

2011/04/01 生研サロン

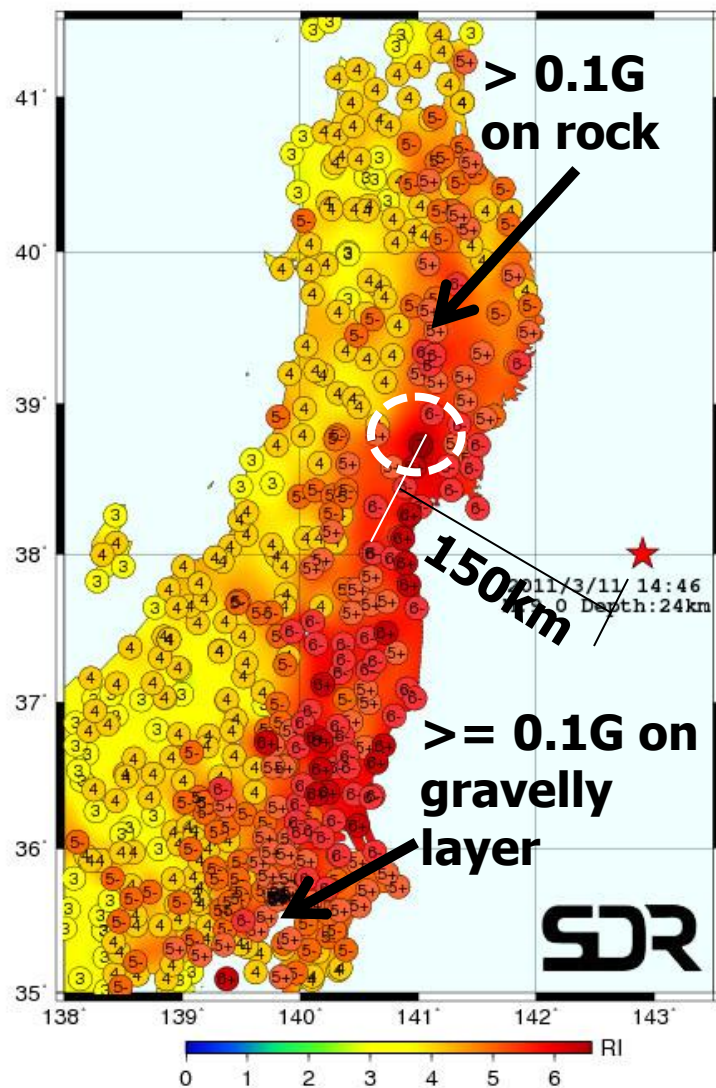
岩手県内陸の岩盤および東京湾岸部（新木場、東陽町）の基盤部の地震記録と周辺の被害

+ 阿武隈川上流域の斜面災害

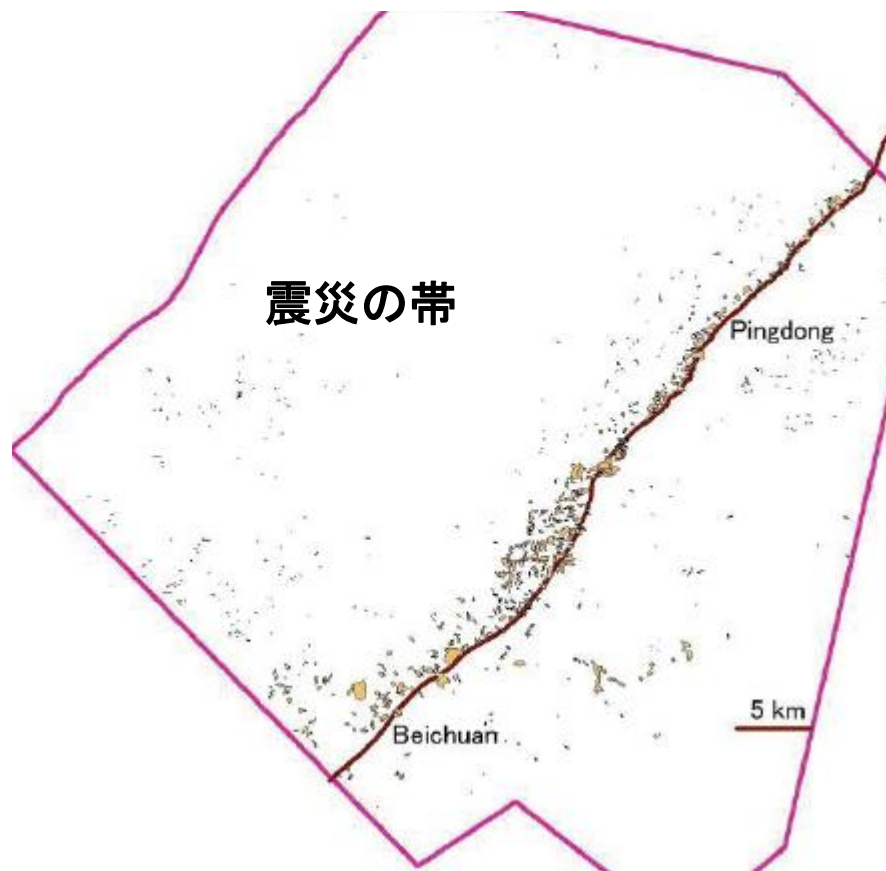
東京大学 生産技術研究所
小長井一男、清田 隆、京川

Intensity distribution
(by Y. Nakamura, SDR)

