SGD Research in Coastal Area

(SGD = Submarine Groundwater Discharge)

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Purposes

1. To evaluate the groundwater discharge rates land to the sea

   --- by Seepage meter method

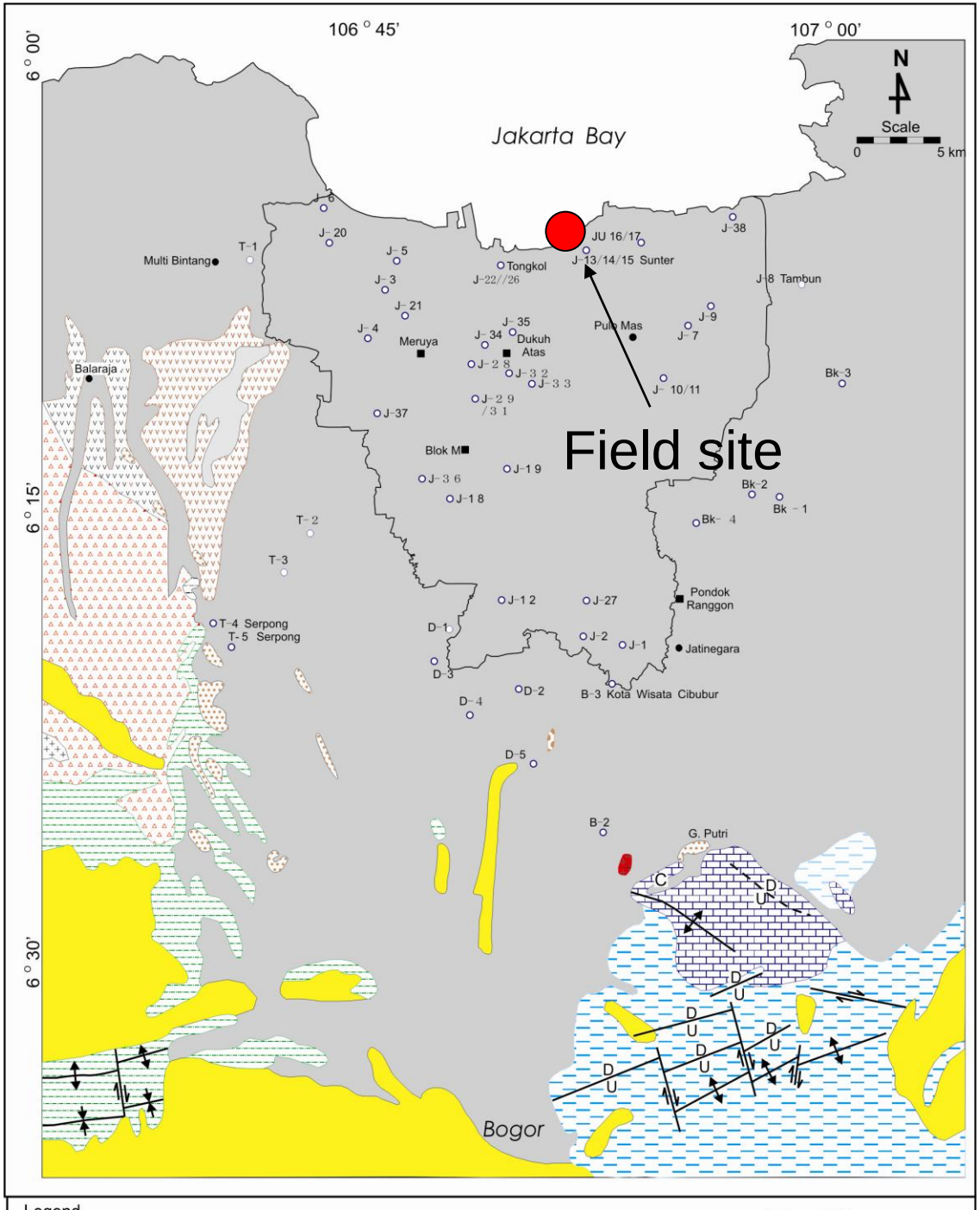
2. To evaluate the spatial distributions of freshwater and saltwater under the beach

   --- by Resistivity survey

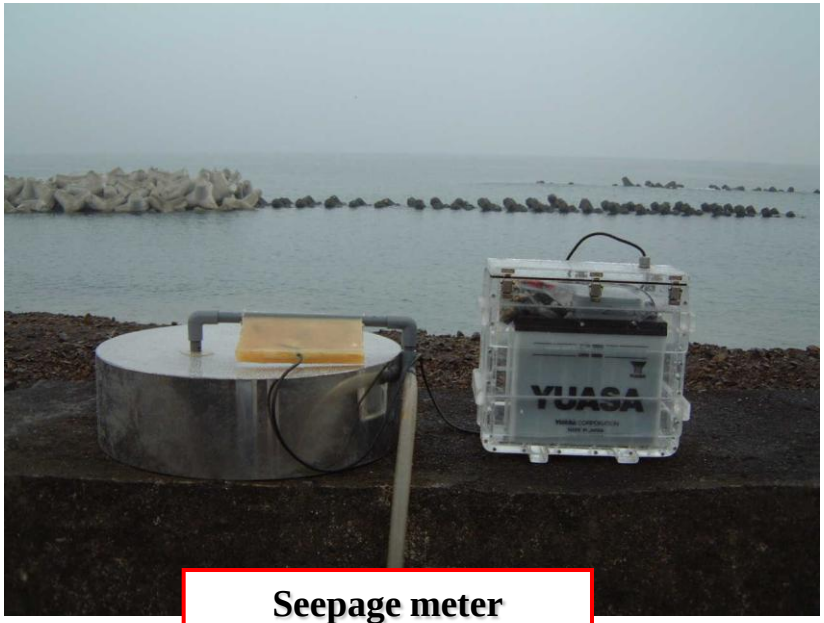
Schedule

- 23 (Sat) --- Check the field site
- 24 (Sun) --- Deployment of seepage meter, piezometer
- 25 (Mon) --- Resistivity survey, sampling of groundwater from piezometer
- 26 (Tue) --- Booking of the boat, Resistivity survey
- 27 (Wed) --- Rn measurements of Rn and Resistivity survey
- 29 (Fri) --- Preparing of needed equipment
- 1 (Sat) --- Rn measurement in the sea (west side of Jakarta bay)
- 2 (Sun) --- Rn measurement in the sea (east side of Jakarta bay)
- 3 (Mon) --- Time series measurements in the beach
- 4 (Tue) --- Recover equipments
- 5 (Wed) --- Going back to Japan

Field site

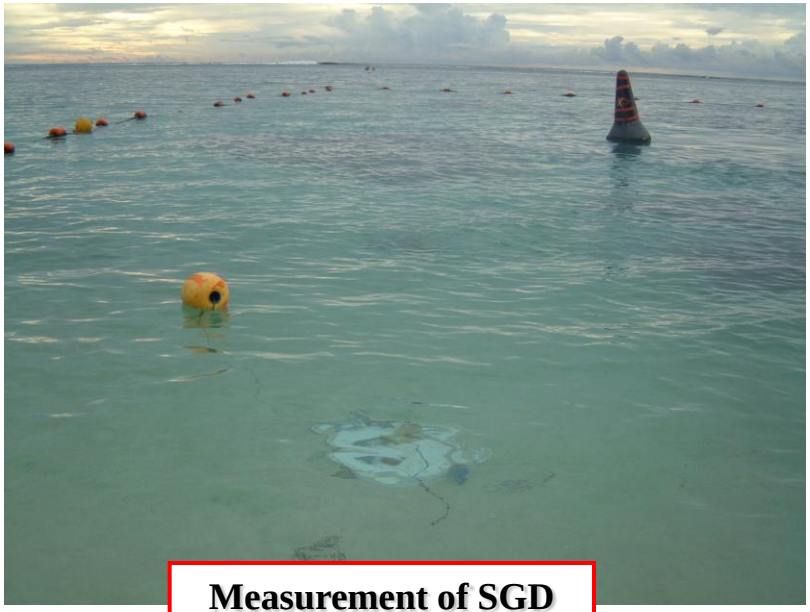

106 ° 45'
107 ° 00'
6 ° 00'
6 ° 15'
6 ° 30'
N
Scale
0
5 km
Jakarta Bay
Field site
Multi Bintang
Balaraja
Meruya
Dukuh Atas
Tongkol
Sunter
Pulo Mas
Tambun
Blok M
Pondok Ranggon
Jatinegara
Kota Wisata Cibubur
G. Putri
Bogor
Serpong
Serpong

