	963
2008	Highest	875	892	887	941	938	932	923	940	923	938	934	938	09-04	941
2009	Highest	892	914	928	947	947	916	944	924	933	934	934	934	18-10	963
2010	Highest	892	914	928	947	947	916	944	924	933	934	934	934	18-10	963
2011	Highest	892	914	928	947	947	916	944	924	933	934	934	934	18-10	963
2012	Highest	892	914	928	947	947	916	944	924	933	934	934	934	18-10	963

Korea version

Busan Tidal Station

Address : 부산광역시 중구 남포동 1가
Latitude : 35° 5' 47" N
Longitude : 129° 2' 7" E
Start Date : 1956-01-01

Details

1 Day Download

Total Tidal Height Water Temperature Salinity Air Temperature Air Pressure Wind Speed & Direction

Date/Time 2019-04-01 20:13:00

Tidal Height 87 cm

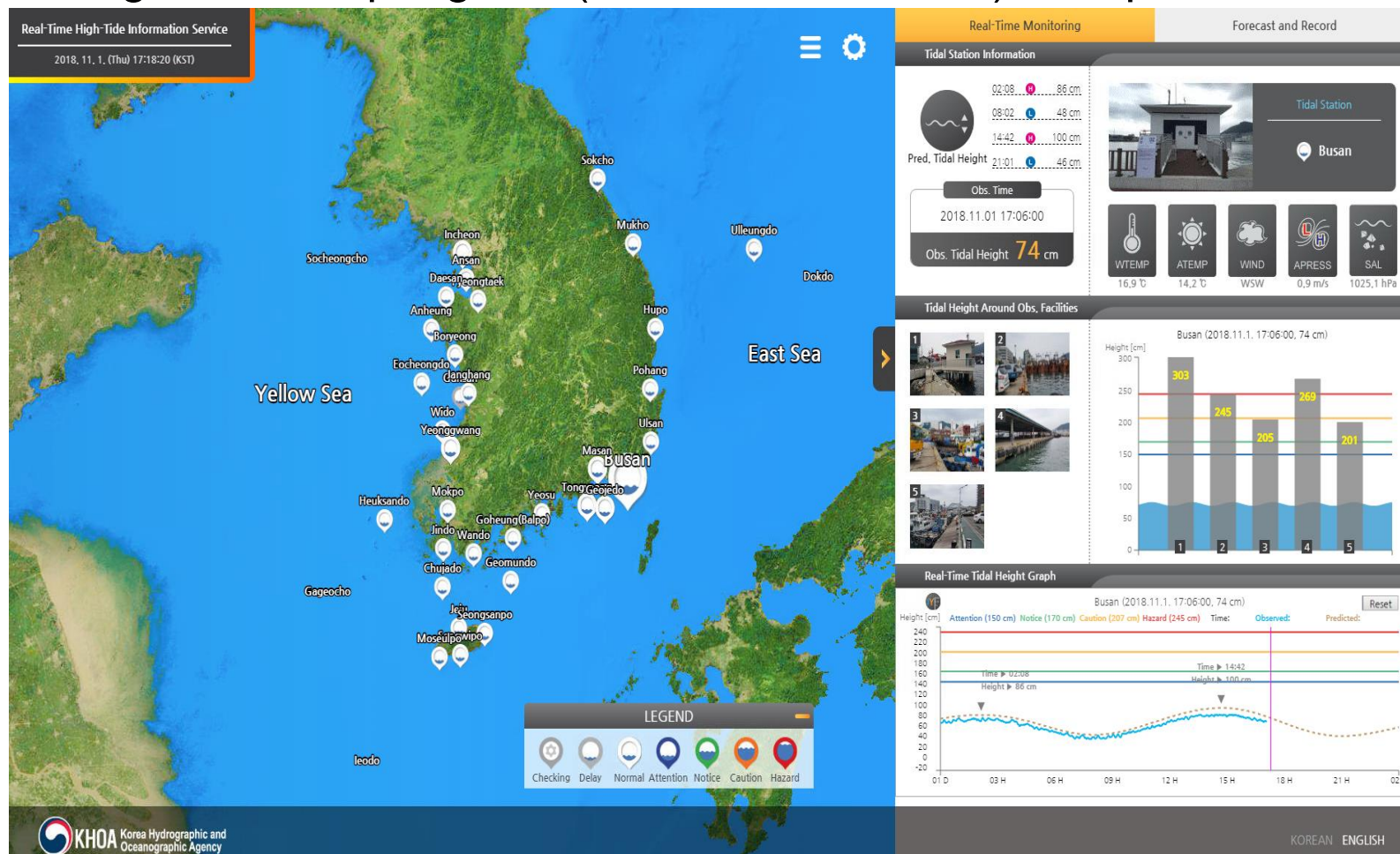
Tidal Height 00:00 32cm 06:43 85cm 12:37 19cm 18:44 85cm