遠い地震・近い地震

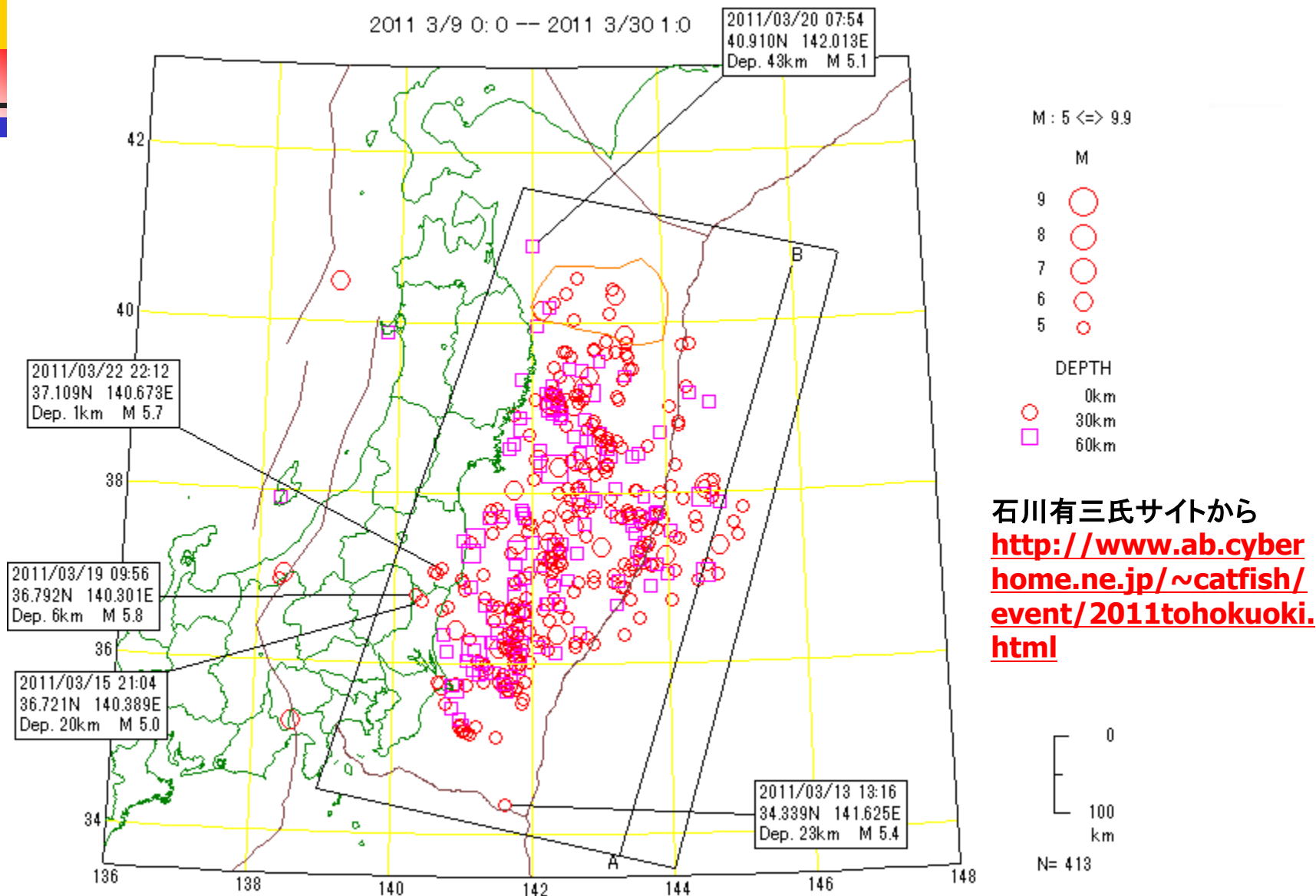


Landslides in Wenchuan EQ of 2008

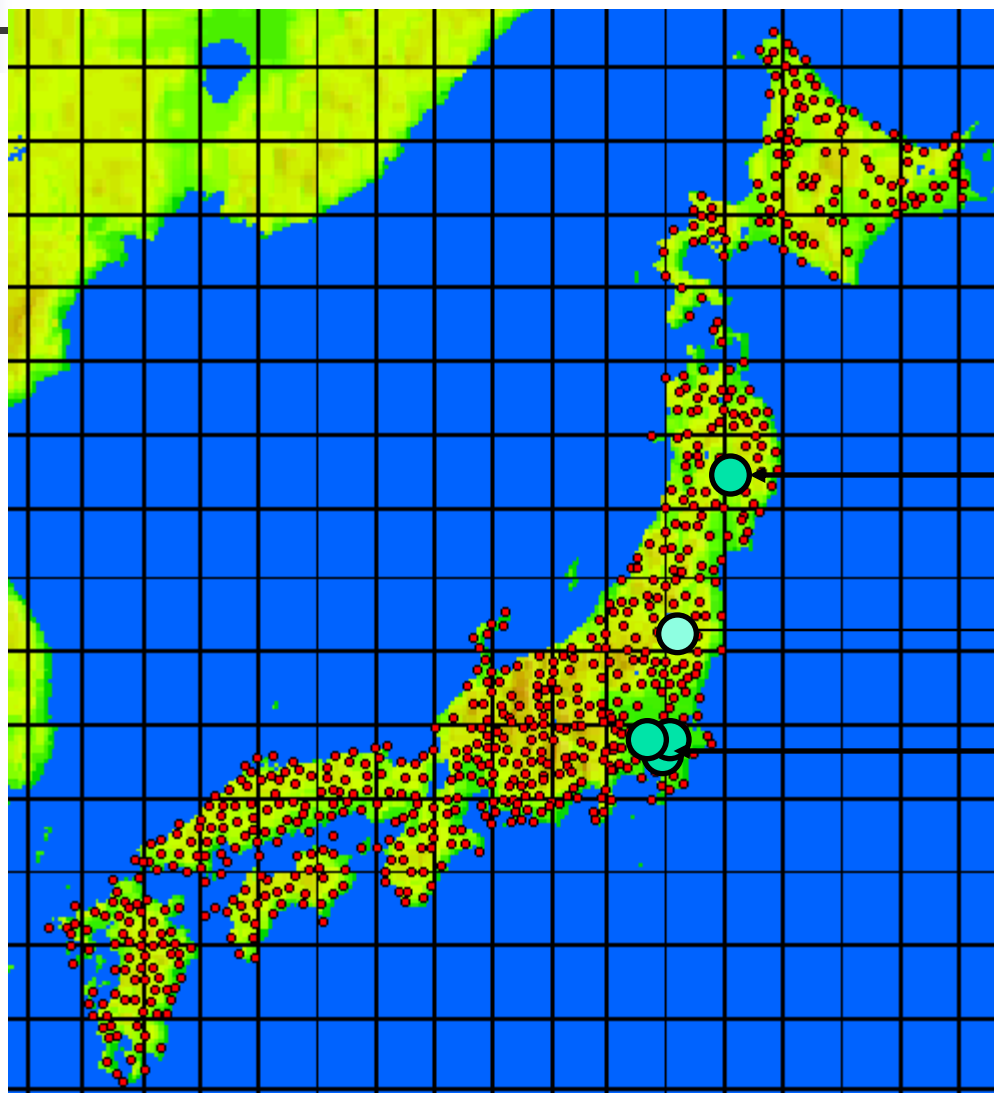


Chigira et al., in MEX Report, Konagai eds.

次は遠い地震か？近い地震か？



Kik-netの観測点の中で...



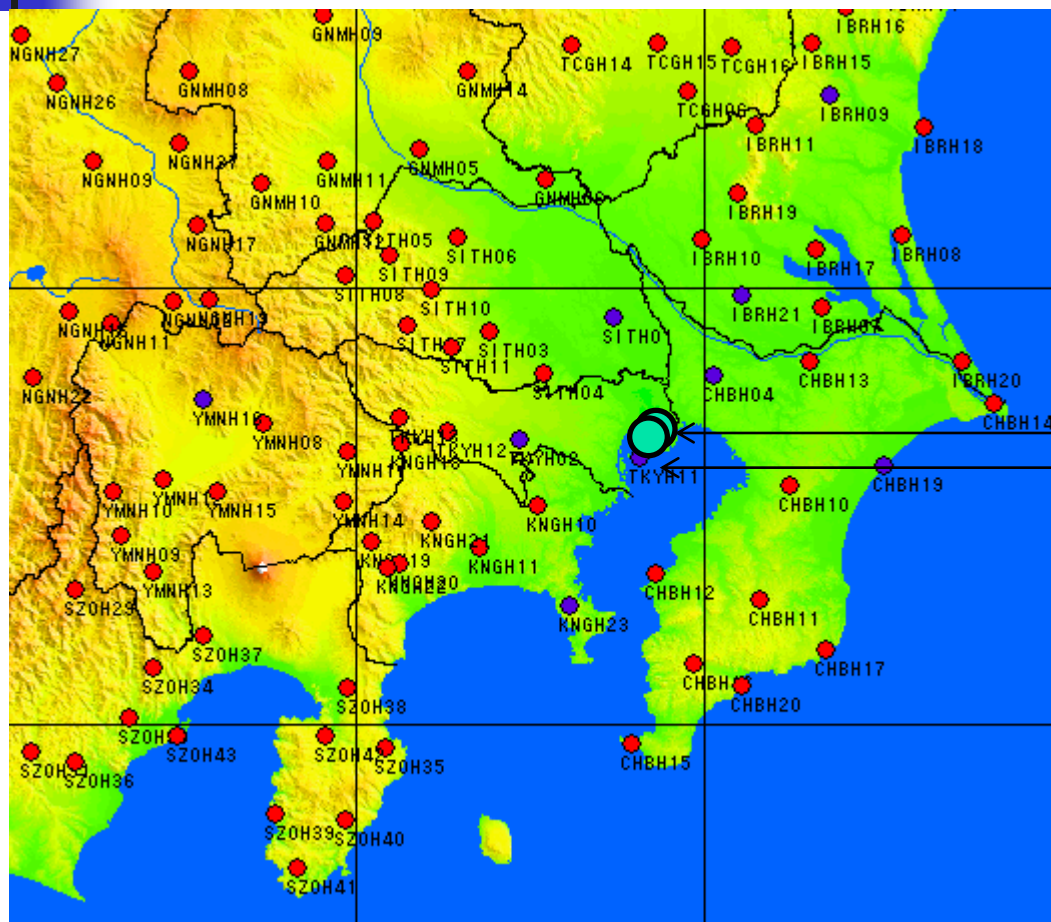
Sannokai dam

Toyochō, Shinkiba, Hiroo

FKSH10 Kik-net Nishigo

A KiK-net station has two accelerometers, one on the ground surface and the other at the hard rock layer in a borehole.

東京湾岸地域では？



Toyoko, Shinkiba

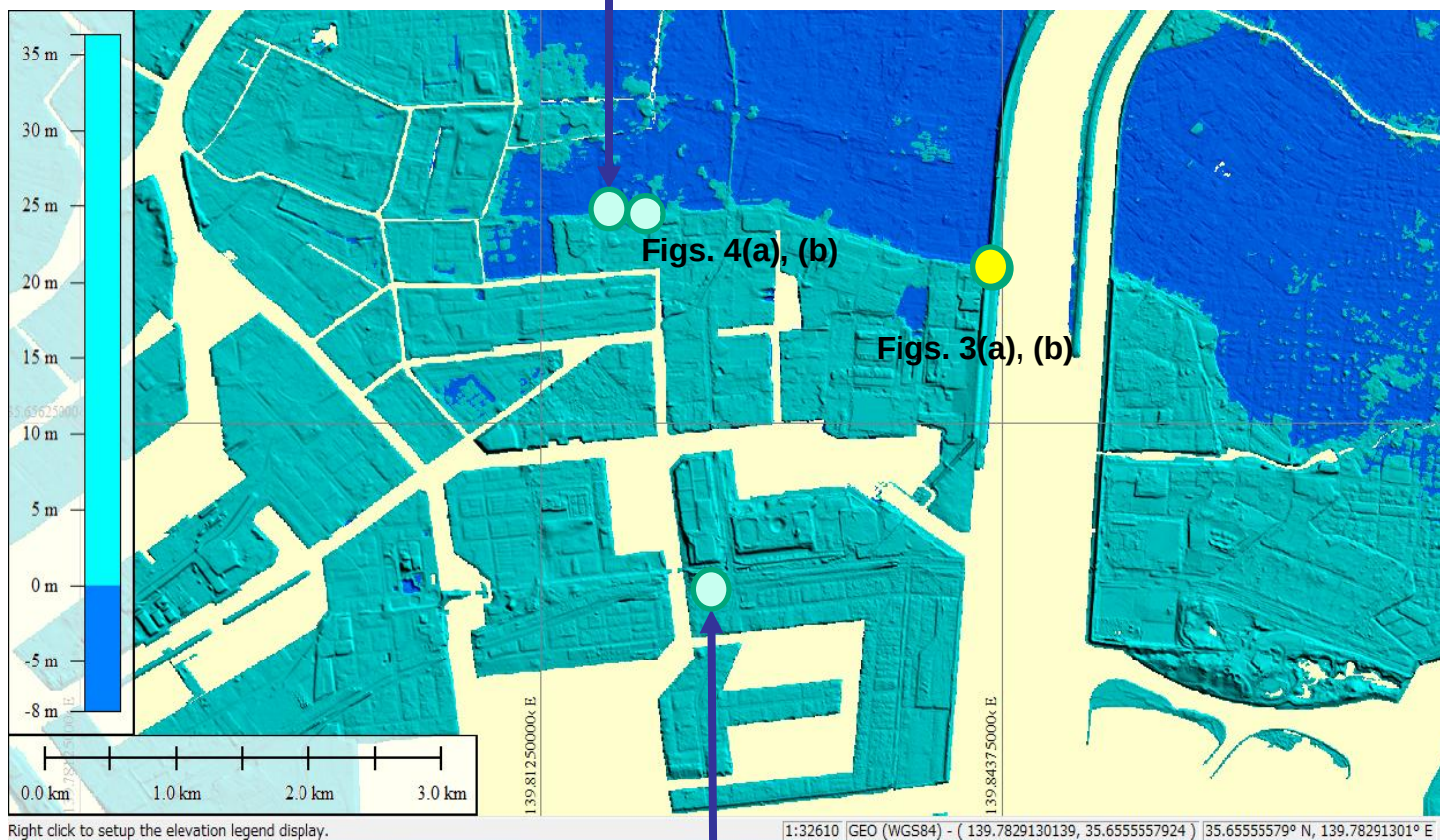
Record from TKYH11 (blue dot) is not available.