Methods



Seepage meter

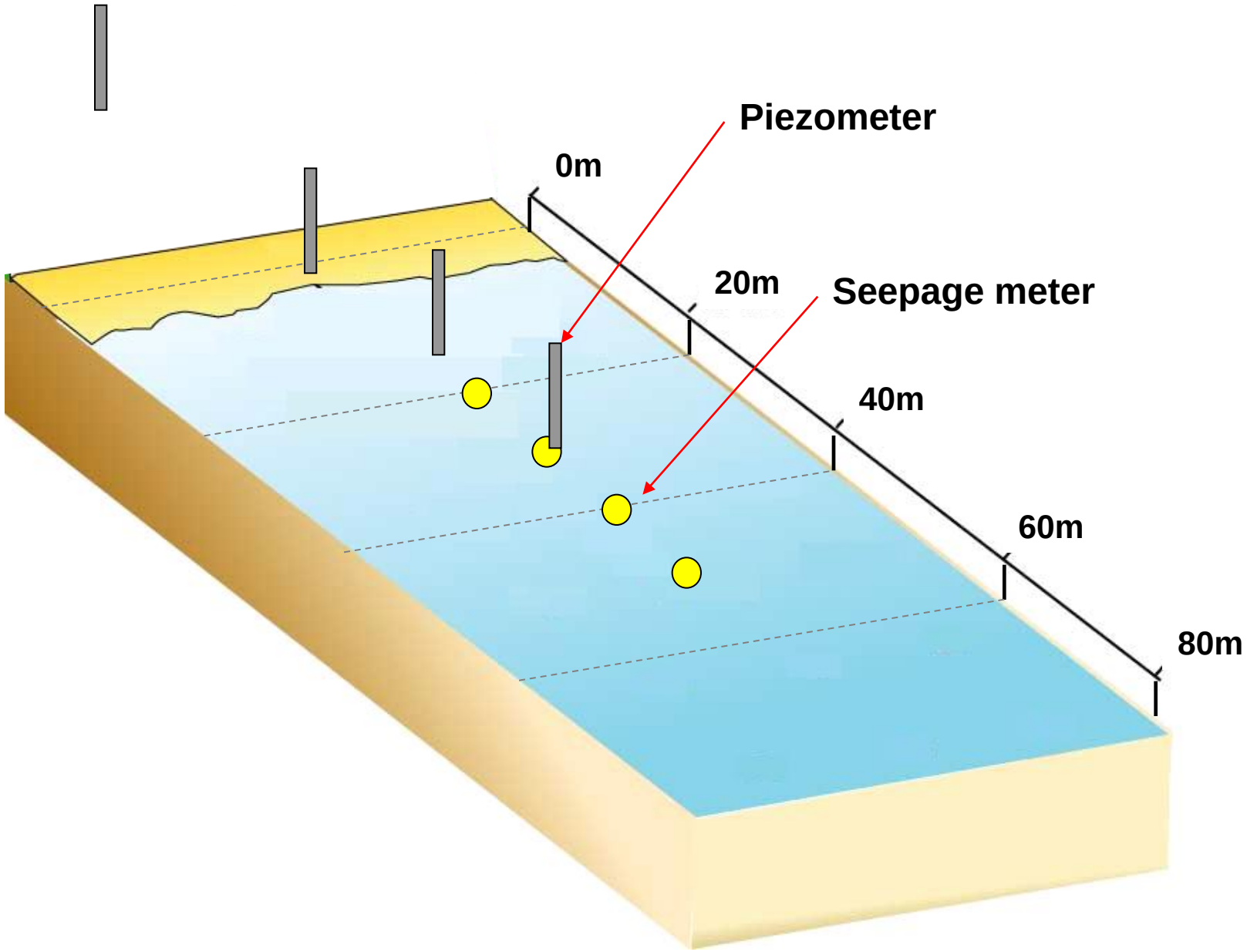
Resistivity survey



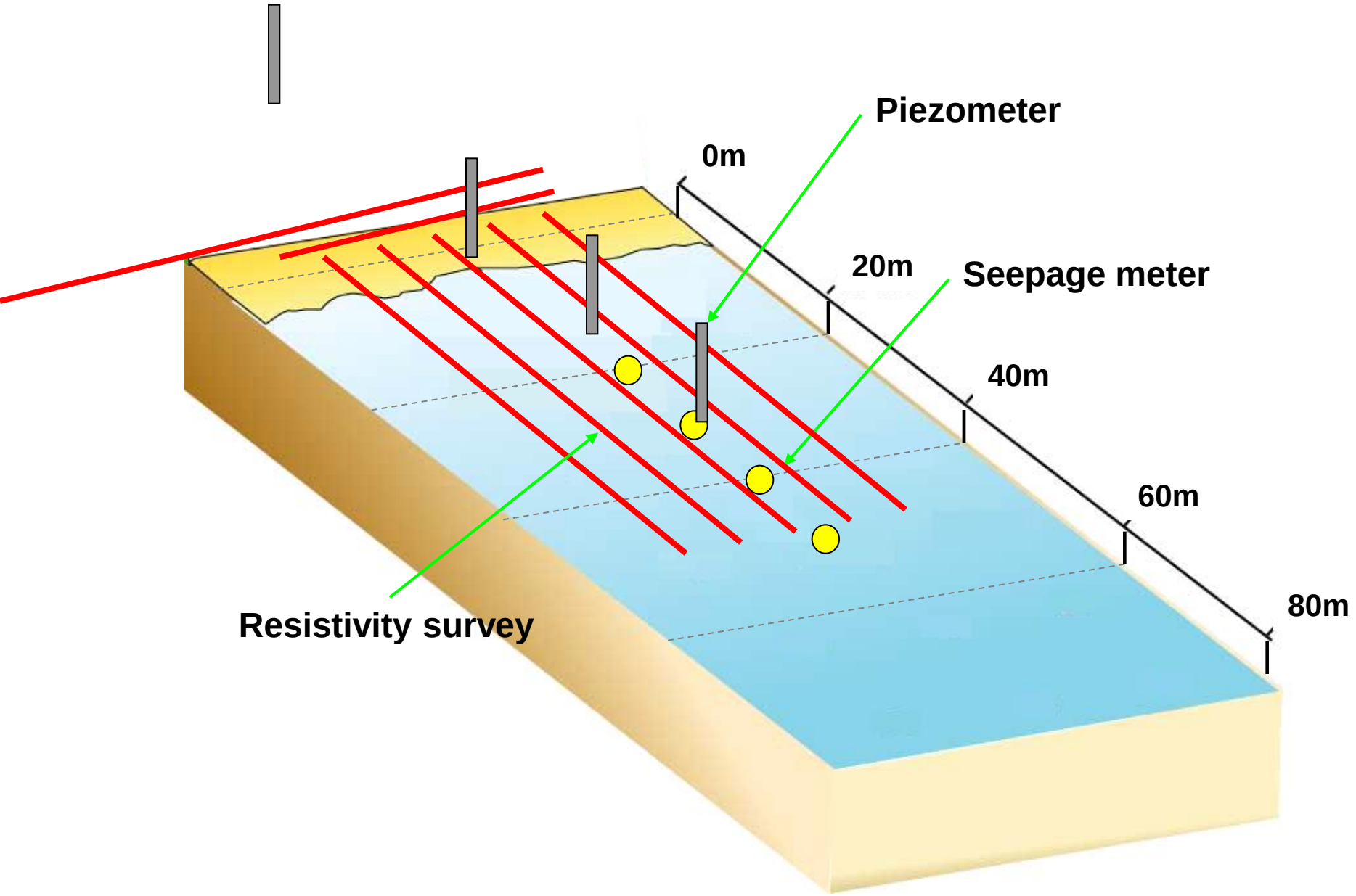
Measurement of SGD

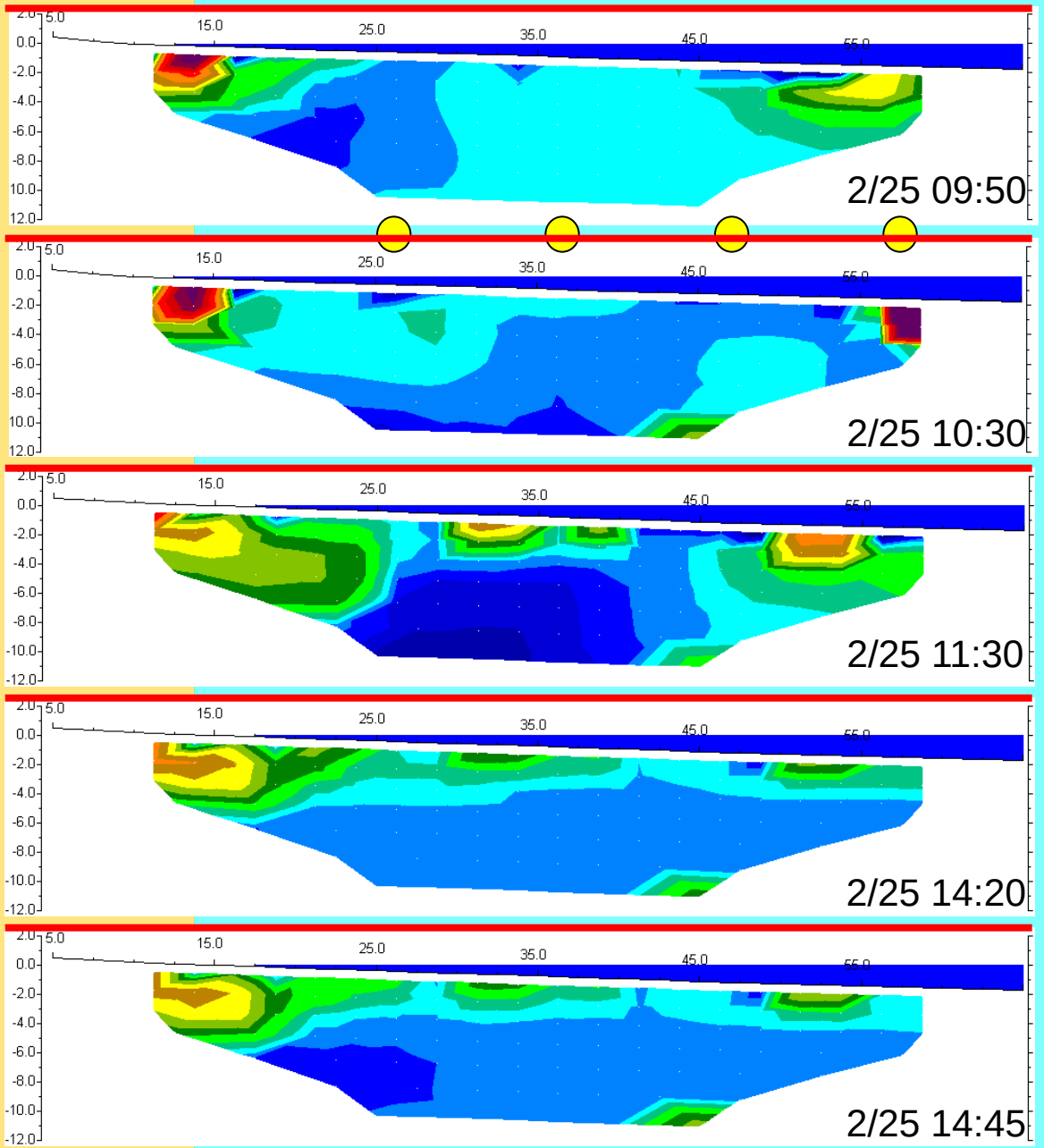
Setting of seepage meter