Water Temperature 13.2°C Salinity 34.2 PSU Air Temperature 10°C Air Pressure 1021.5 hPa Wind Speed & Direction W 0.6m/s

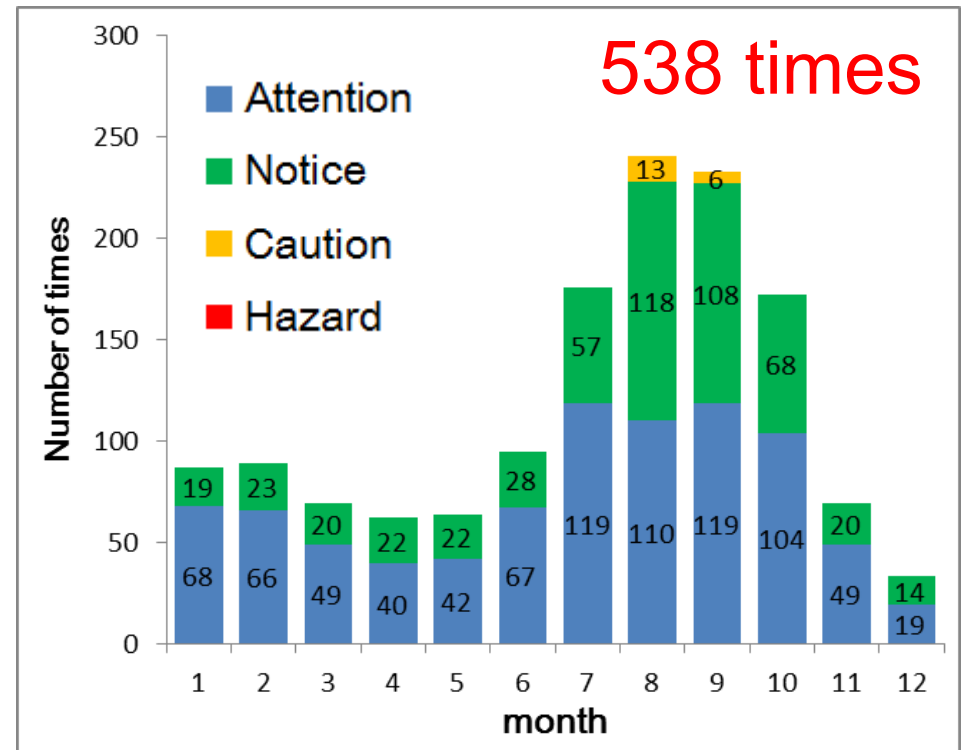
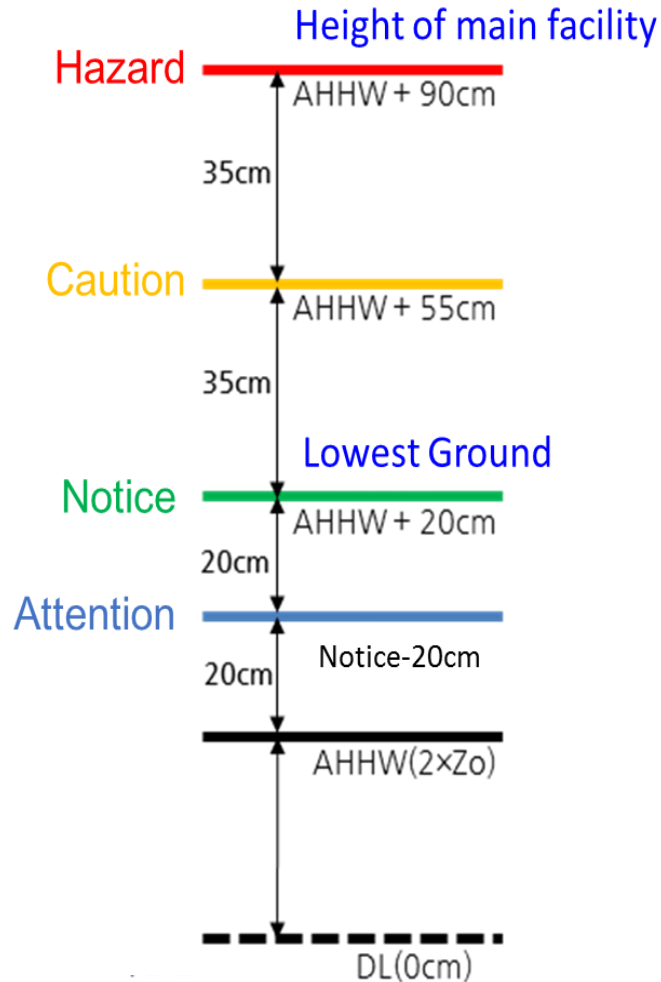
Service : Real-time High tide Information Service

