

Future Concept of Special overlay for Navigational Information

Dec. 2016





Ocean Data in Grid Framework



해양수산부
격자형
해양정보
서비스
Ocean Data in
Grid Framework

조위	유량/유속	수온	염분
울릉도 조위관측소		15.8 °C	33.3 psu
울릉도북서 해양관측부이		15.0 °C	

격자선택 레이어 이용안내

해양정보 보유현황

- 조석 보유
- 수온/염분 보유
- 해수유동 보유
- 해양과학조사자료 보유
- 기본해양정보 보유

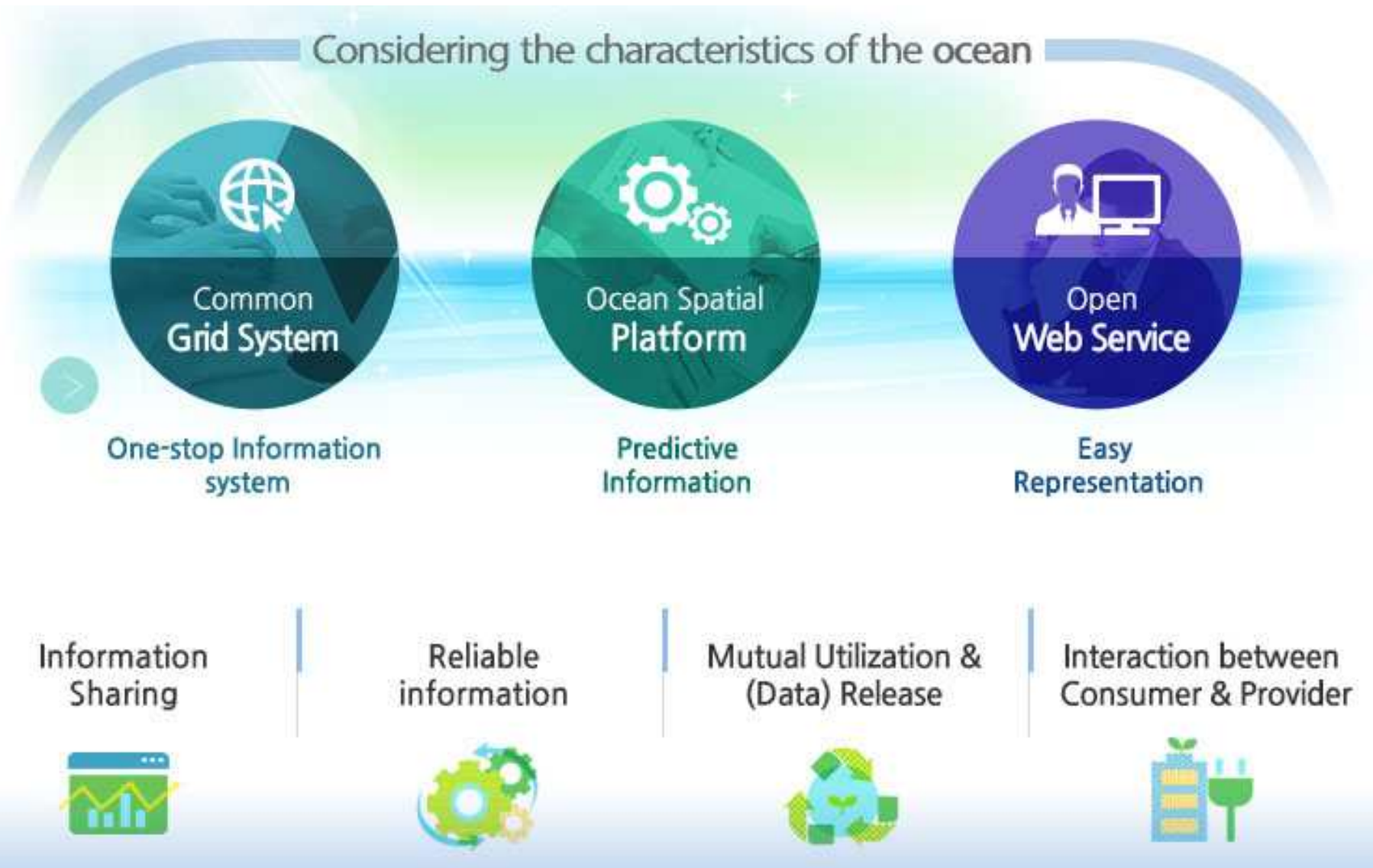
전체 목록

100 km
50 m

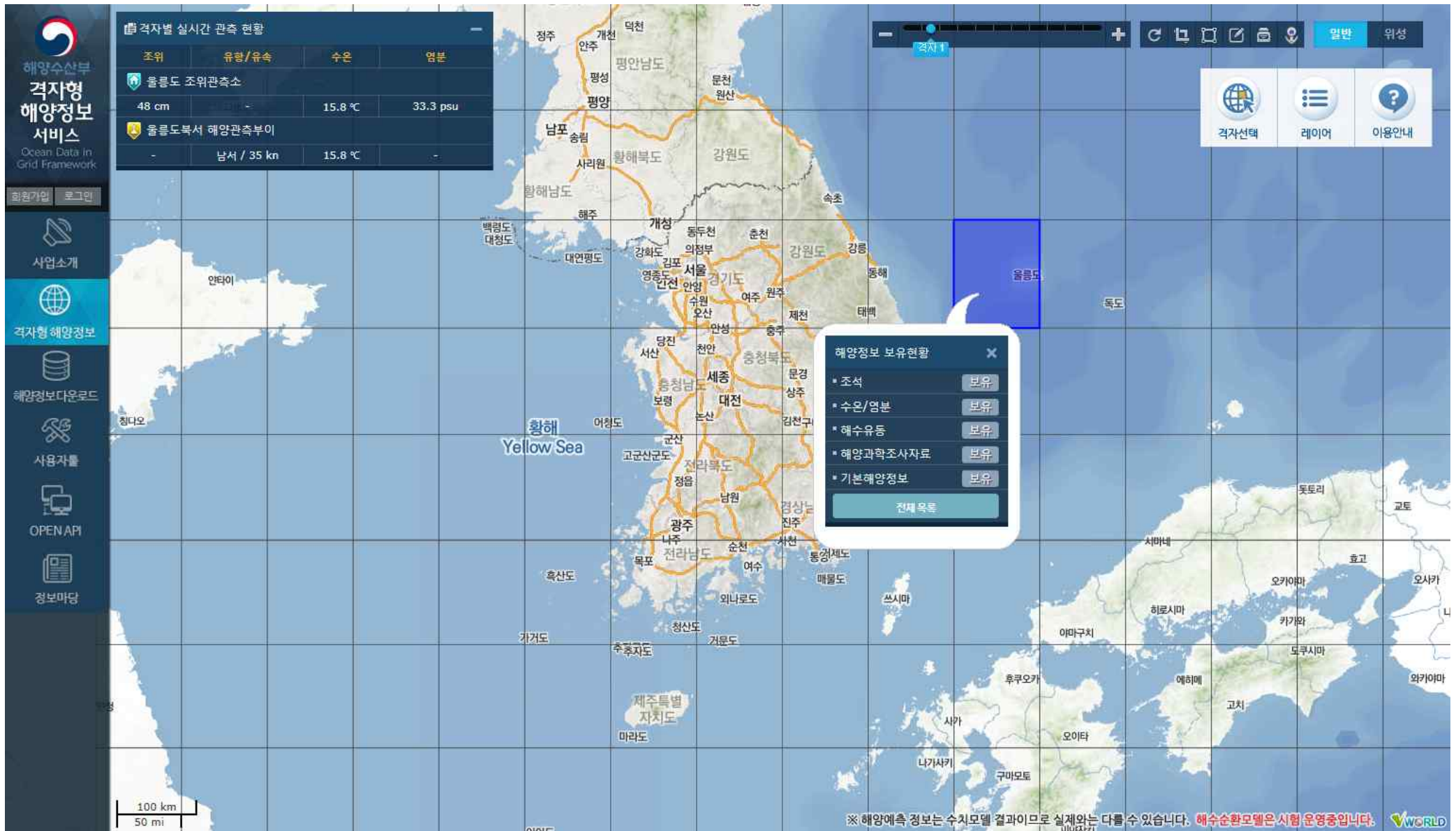
※ 해양예측 정보는 수치모델 결과이므로 실제와는 다를 수 있습니다. 해수순환모델은 시험 운영중입니다. Vworld