Landfill until 1971

[illegible]

東陽町付近

Toyochō (35.669286,139.812055)



Shinkiba (35.645681,139.824562)

東陽町付近

(35.665856,139.842868)



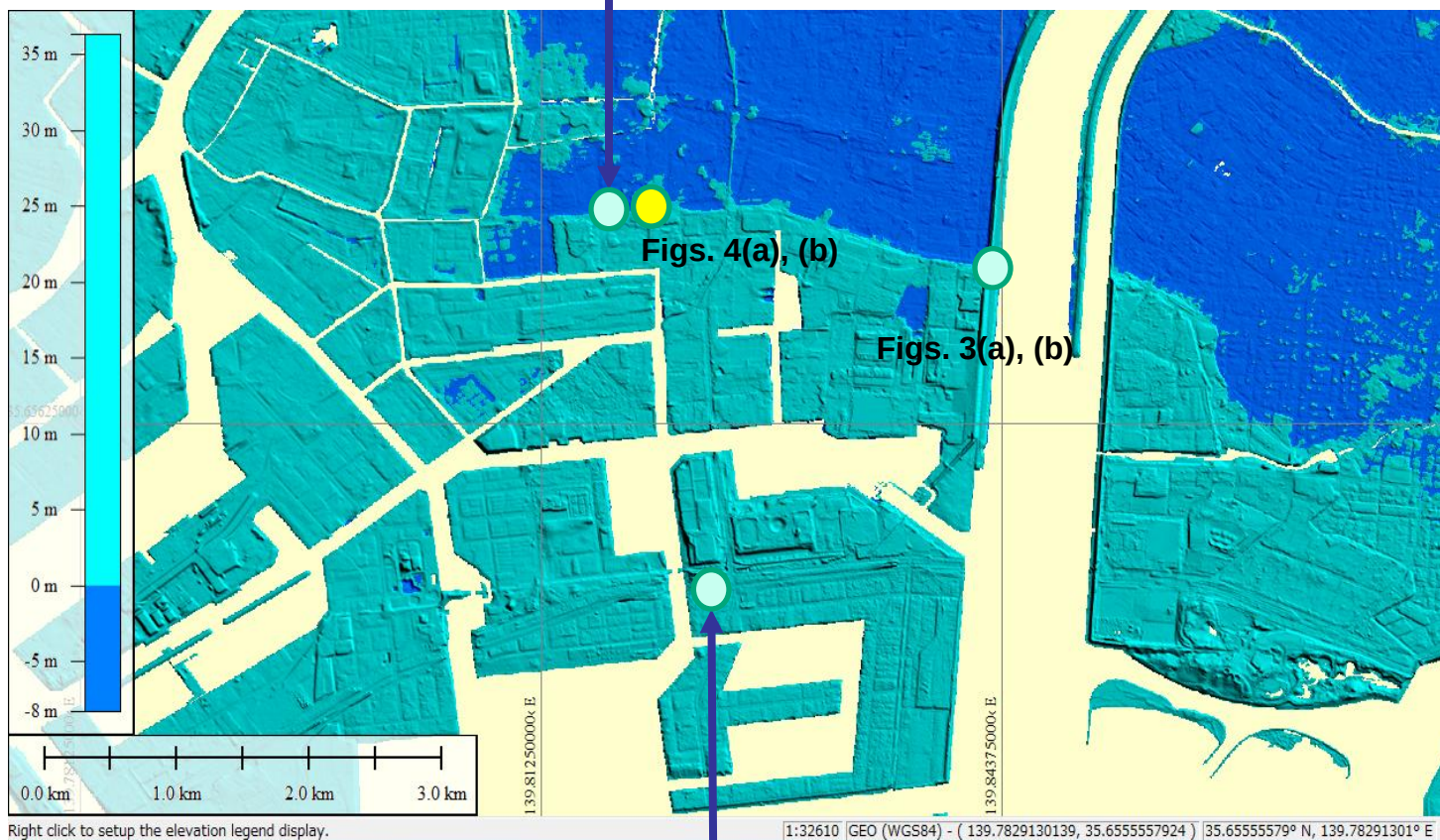
東陽町付近

(35.664967,139.843469)



東陽町付近

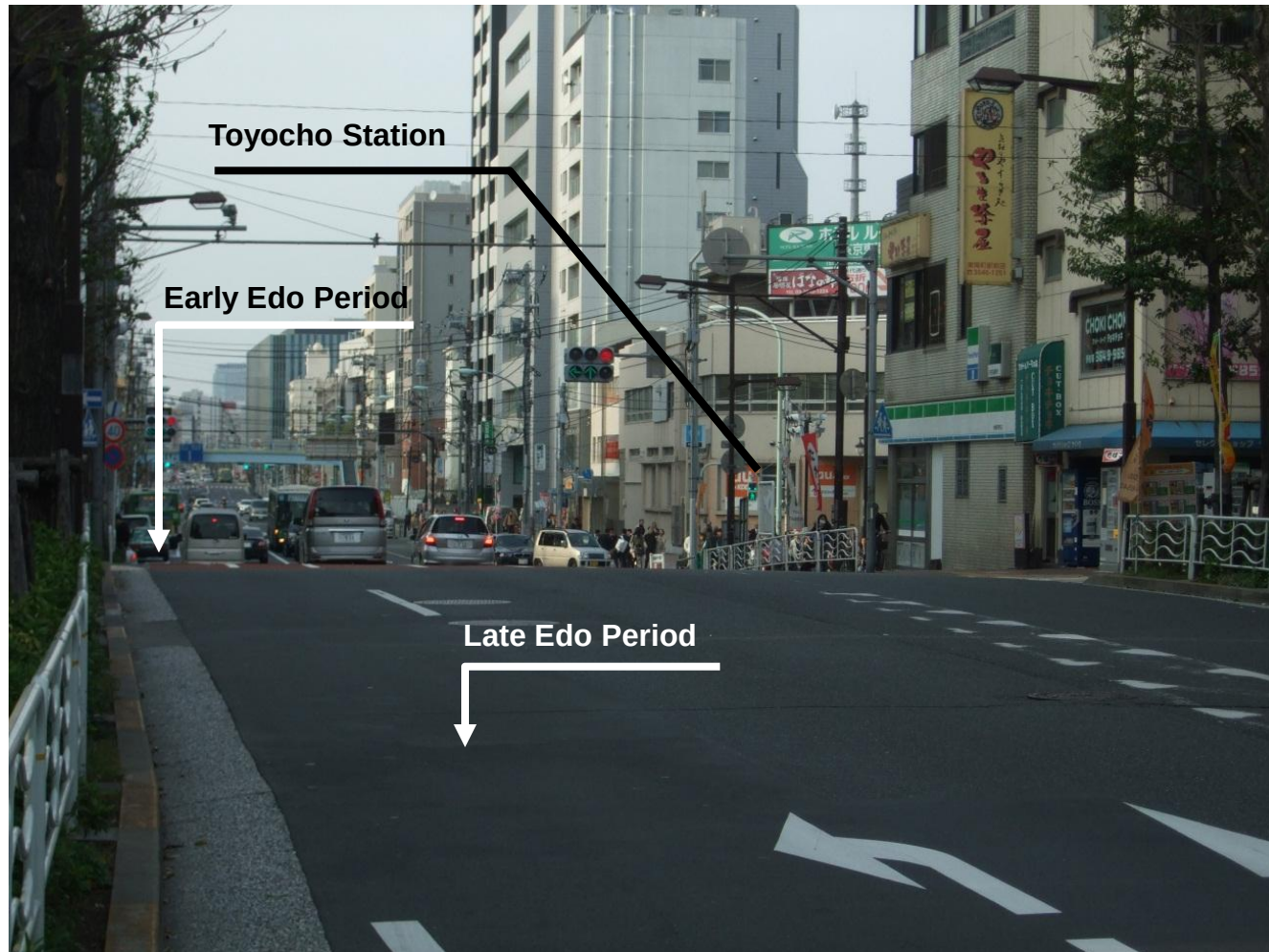
Toyochō (35.669286,139.812055)



Shinkiba (35.645681,139.824562)

東陽町付近

(35.668763,139.816437)



東陽町付近

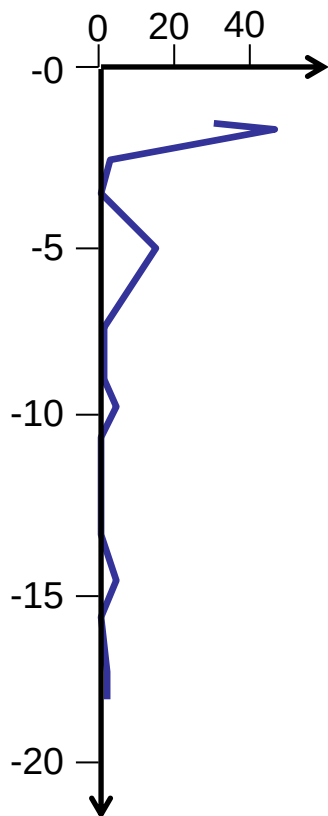
(35.669469,139.816766)