Location of equipments



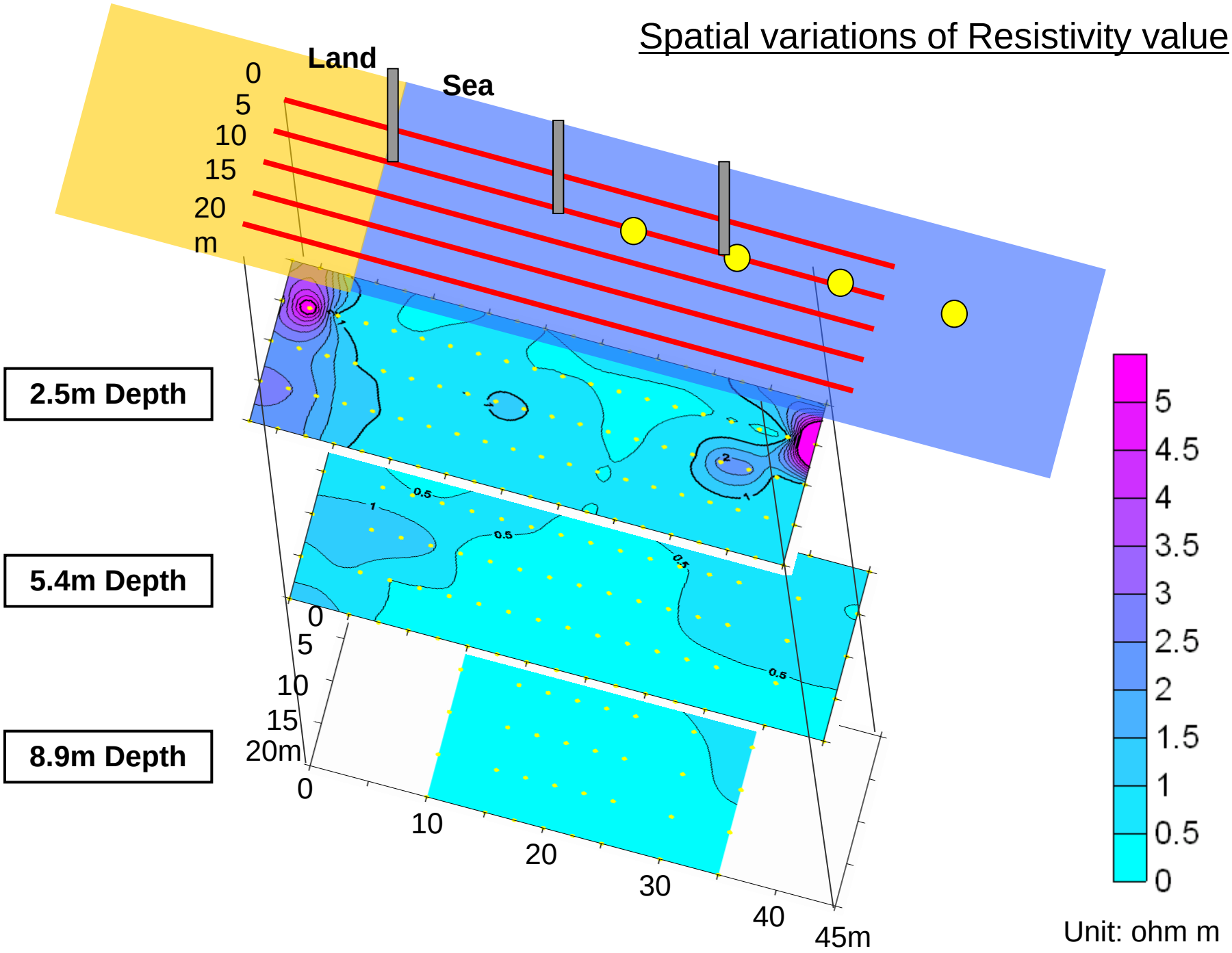
Location of equipments



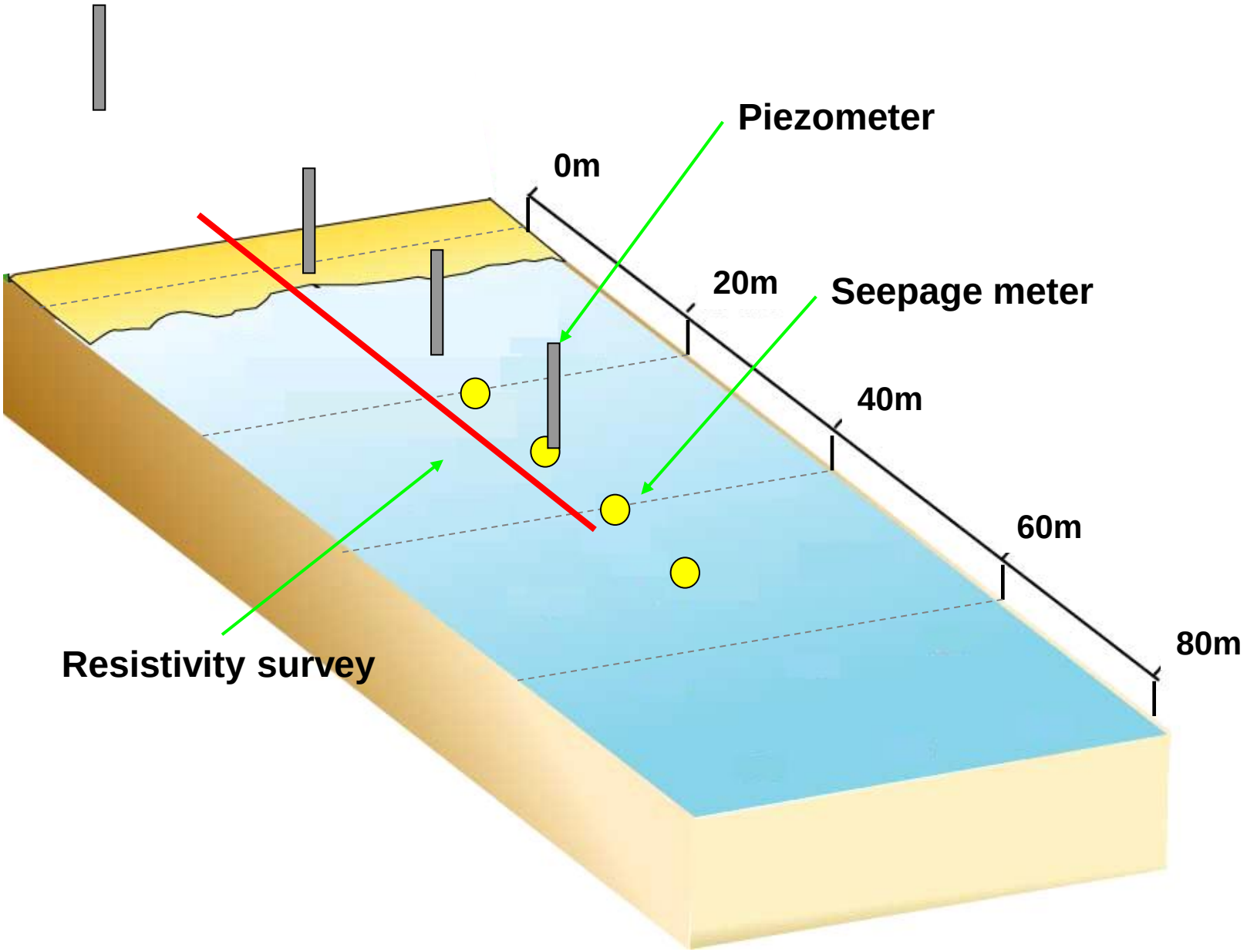


Results of Resistivity survey

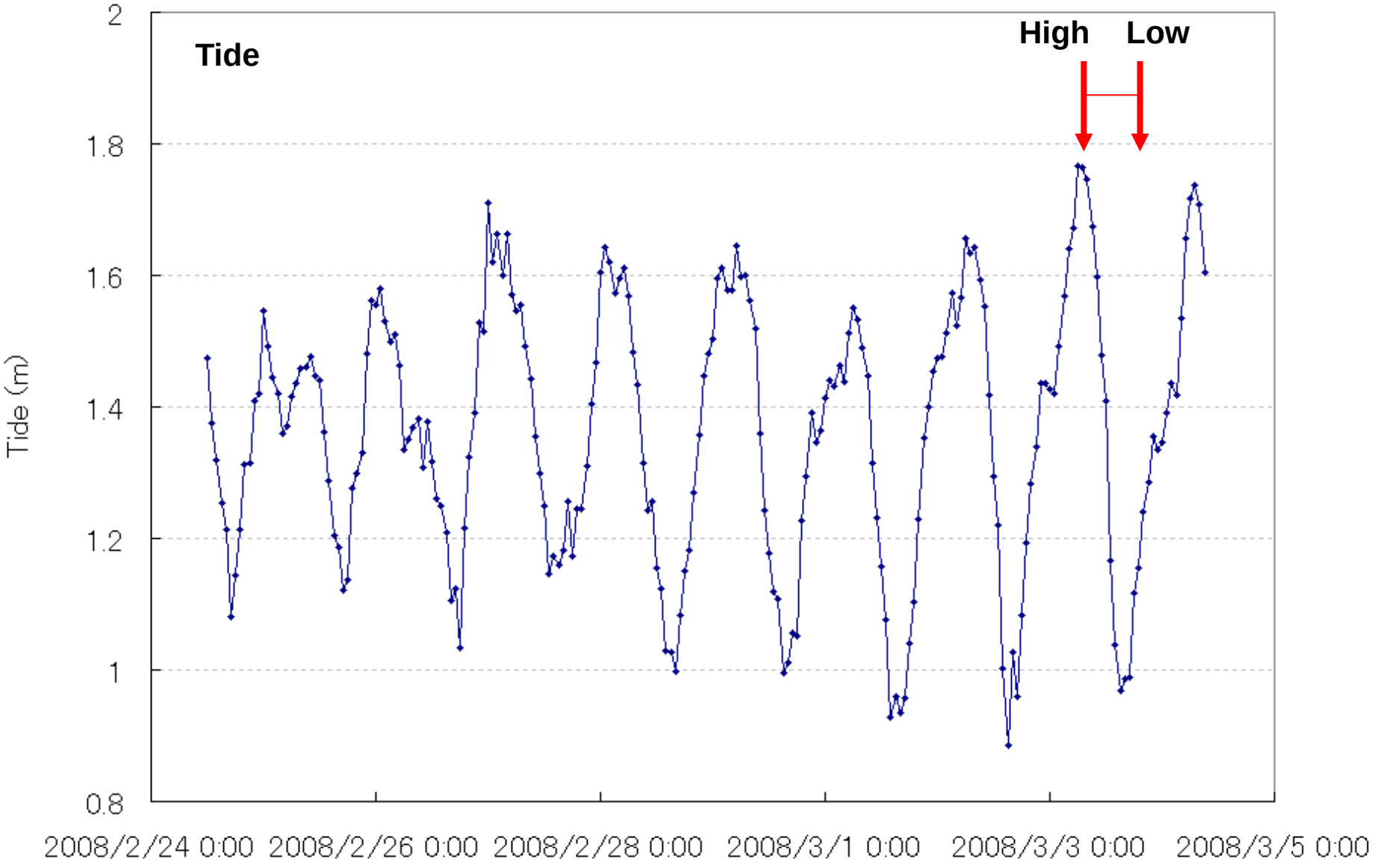