Background & Concept

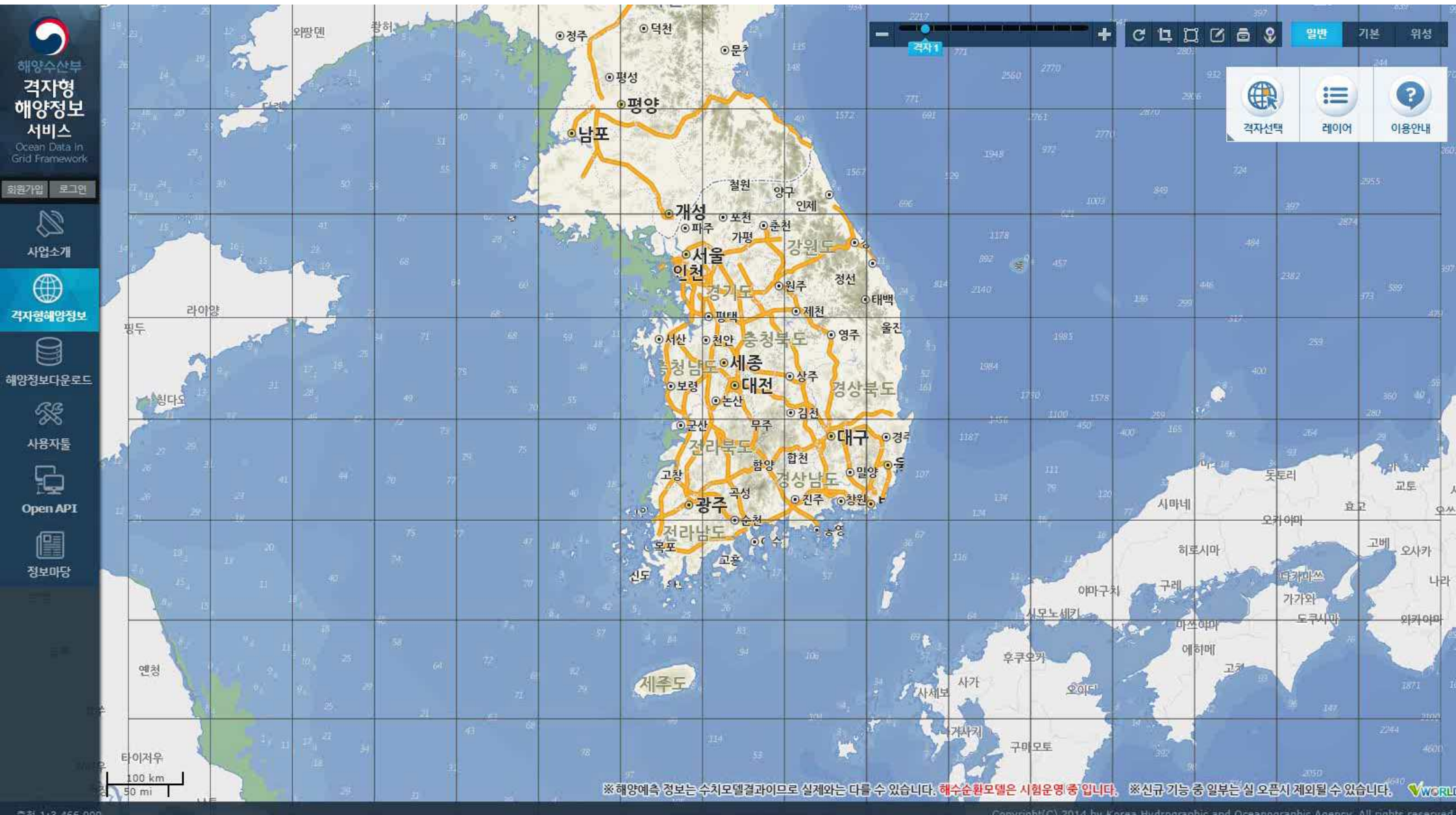
“The Grid is Place of Ocean Data Openness, Sharing & Exchange”