水防の備えがある

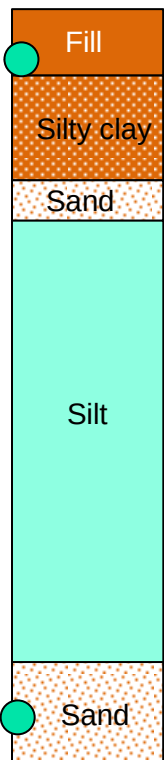


地震記錄

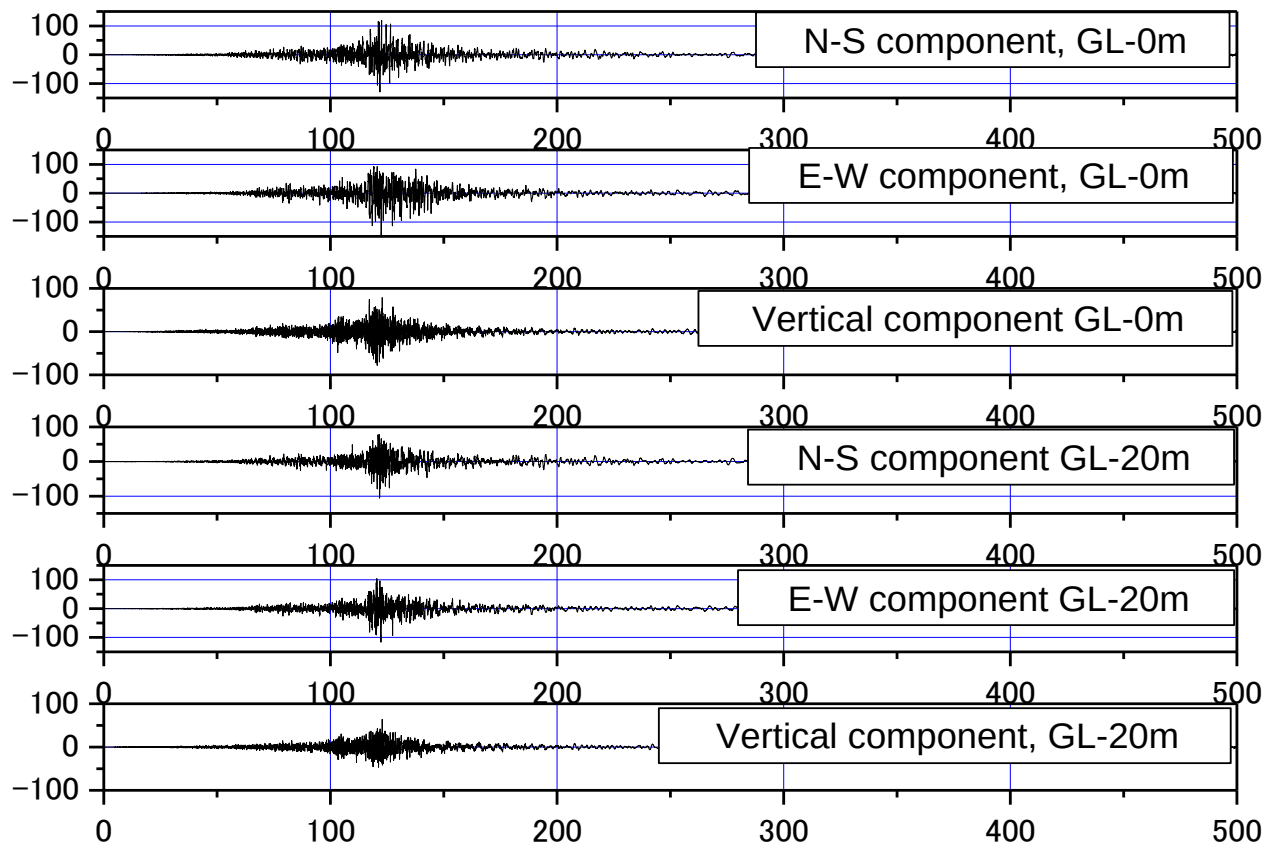
Blow counts



Depth (m)



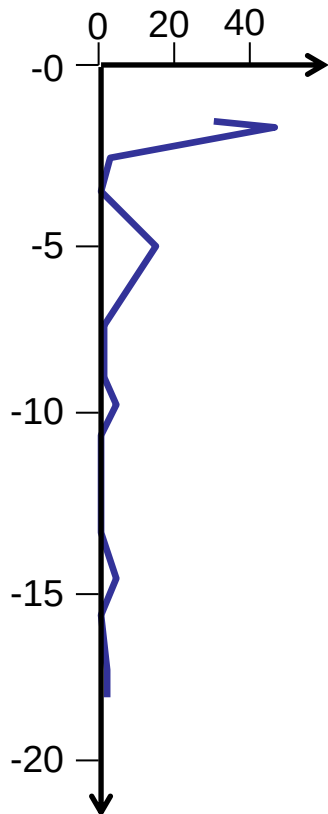
Acceleration (cm/s^2)



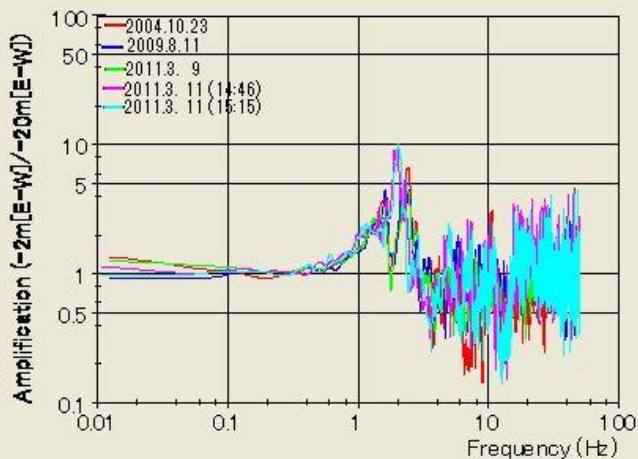
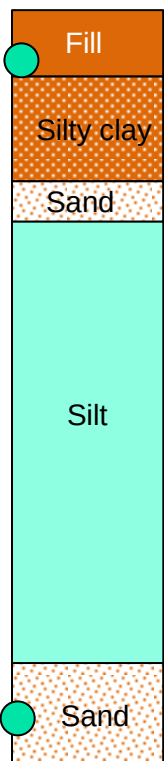
Time (s) Starting time: 14:47:17, 2011/03/11

增幅

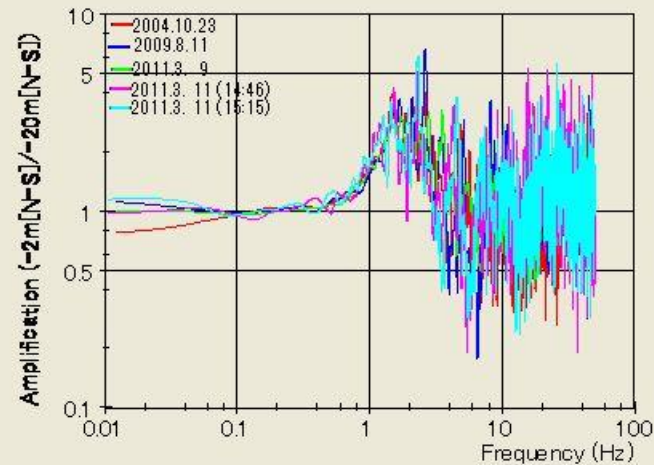
Blow counts



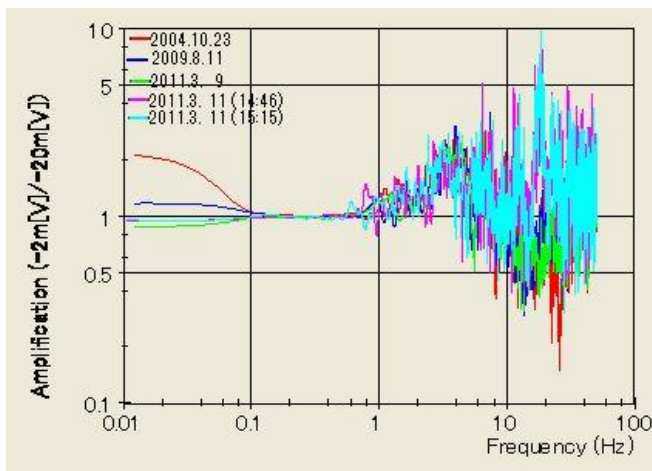
Depth (m)