Spatial variations of Resistivity value



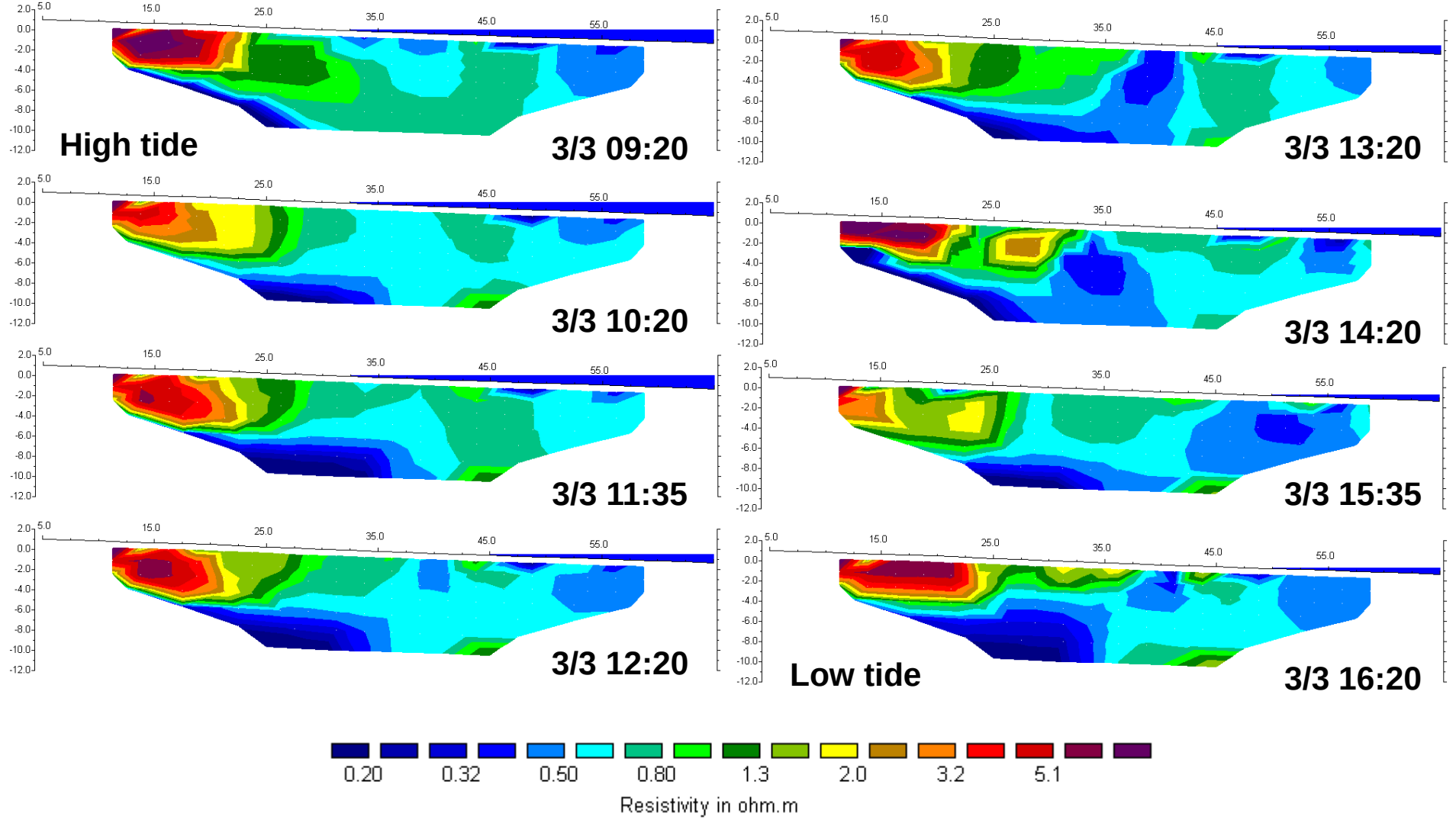
Location of equipments



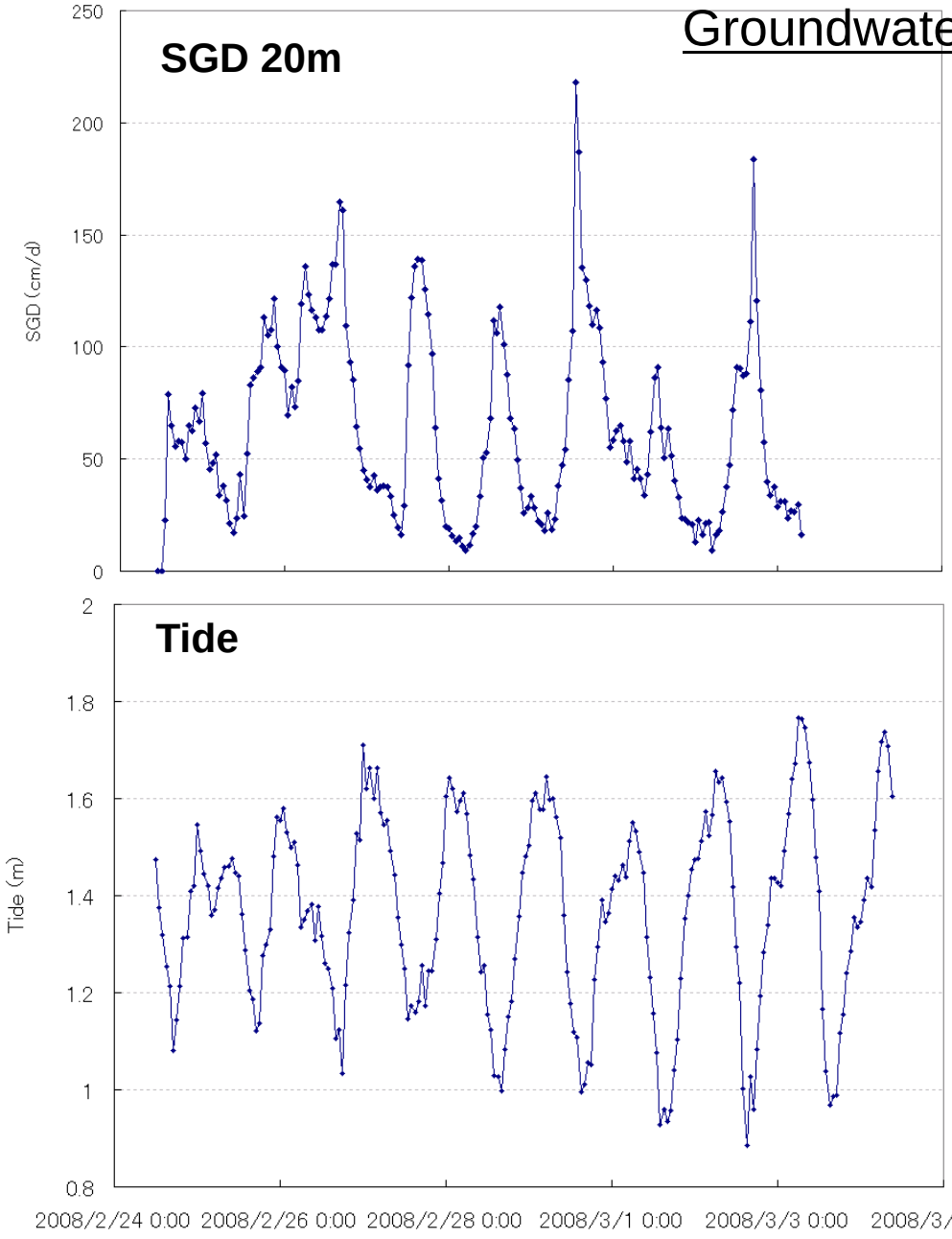
Time variations of resistivity survey result