Background & Concept



Demonstration Video of Ocean Data in Grid Framework



Opening Method of Marine Information for Users

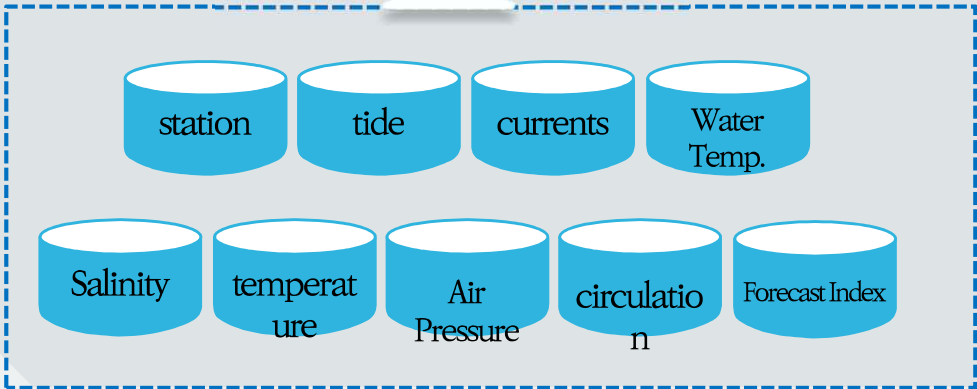
“Marine Information & Analysis Function Provided through OPEN API and User Tool”

Open API

- ✓ Total of 23 types such as the tide, tidal current, and seawater flow, etc. are provided through API
- ✓ Currently actively used by public institutions & private companies



Total of 33 types of OPEN API



User Tool

- ✓ Analysis tool is provided to enable the tidal observation data acquired by the user to be processed





BadaRoadView 'Baroview'



바다로드뷰 부산항 2016.12.02 17:48 37cm 조위 31cm~60cm 공유 도움말 국립해양조사원

오늘의 조석예보

03:16	저	14 cm
09:52	고	118 cm
15:56	저	16 cm
21:58	고	107 cm

[계량] 가장형
10°C 맑음 0.75m

해양정보 전체보기

촬영일자: 2015년 06월

395m

조류정보는 수치예측모델 결과로 실제와는 차이가 발생할 수 있습니다.

What is 'BaRoView'?

BaRoView

BaRoView converges the information on the marine forecast and real-time marine observation to be provided on the spatial information. The landscape around the course that changes according to the tide time can be seen through the panoramic image.