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For prevention of flood damage in advance by tide specially during summer spring tide (7.15 lunar calendar) or super moon.



Prediction of coastal flooding(2019)



33 stations

Service : Real-time High tide Information Service

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On the field survey



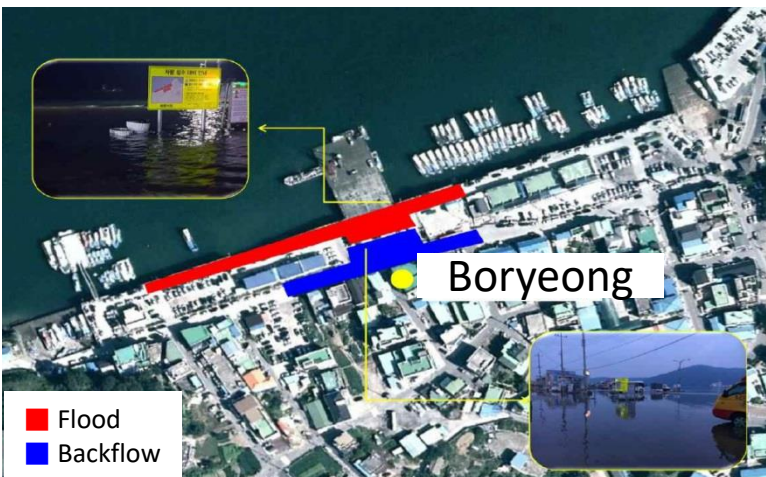
Incheon



Boryeong



Masan



Tidal Bench Mark(TBM)