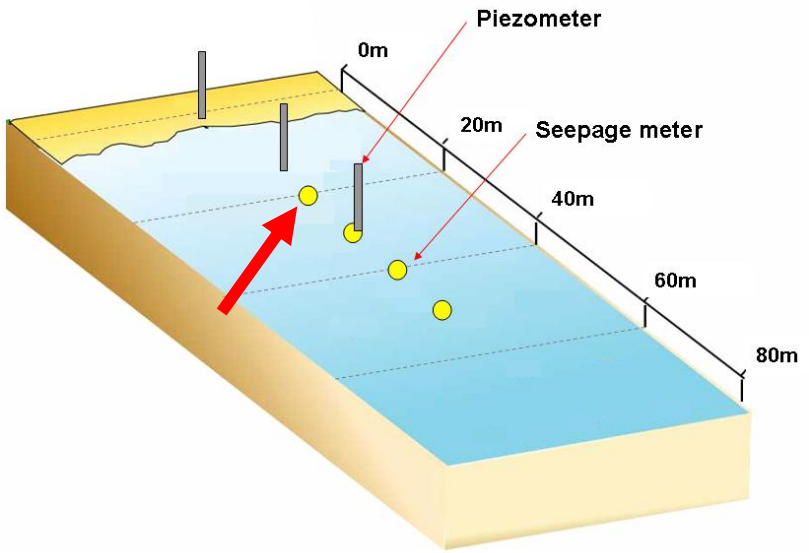


Time variations of resistivity survey result

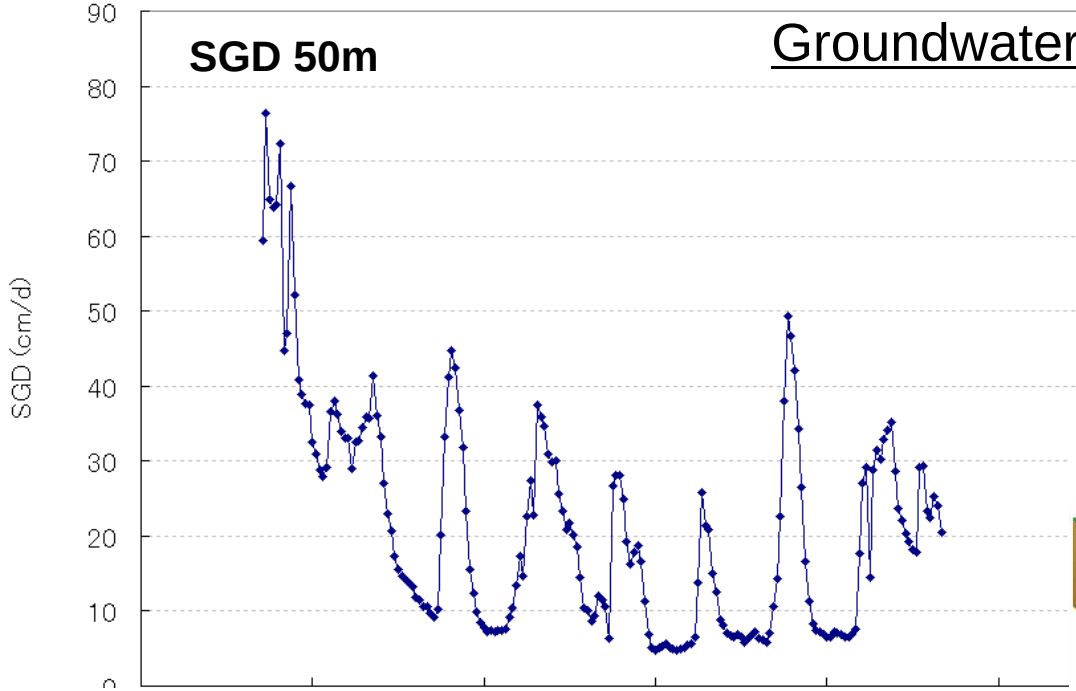


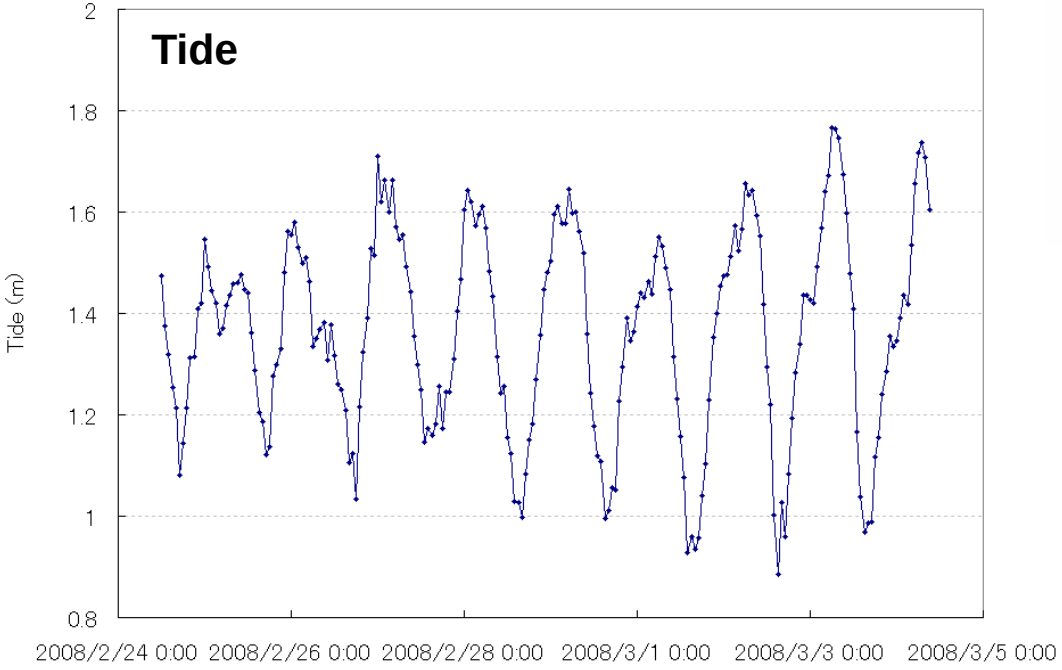
Groundwater discharge ratio from the seabed