Landscape of the land seen from the ocean
BaRoView

Information Provided

- Tidal current
- Weather
- Real-time tide level
- Tide level forecast

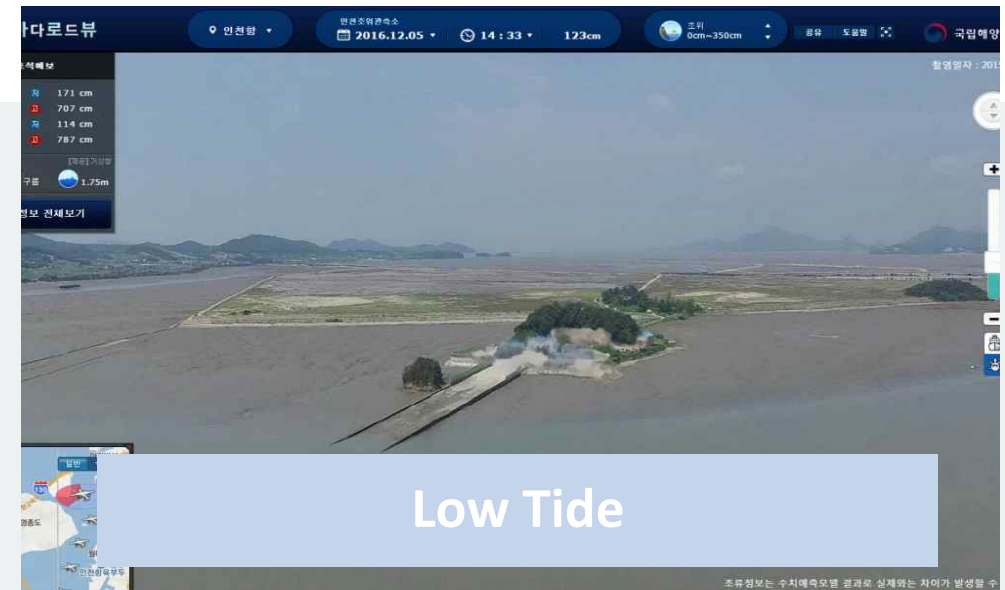
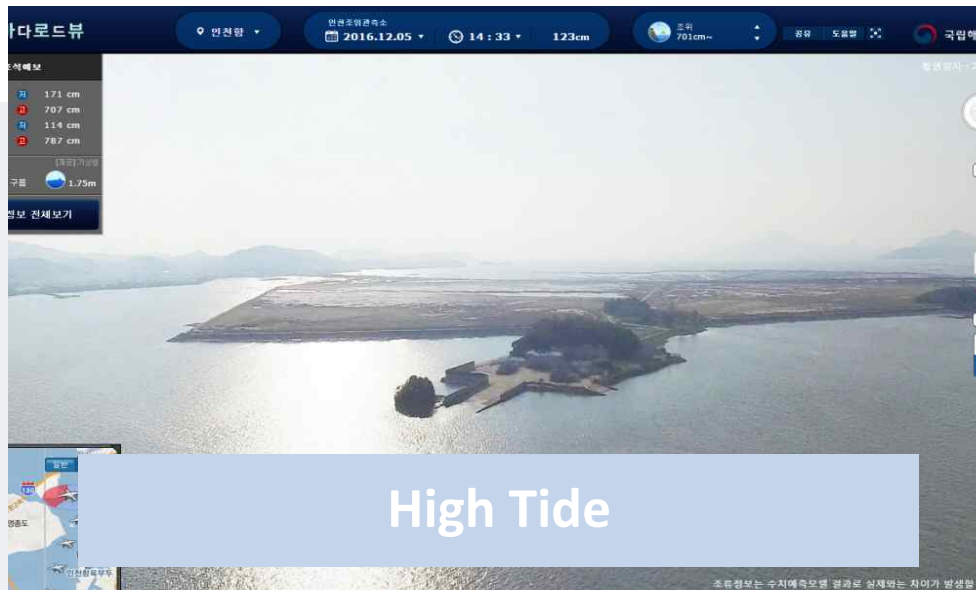
Introduction of Main Functions

- Navigation
- Safety
- Tourism
- Disaster
- Leisure

- Panorama**
360° panoramic image display
- Automatic navigation**
Surrounding image displayed automatically according to the course/harbor limit
- Accident details inquiry**
Information on the history of accidents around the course/harbor limit displayed

The diagram illustrates the BaRoView system's capabilities. A central boat, labeled 'KHOA', is equipped with a '360° panorama' camera. A drone above it provides 'Weather information'. The system displays 'Tide level information' from a 'Tide level observatory' and 'Tidal current information' with arrows in the water. It also shows 'Tide level change in the mud flat' and 'Tide level change in the breakwater'. A '360° panorama' view is shown as a curved strip around the boat. An 'Accident history' map is overlaid on the sea. The 'Surrounding landscape' is shown as a 3D island with a lighthouse. An inset map shows the 'Example of Incheon Port' with locations like 송진리, 영종도, 평의도, 영리도, 인천항, and 빛아미리항.