EW

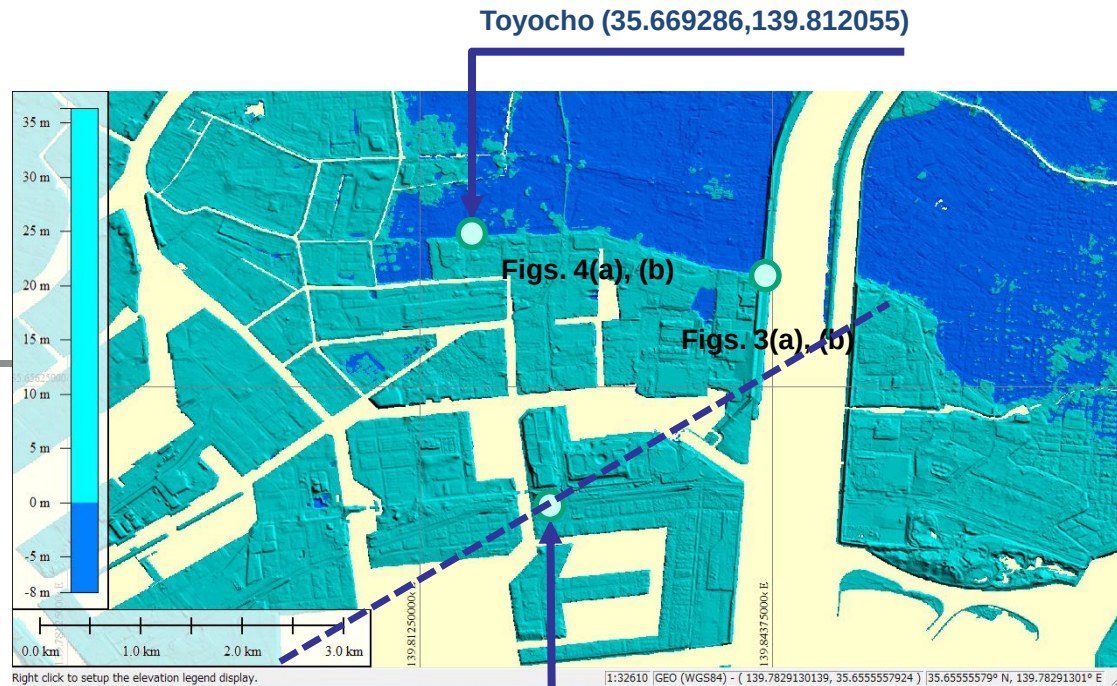


NS

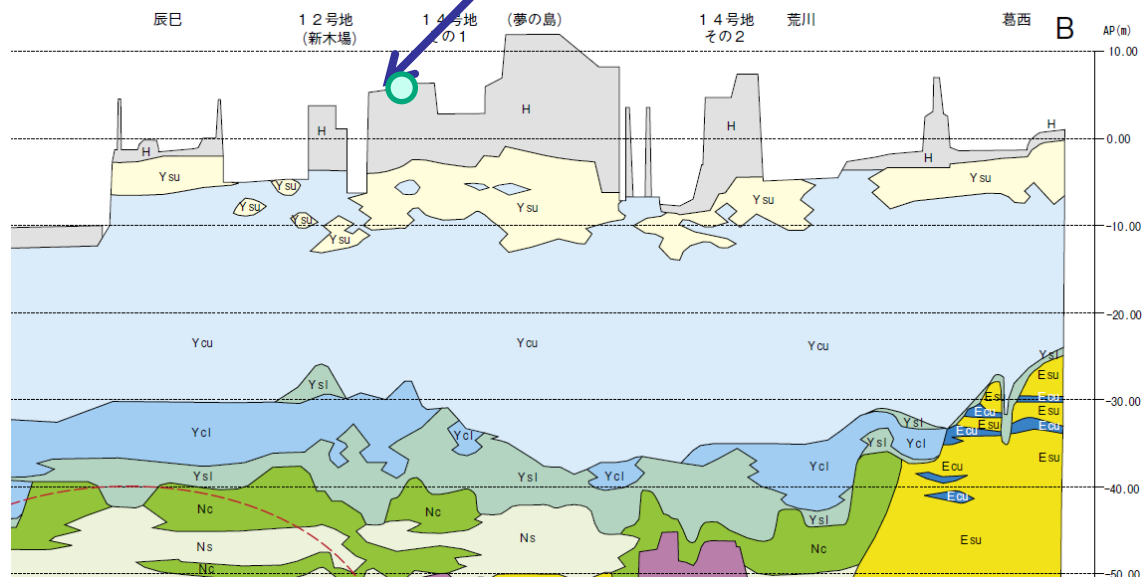


UD

新木場

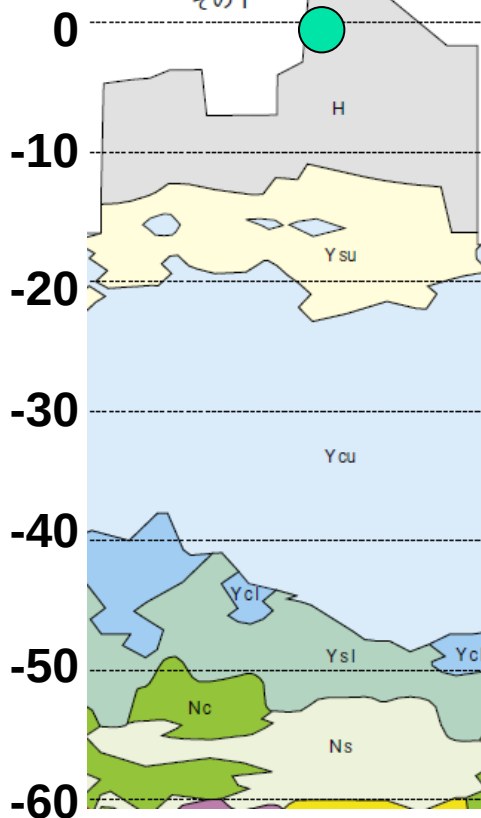


Shinkiba (35.645681,139.824562)