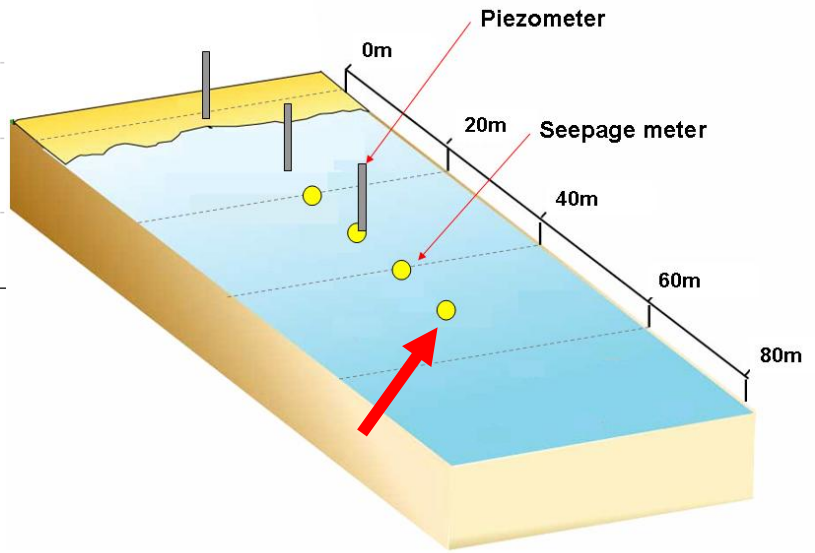


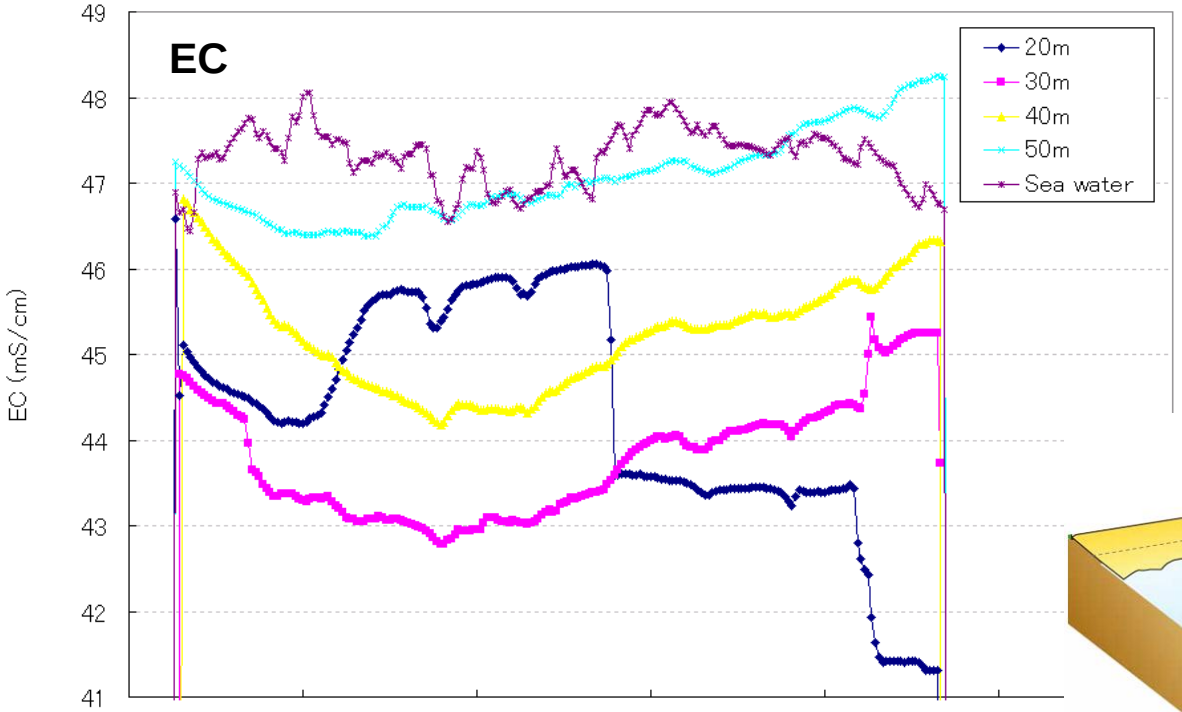


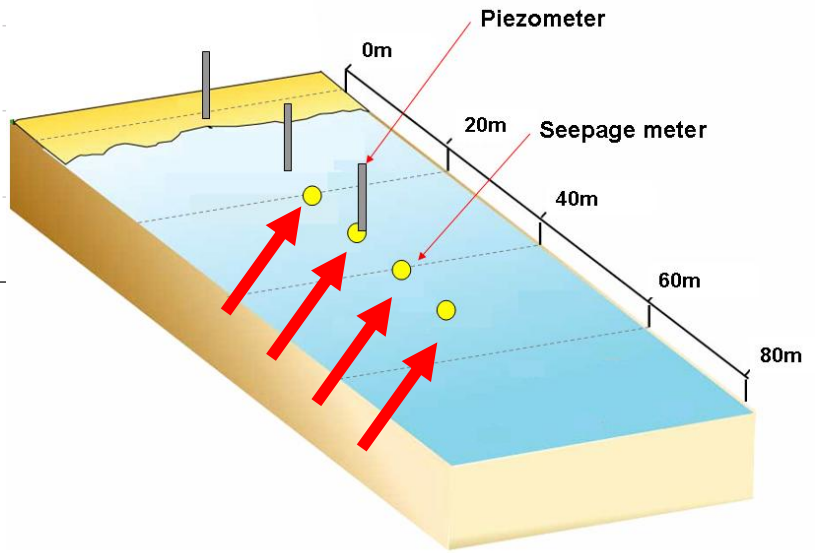
Groundwater discharge ratio from the seabed

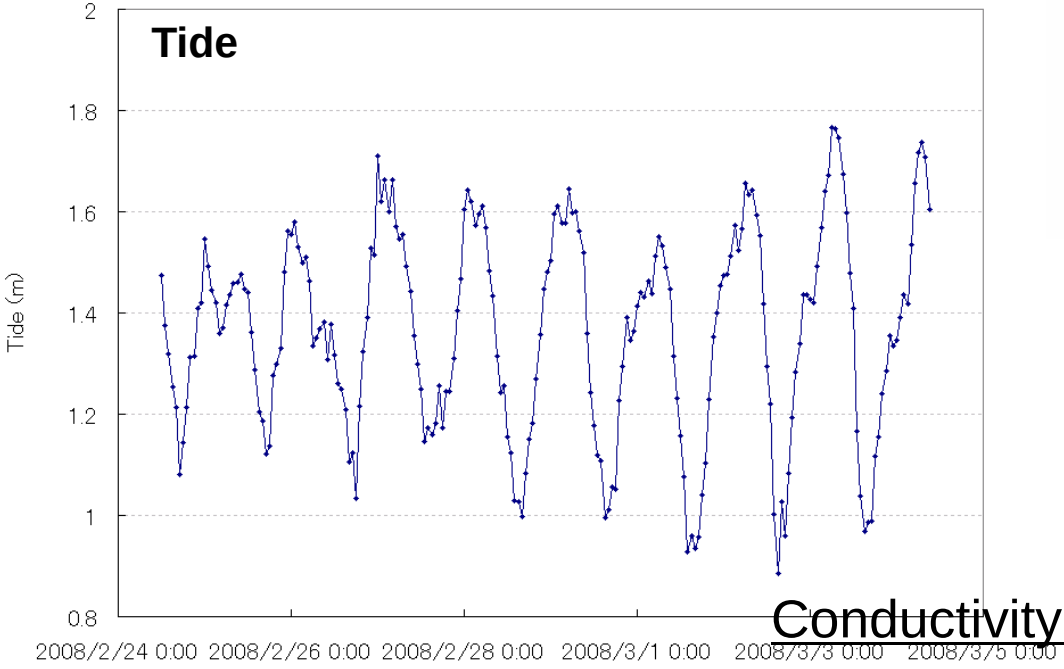










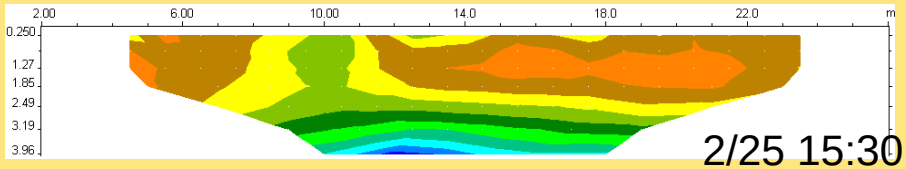


Conductivity of groundwater from the seabed

Summary

1. Discharge rates and conductivity of groundwater from the seabed were measured by seepage meter
2. Resistivity values under the seabed were measured. In the future, we will evaluate the distribution of fresh-salt water from this results.

Thank you !!



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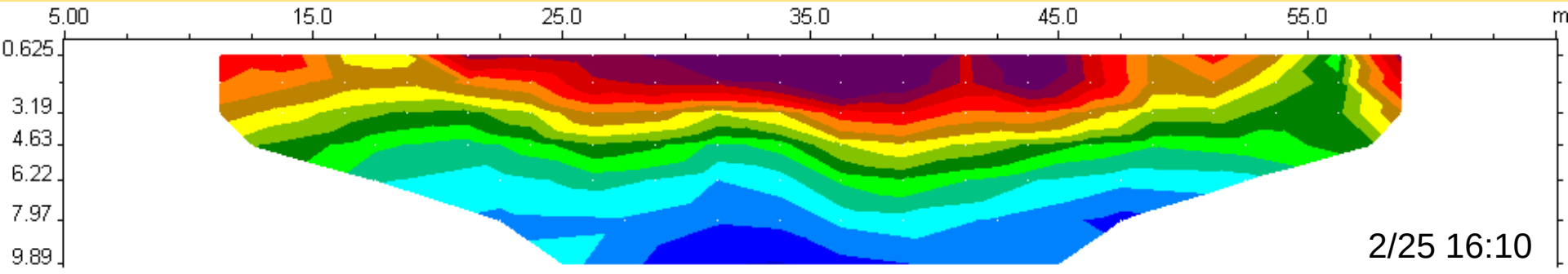