Select a specific time → The panorama estimating the tide level of that time is shown with the marine information.



Menu

- 360 degrees panoramic image service
- Today's tide & weather

- Real-time marine observation information provided
- Auto-navigation, drone-view

Service area

- Incheon Port, Busan Port
- 360 degrees panorama service on the course & harbor limit according to the tide level change
- Aerial image for verifying the tidal channel according to the tide level change

Type for each POI subjects

- Information on the accident history
- Tidal current information

- Specific geographic features

Demonstration Video of BaRoView

The screenshot displays the BaRoView web application interface. At the top, there is a navigation bar with the following elements:

- Logo: 바다로드뷰 (BaRoView)
- Location: 부산항 (Busan Port)
- Date: 2016.12.06
- Time: 11:27
- Current Tide: 95cm
- Tide Range: 조위 91cm~120cm
- Language: English
- Buttons: 공유 (Share), 도움말 (Help), and 국립해양조사원 (National Hydrographic and Oceanographic Agency logo).

On the left side, there is a sidebar with tide and weather information:

- 오늘의 조석예보 (Today's Tide Forecast):

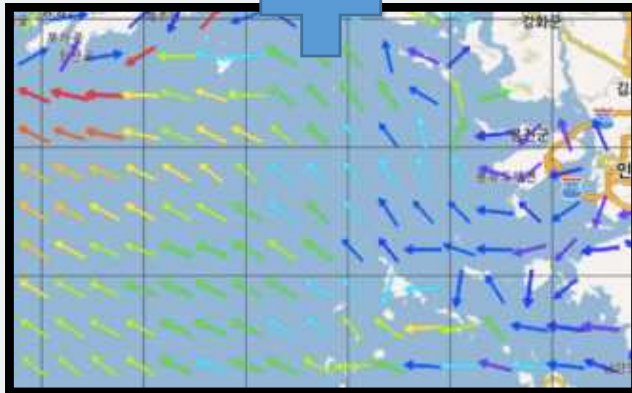
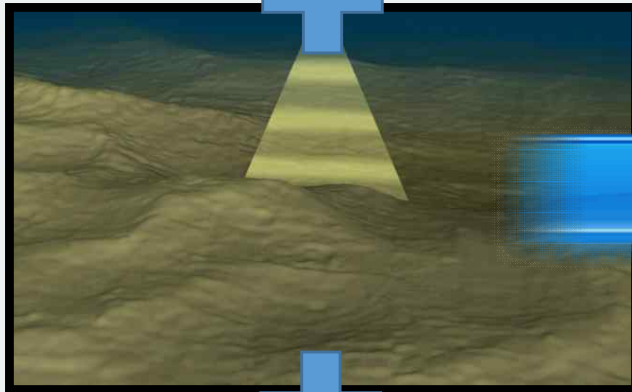
00:08	고	92 cm
05:58	저	34 cm
12:24	고	99 cm
18:53	저	36 cm
- Weather: [계정] 기상청 (Account Weather Service), 5°C 맑음 (5°C Clear), 1.5m (Wave Height).
- 해양정보 전체보기 (View All Oceanographic Information)

The main view shows a live camera feed of a harbor. Overlaid on the water are several navigational markers:

- A blue circle with a white 'V' and the text '남남동 19.1°' (South-southeast 19.1°).
- Red wavy lines with the text 'SSS'.
- Yellow wavy lines with the text 'MNN'.

At the bottom left, there is an inset map showing the location of the camera view within the Busan area. At the bottom right, a small disclaimer reads: '조류정보는 수치예측모델 결과로 실제와는 차이가 발생할 수 있습니다.' (Tide information is based on numerical prediction model results and may differ from actual conditions.)