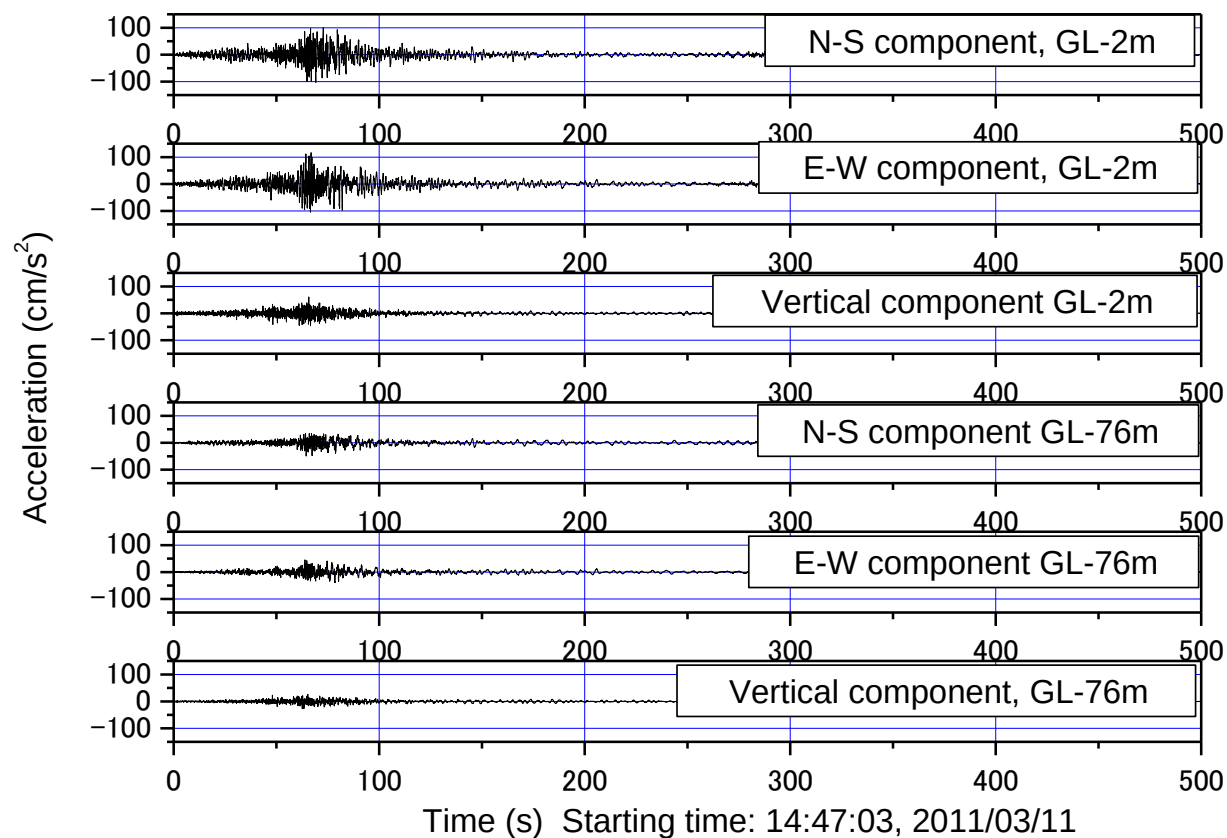


地震記録

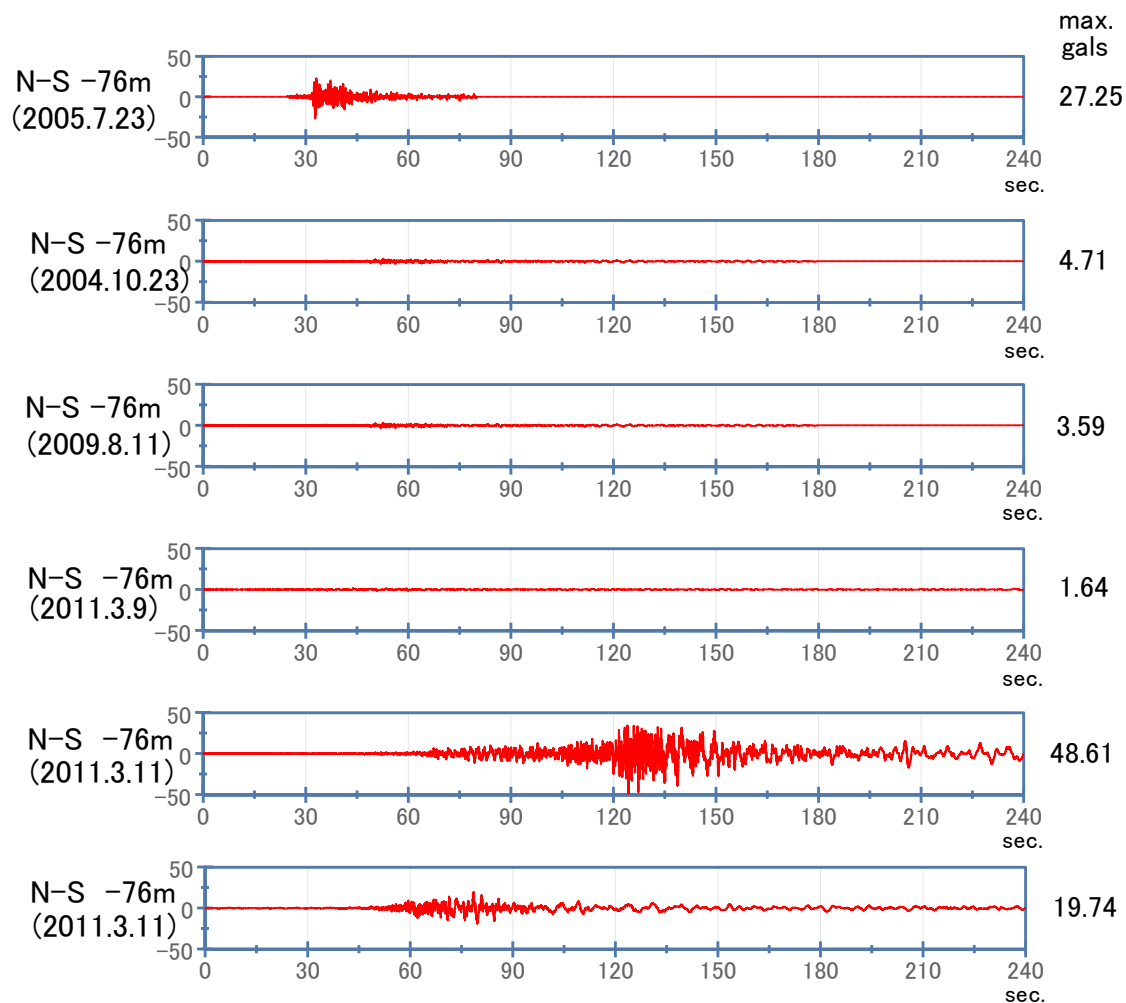
14号地 (夢の島)
その1



-74

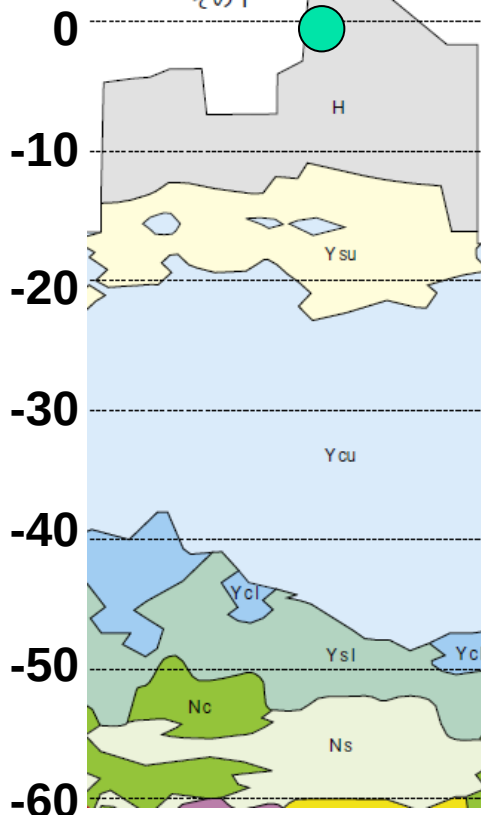


振幅も継続時間も違う

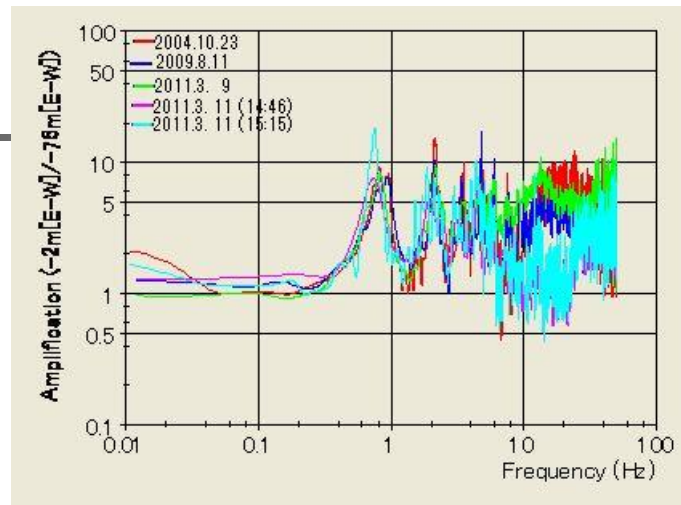


増幅

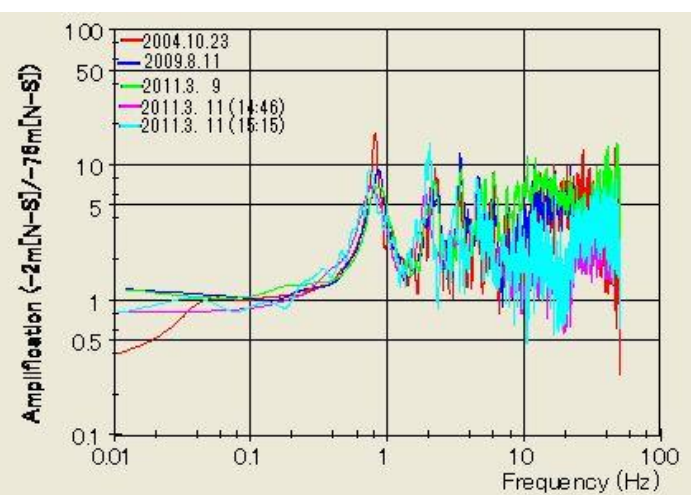
14号地 (夢の島)
その1



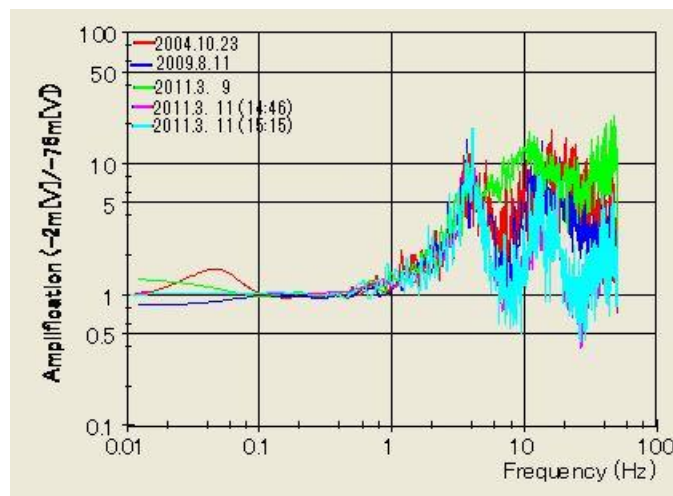
-74



EW



NS



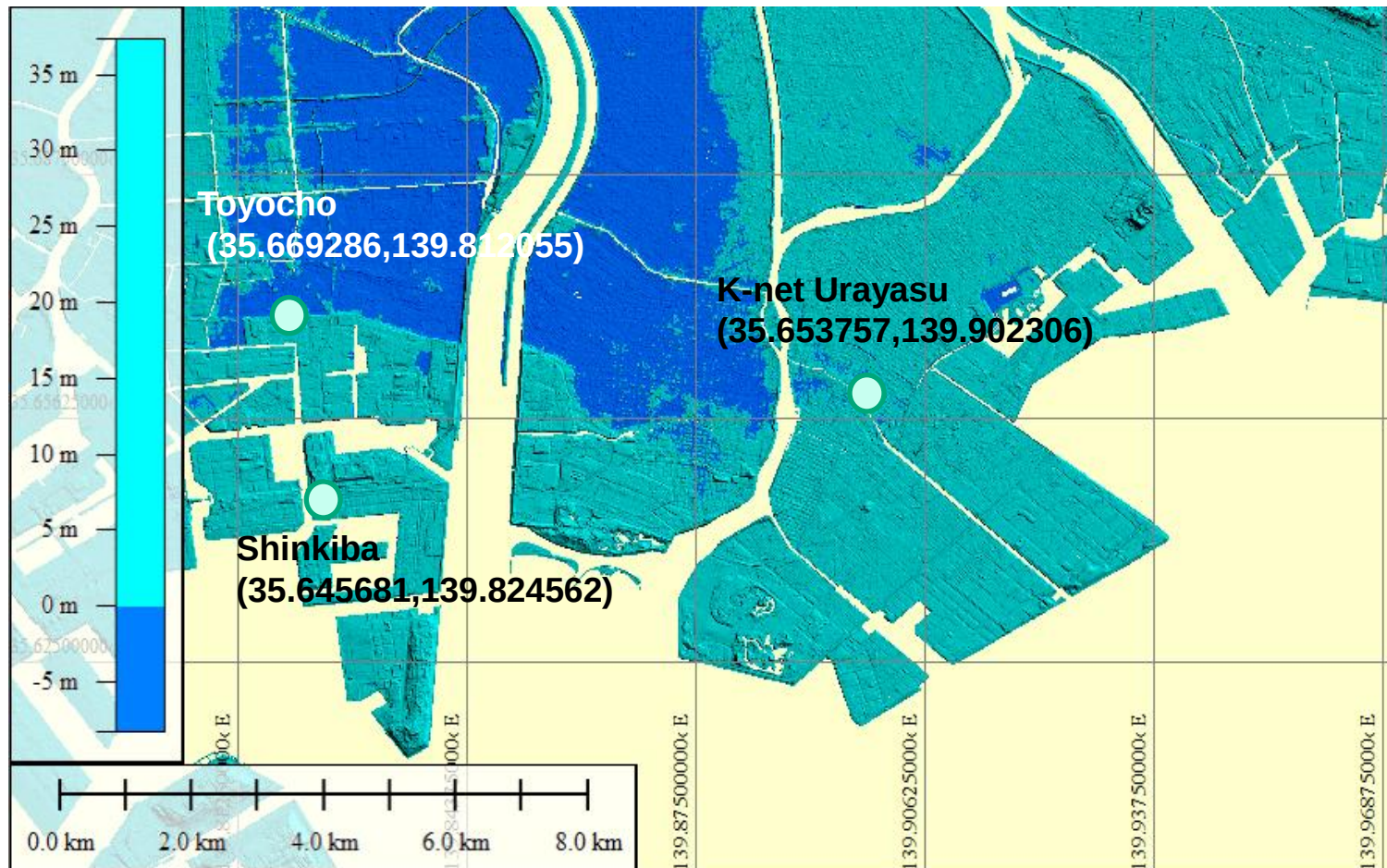
UD

新木場

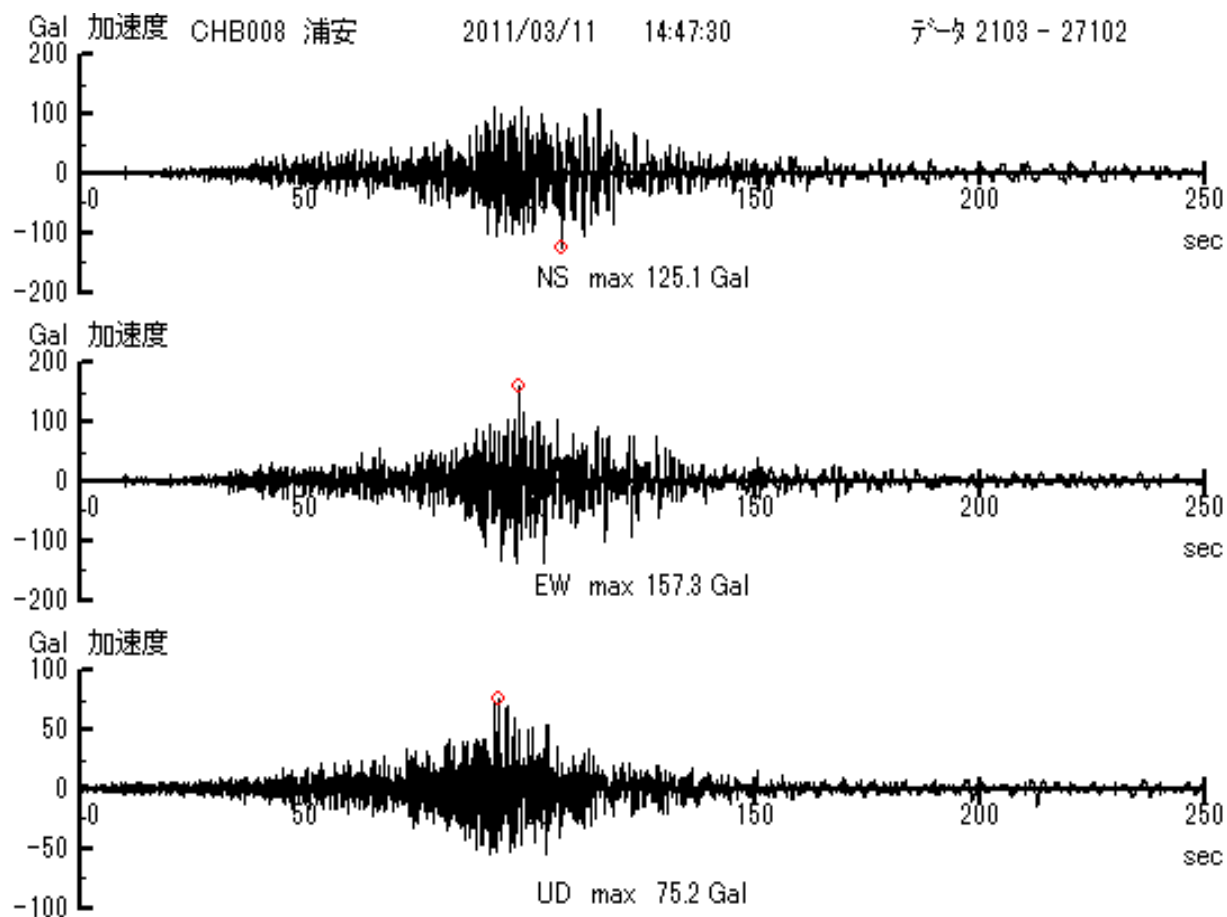
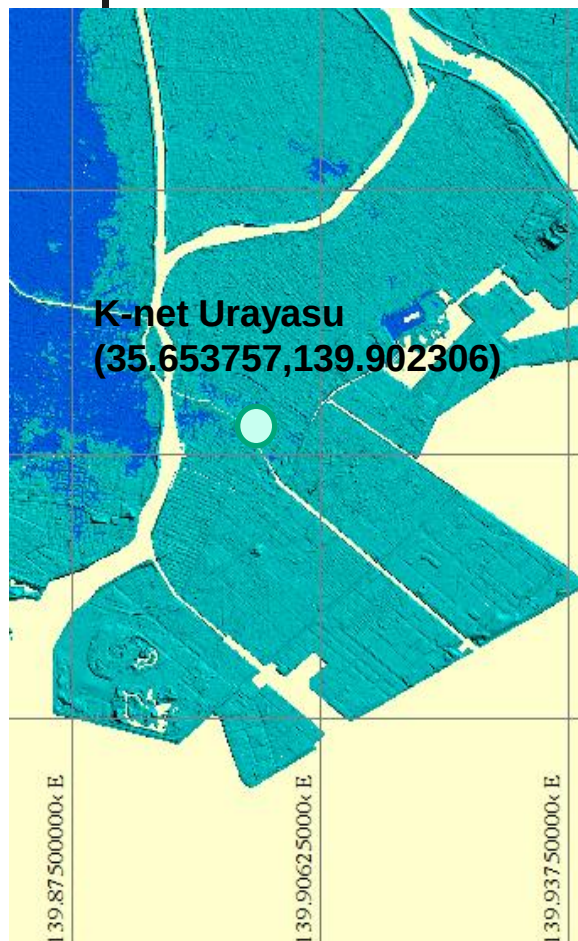
(35.64476,139.828169)



浦安



浦安



標高変化の確認





Subsidence of liquefied area, Urayasu City, Chiba Pref. (Kazuo Konagai, IIS, University of Tokyo)

by Konagai

[Tweet](#)

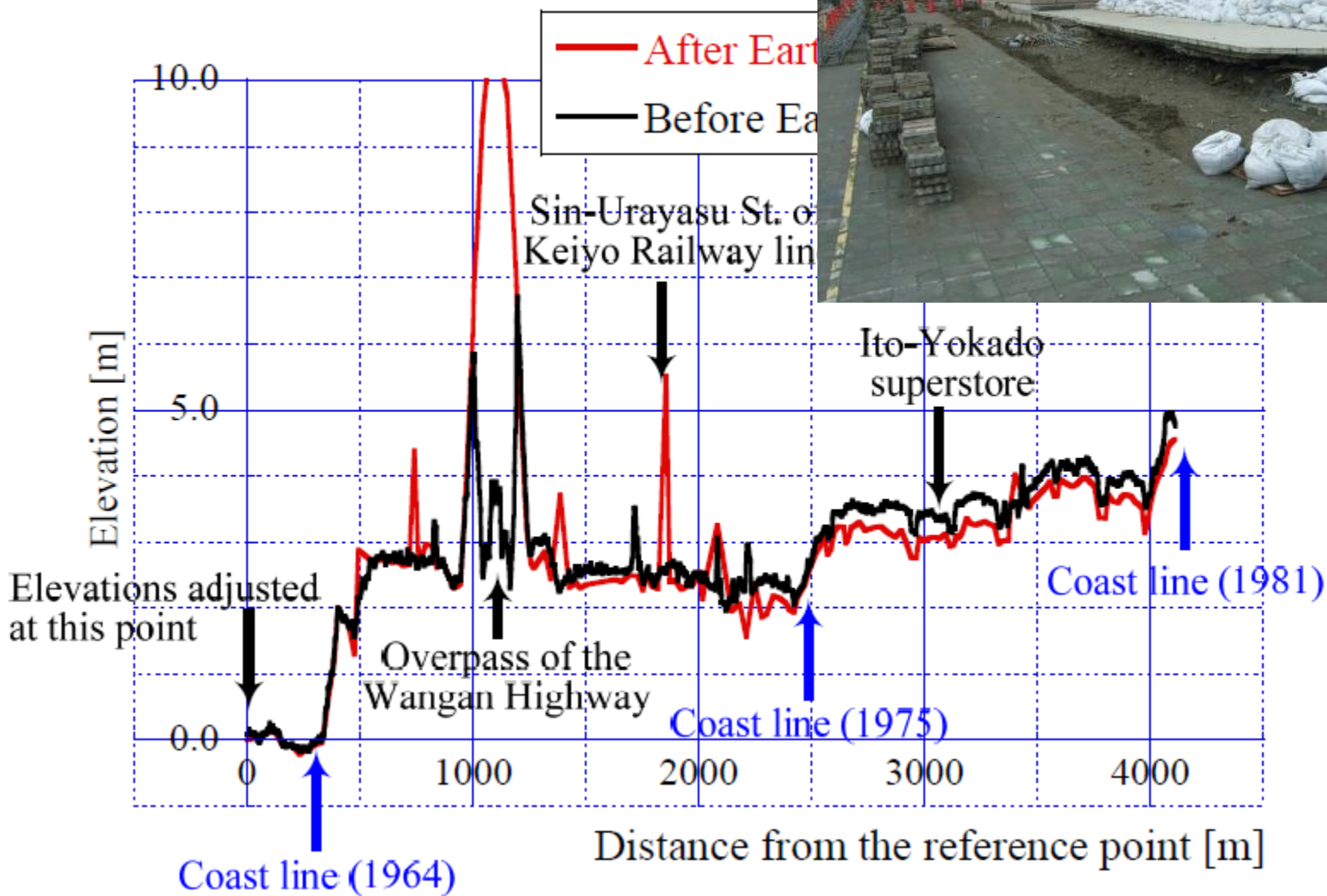
[いいね！](#)

[Facebook](#)にアカウント登録して、友
いわいをシェアしましょう。

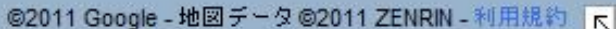