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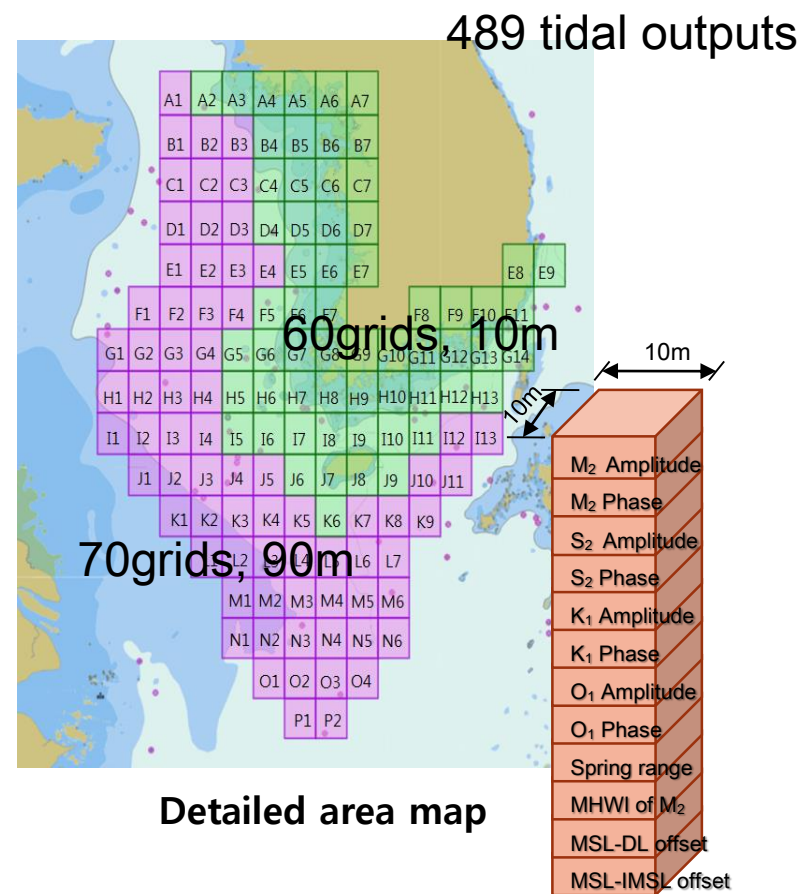


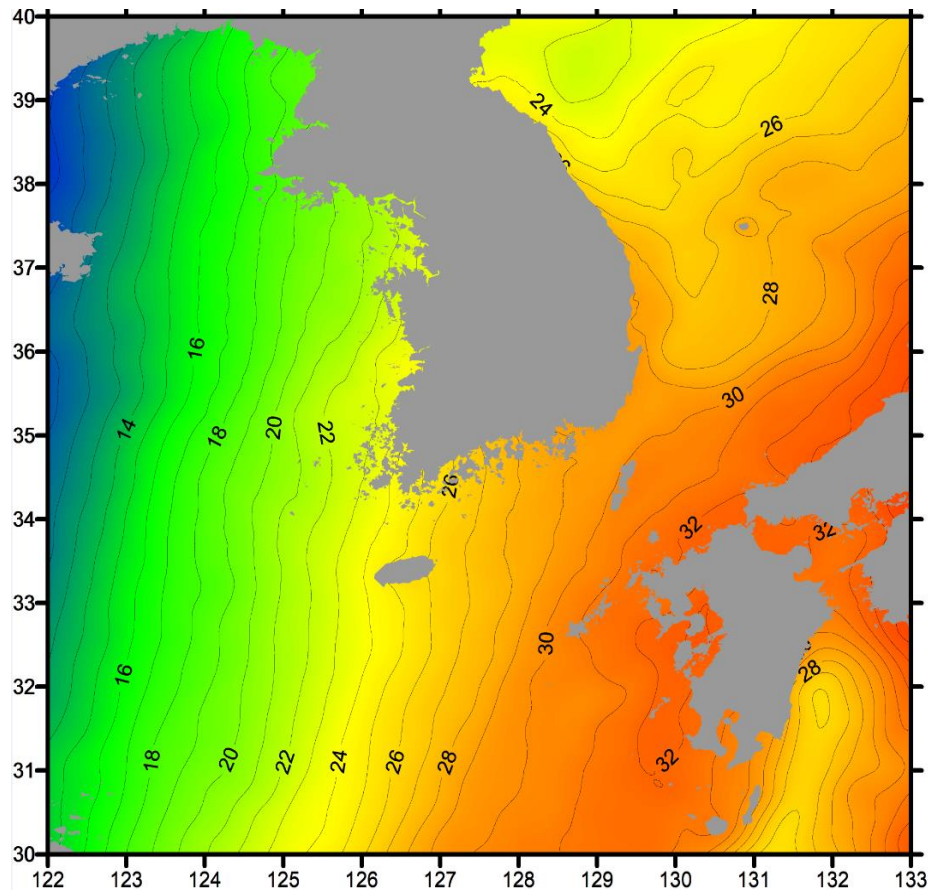
- Use for hydrographical survey, coastal development
- Total 473 stations, 1,804 points
East 49 stations(234 points),
South 200 stations(807points)
West 224 stations(763points)