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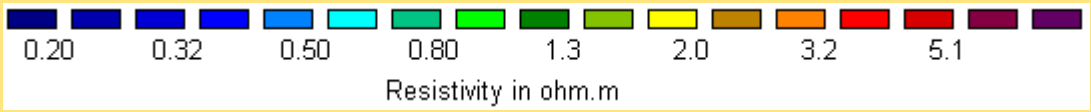
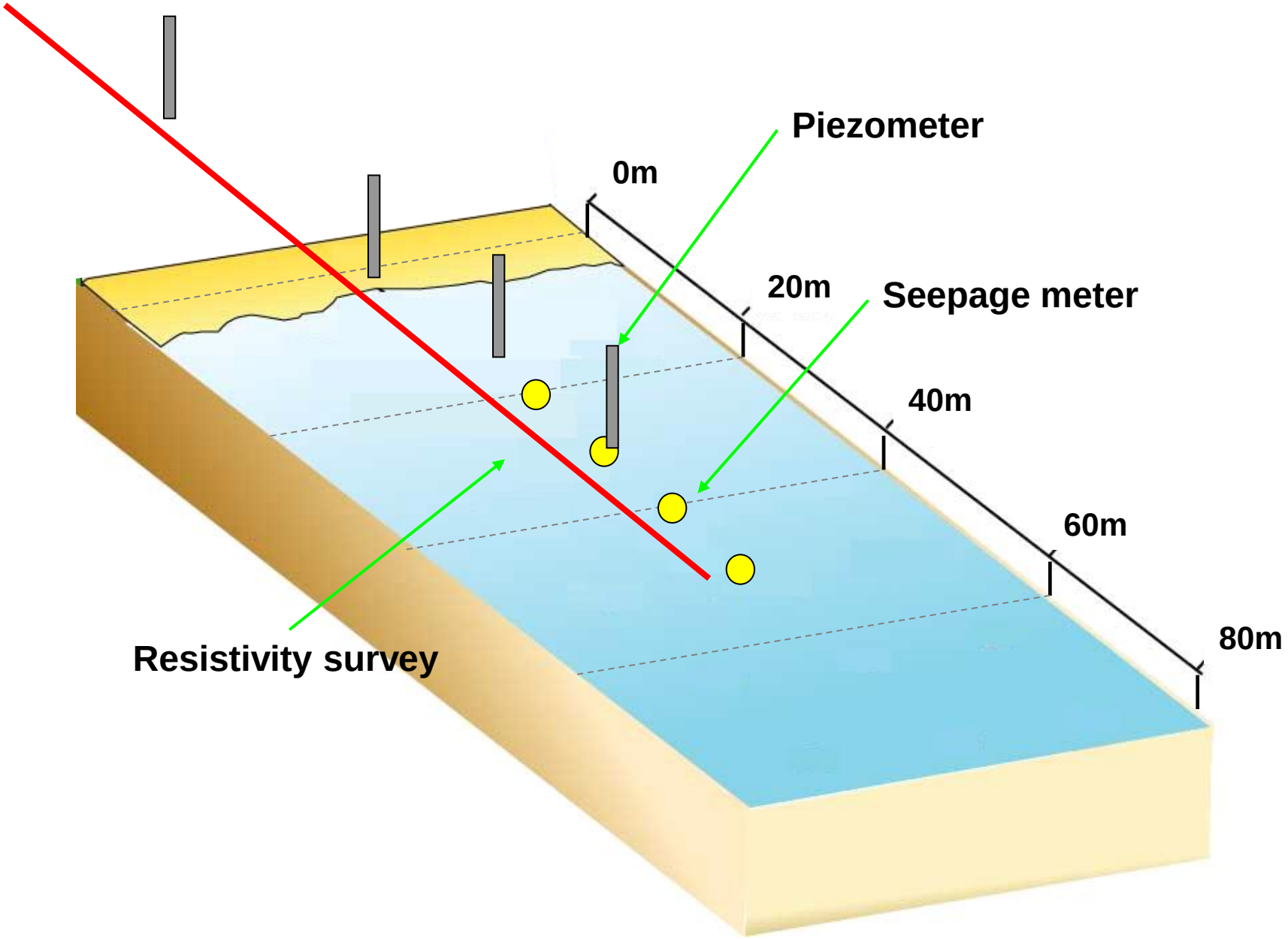
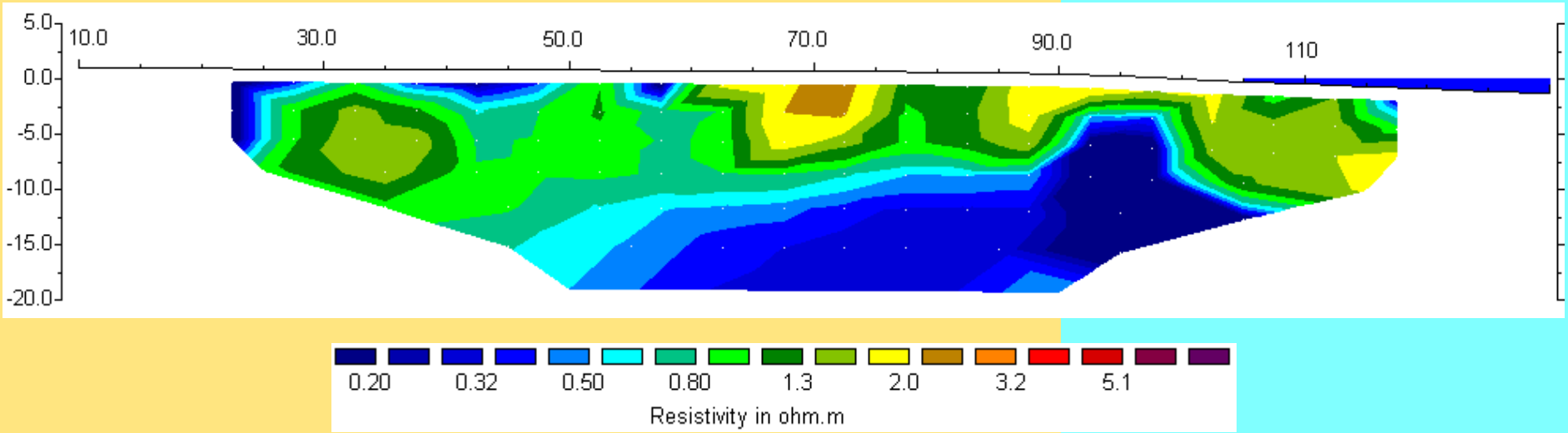
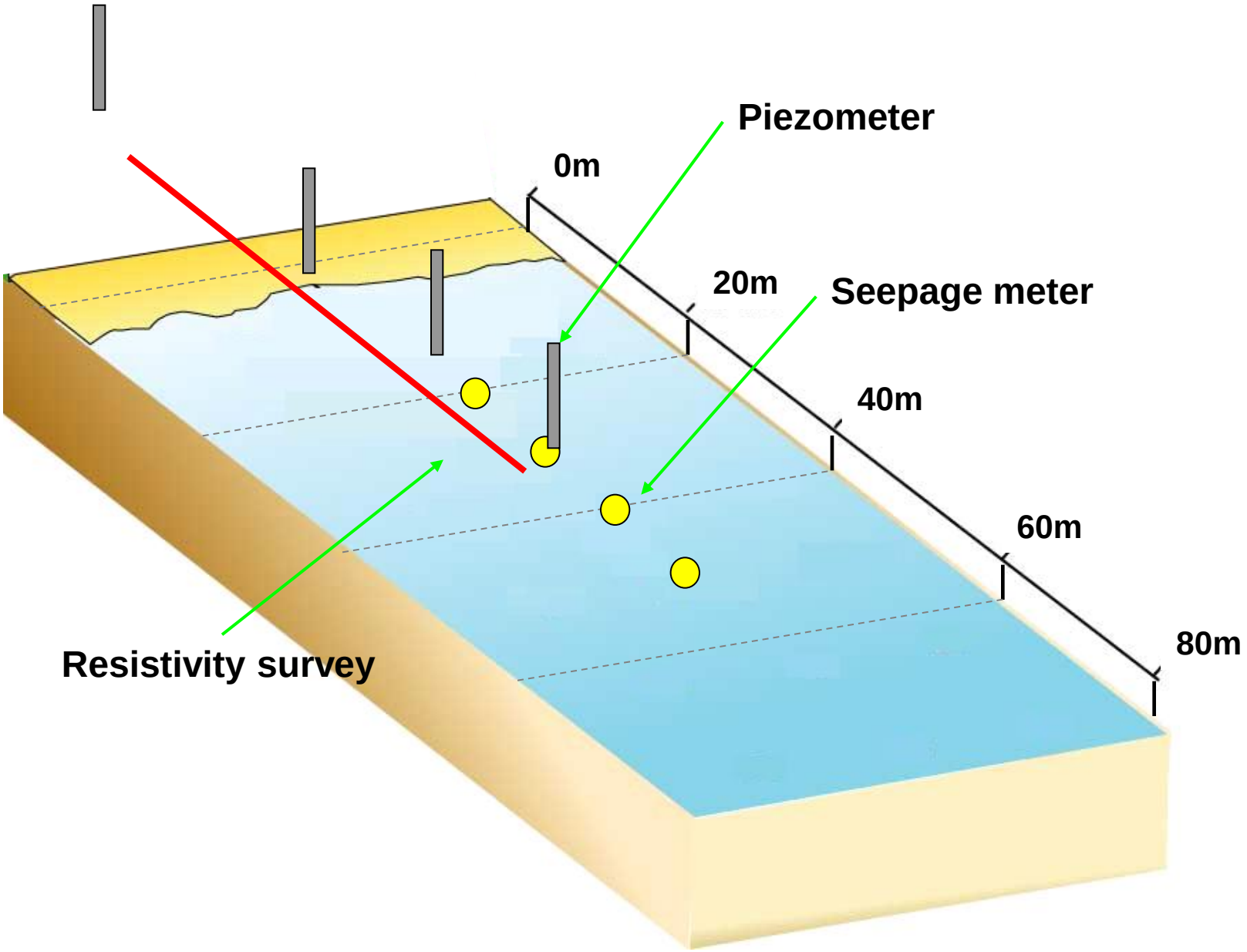