BaRoView Advancement Proposal



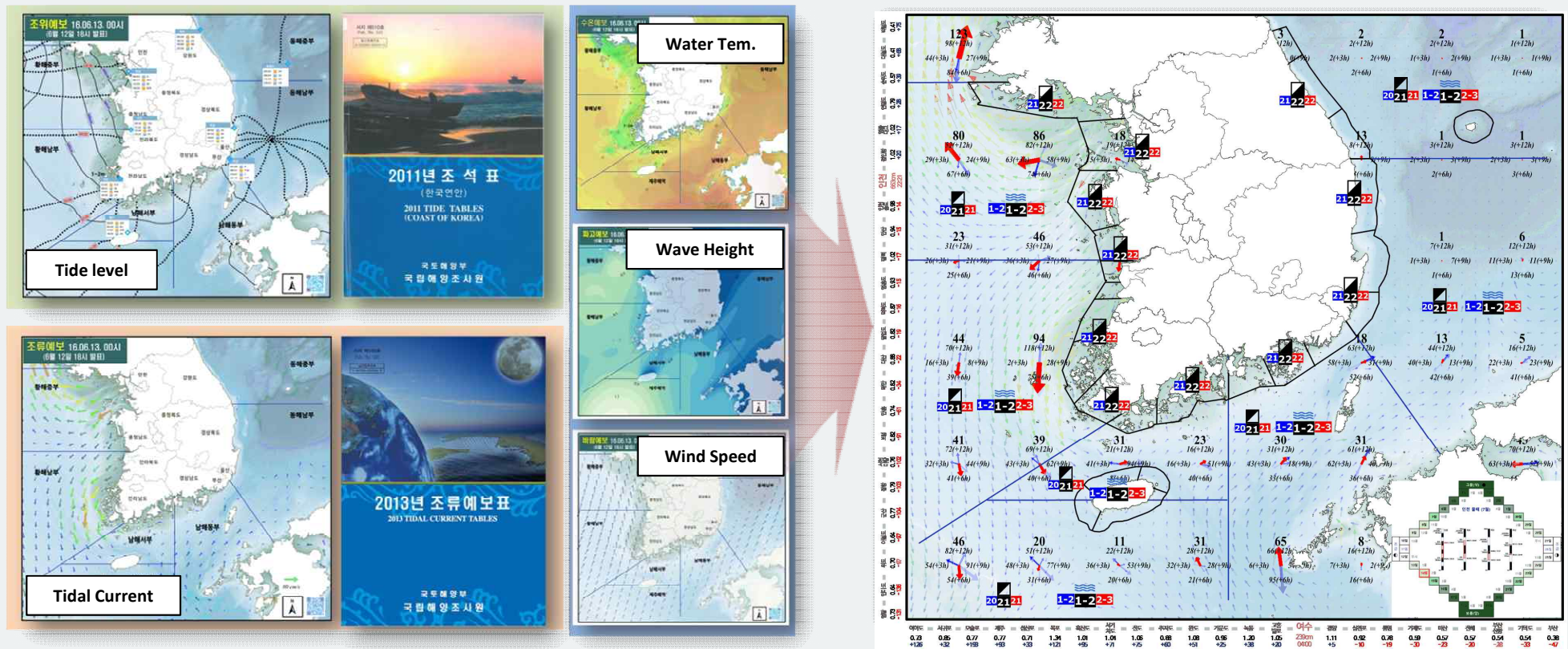
The desktop interface shows the following data:

- Location: 인천항 (Incheon Port)
- Date: 2016.11.25
- Time: 19:10
- Tide: 292cm
- Tide Range: 조위 201cm-400cm
- Weather: 3/구름 (3/Cloudy)
- Visibility: 9.5m
- Buttons: 해양정보 전체보기 (View all ocean info)
- Text: Tide current Information

Future Concept of Special overlay for Navigational Information

Ocean Info Notification

All the Oceanographic information on a map





Thank you



Future Concept of Special overlay for Navigational Information



Question & Answer