TIDEBED

TideBed is a system for tidal corrections in hydrographic surveying

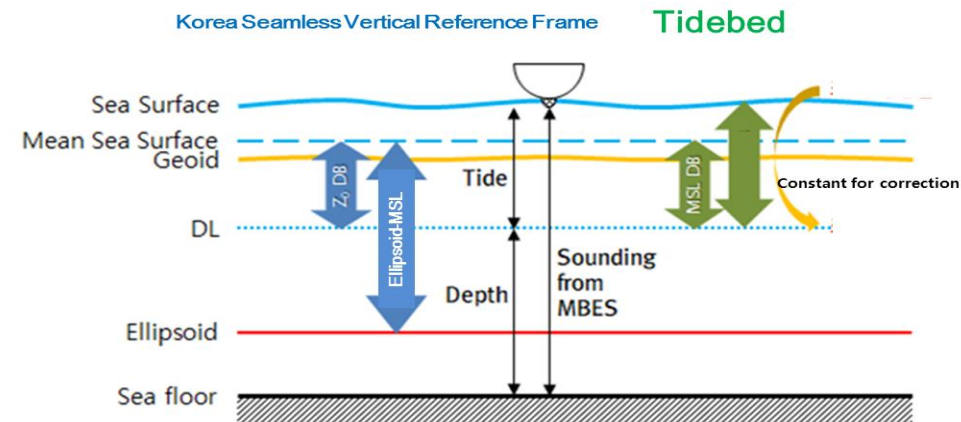
- TideBed is a system which produces database of MSL, DL, IMSL
- Each cell contains
 - Harmonic constants of 4 major constituents (time difference for tide, height ratio for tide)
 - MSL-DL offset
 - IMSL-MSL offset
- TideBed was constructed as fine cell structure. ($1/3'' \approx 10\text{m}$ mesh in case of territorial sea)





LMSL - Ellipsoid

- Constructing database of vertical height from ellipsoid
- DB contains ellipsoid-MSL, Constant for correction, Harmonic constants of 4 major constituents, ALLW, AHHW, Z_0
- Cell size 5'' \times 5'' (About 150m \times 150m)



A decorative header featuring a blue geometric pattern of triangles and polygons, transitioning from dark blue on the left to light blue and white on the right.

Thank you

Service : KHOA Smart Tide Forecast



*지도상의 마커가 제대로 표시되지 않는 경우 여기를 클릭 하여 캐시 및 쿠키를 삭제 하는 방법을 참조 하십시오.

2019.04.01 (월)
(음) 02.26

인천

주소
인천광역시 중구 연안부두 관선부두

북위
37도 27분

동경
126도 35분

인근 바다갈라짐 시간 (실미도)
09:00 ~ 11:25

02:34	고	597 cm	08:40	지	243 cm
15:07	고	685 cm	21:34	지	233 cm

조석예보표 보기
조석 시계 보기
자료 다운로드