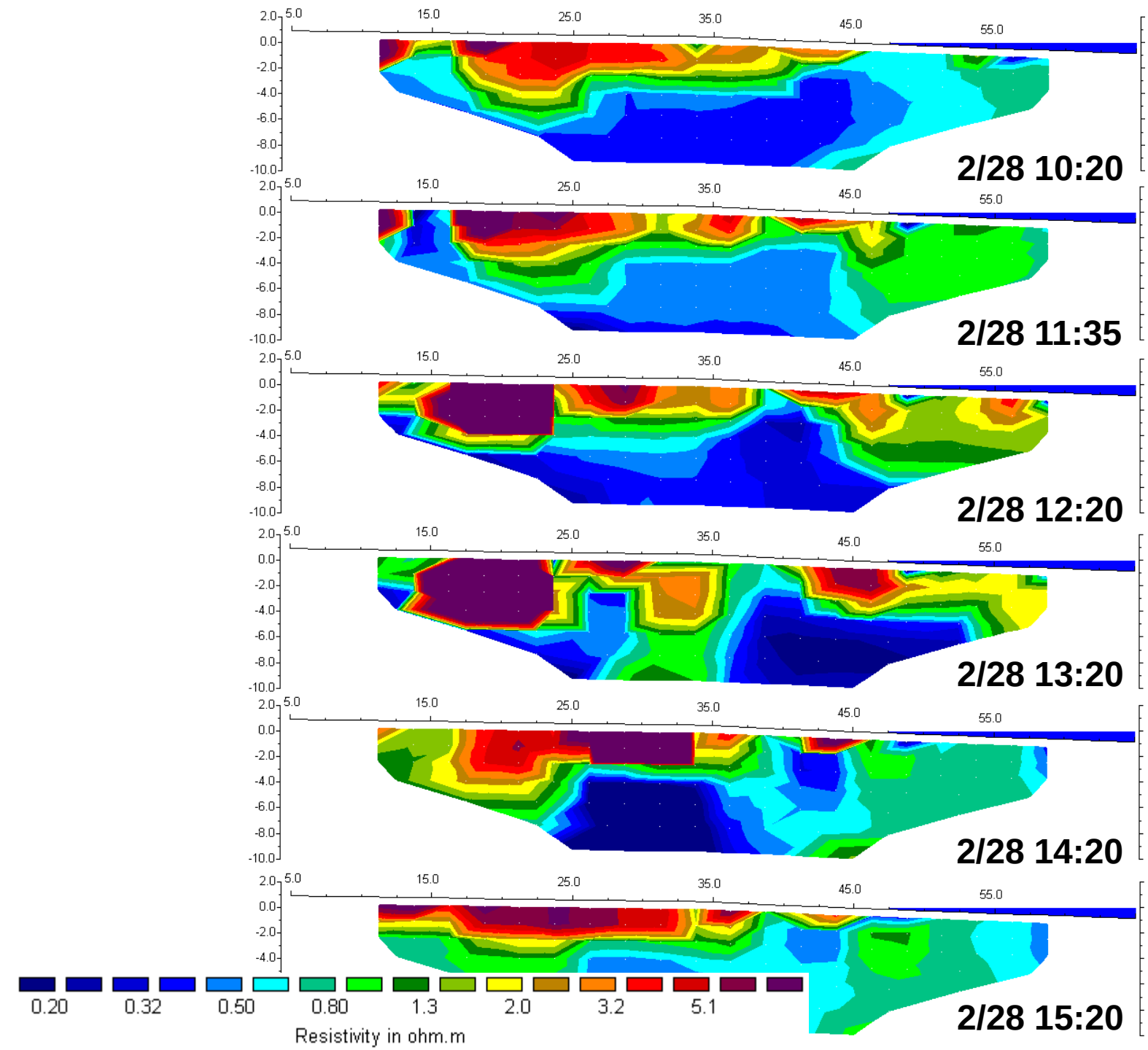
Location of equipments



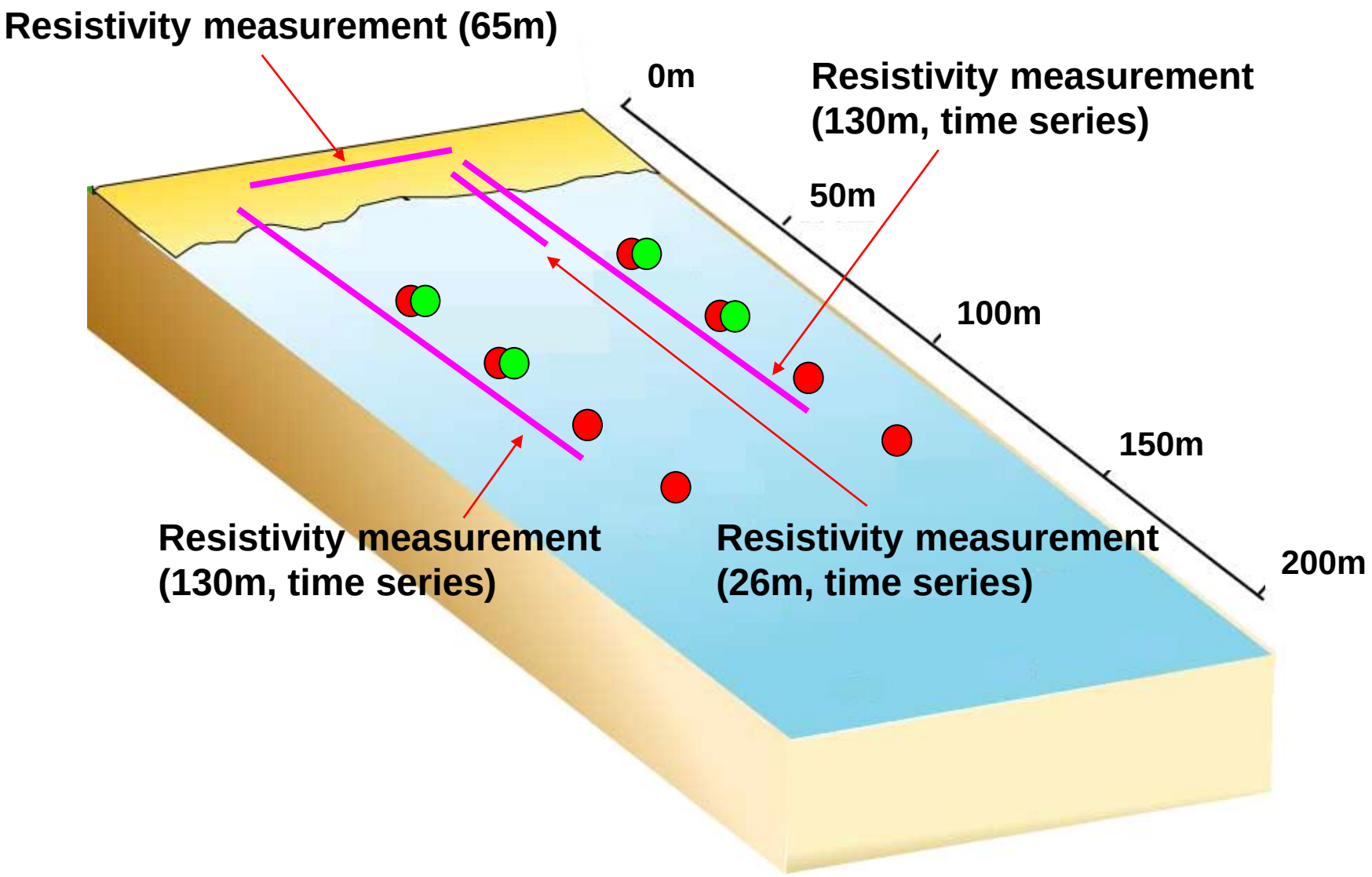

5.0
0.0
-5.0
-10.0
-15.0
-20.0
10.0
30.0
50.0
70.0
90.0
110
0.20
0.32
0.50
0.80
1.3
2.0
3.2
5.1
Resistivity in ohm.m

Location of equipments




2/28 10:20
2/28 11:35
2/28 12:20
2/28 13:20
2/28 14:20
2/28 15:20
0.20
0.32
0.50
0.80
1.3
2.0
3.2
5.1
Resistivity in ohm.m

Setting points of equipments



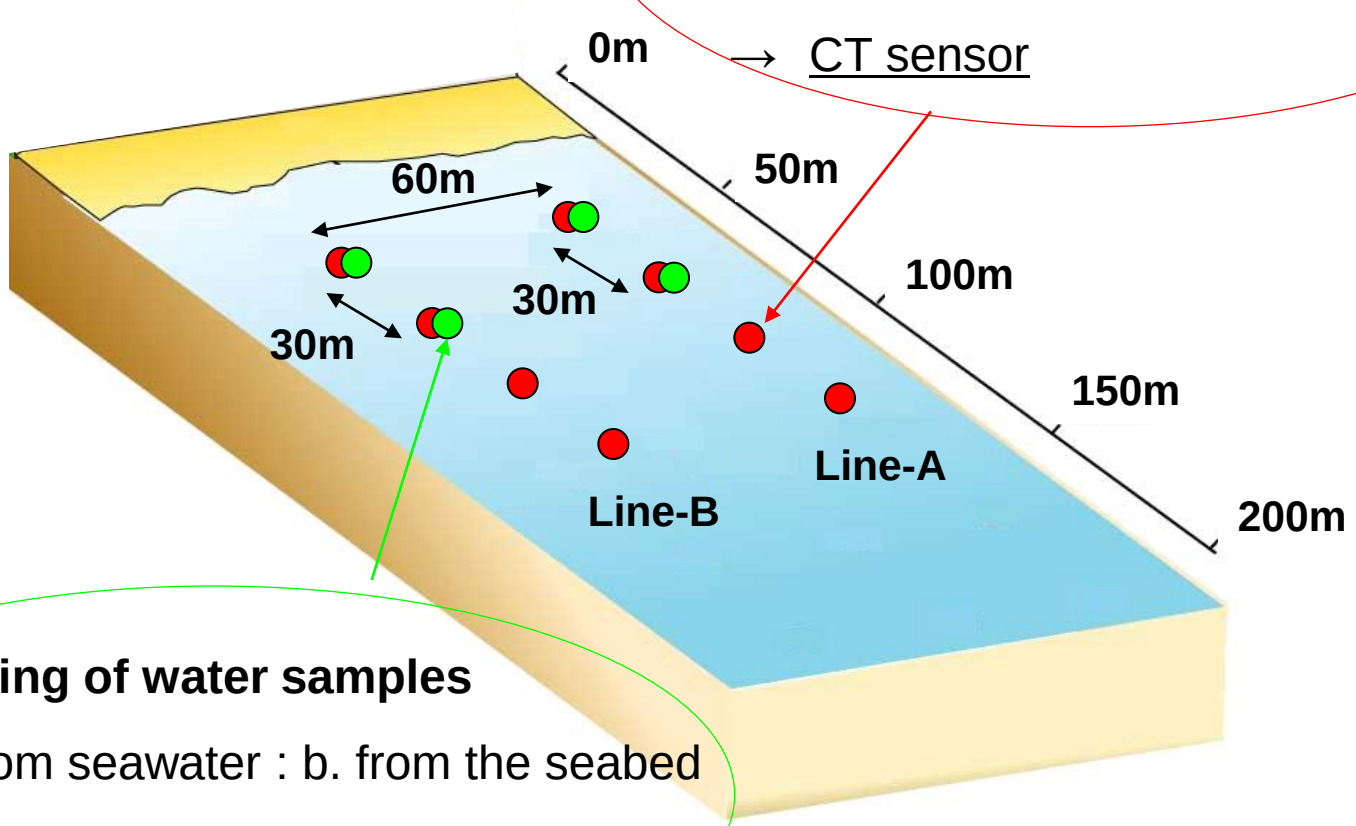
Setting points of equipments

1. Measurement of SGD rates

→ Seepage meter

2. Measurement of conductivity of SGD

→ CT sensor



3. Sampling of water samples

a. bottom seawater : b. from the seabed

c. 10cm depth from the seabed

4. Sediment core sampling