☆☆☆☆☆ (0 votes)

[Add to favorites](#)





(Y, 2007)



Tokyo, Japan (Update Current Location)

Hi K

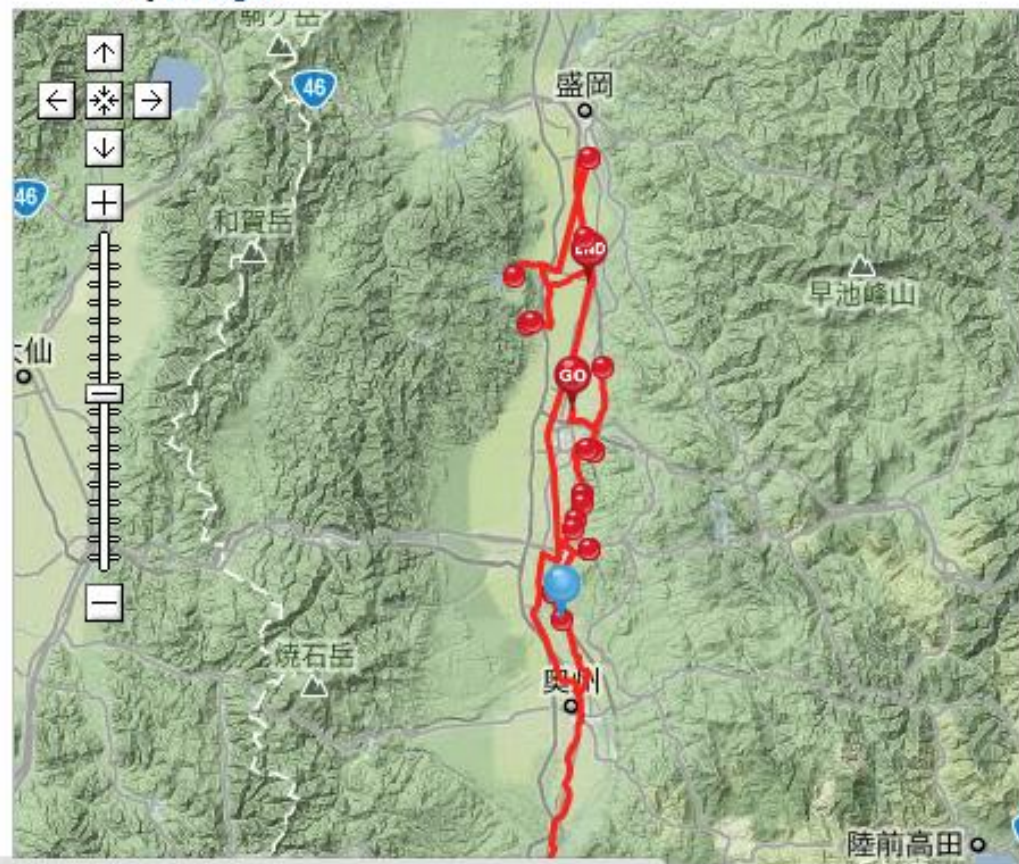


Recon trip on March 20 and 21, Tohoku-Kanto Massive Earthquake of March 11, 2011 (K. Konagai/ T. Kiyota, IIS, Univ. of Tokyo) - Iwate, Japan

by Konagai



|  Add to favorites



Trips: Recon trip on March 20 and 21, Tohoku-Kanto Massive Earthquake of March 11, 2011 (K. Konagai/ T. Kiyota, IIS, Univ. of Tokyo) (see all pictures)

[< Prev](#) [Next >](#) | [Post comment](#) | ☆☆☆☆☆ (0 votes)

Photo 26 of 29

Sannokai Dam

by Konagai



Facebookにアカウント登録して、友達のリ.いいね！を見てみましょう。



[View Original at EveryTrail](#)

[Flag if offensive](#)

PGA was less than 0.1G near the left abutment (Konagai Lab).



39.547° N, 141.0688° E



地震記録

CH04: 監査廊N-S

MAX = 68.220 (gal)

MIN = -60.393 (gal)

CH05: 監査廊E-W

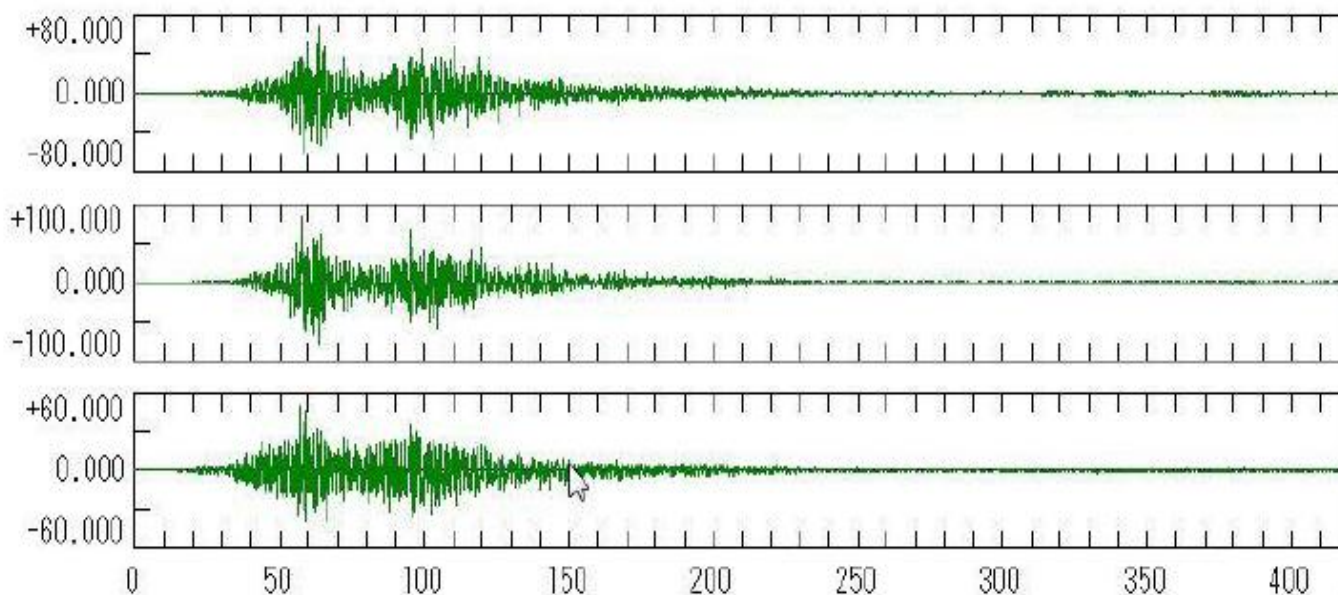
MAX = 82.834 (gal)

MIN = -79.688 (gal)

CH06: 監査廊V

MAX = 50.371 (gal)

MIN = -39.480 (gal)



**ダム監査廊での加速度記録(単位:cm/s²)開始時刻
(PGA NS: 68.2, EW: 82.8, UD: 50.4)**

葛丸川南側斜面の崩落



高さ65m幅87m(雪のかぶっていない部分が今回の地震による崩落部分と推定)。
位置:39.501325,141.085353

国道107号(旧道)盛土のすべい



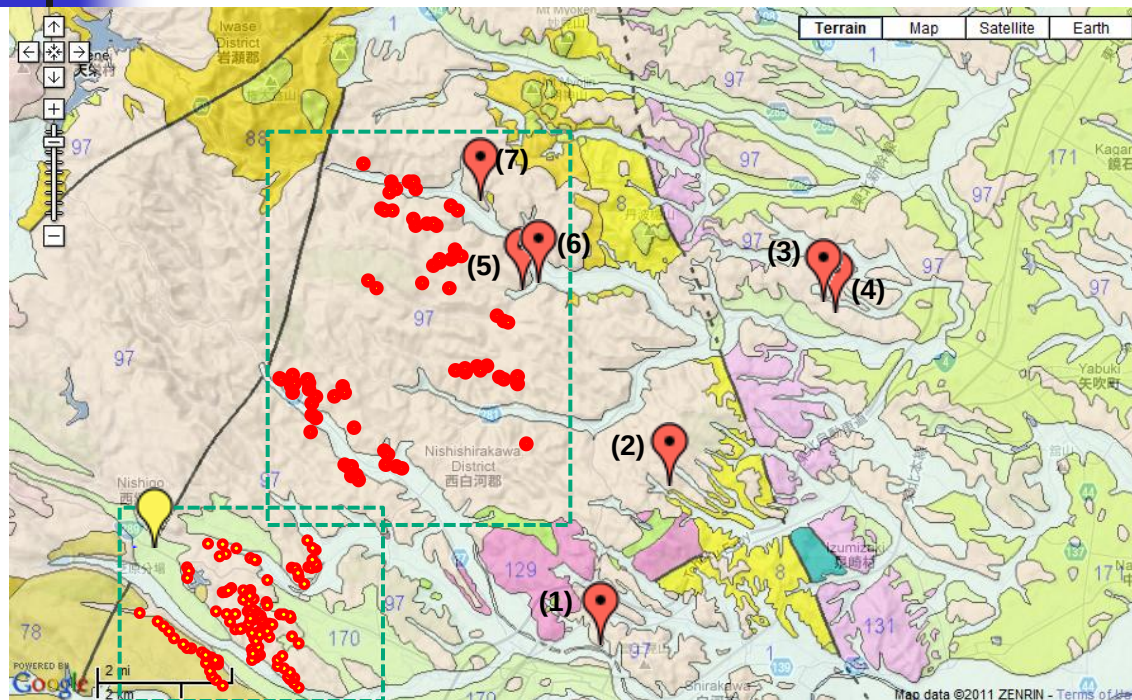
位置:39.291274,141.159865

新幹線の高架橋橋脚および架線柱の被害



2003年の宮城県北部地震後の補強で未着手部分。地形図で近くに旧河道跡。

阿武隈水系上流域の斜面崩壊



 Kik net NJSHIGO (37.1585, 140.0963)

 Slope failures caused by the EQ of March 11th 2011.

 Slope failures caused by the heavy rain of Aug. 27th 1998 (after Iguchi.)

 Early Pleistocene non-alkaline pyroclastic flow volcanic rocks



(1)
福島県白河市葉ノ木平（幅110m, 長さ
205m, 高さ31m）

位置: 37.138253, 140.217605

独立行政法人土木研究所
土砂管理研究グループ地すべりチーム 報告



(2)

福島県白河市北ノ入（幅50m, 長さ300m, 高さ60m）

位置: 37.174611, 140.238848



(3)

福島県白河市北ノ入（幅60m, 長さ99m, 高さ15.6m）

位置: 37.213788, 140.276721



📍 (6) 福島県白河市上小屋、位置:37.215267,140.19973

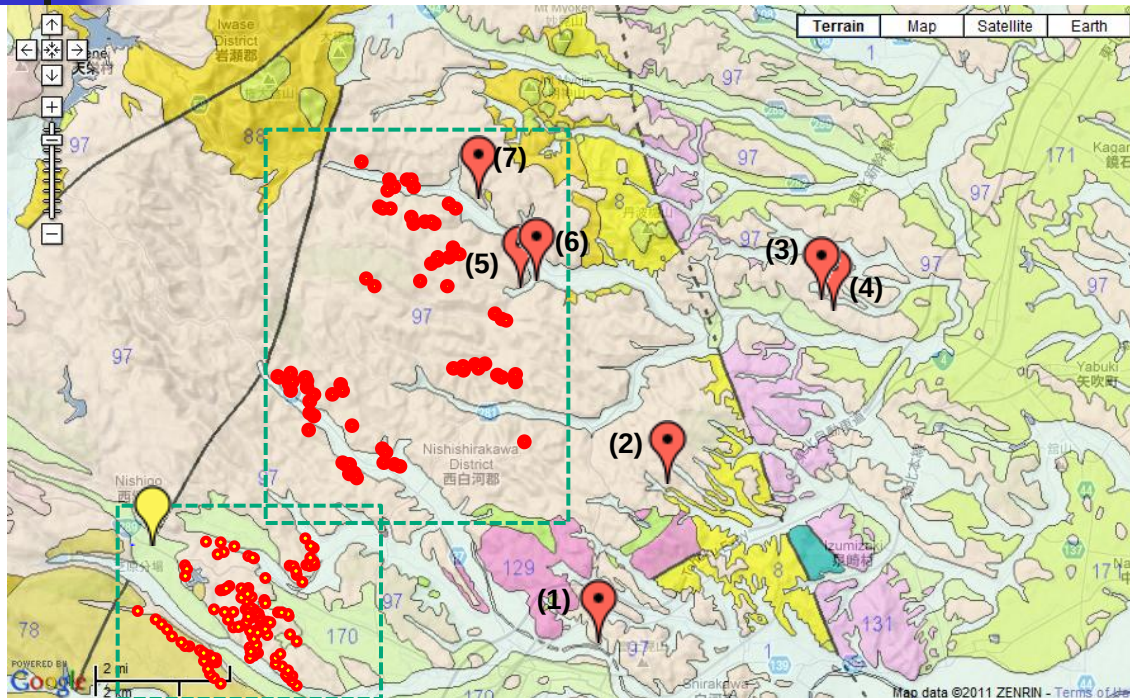


(7)

福島県白河市仙久内屋敷

位置: 37.230448, 140.185461

阿武隈水系上流域の斜面崩壊



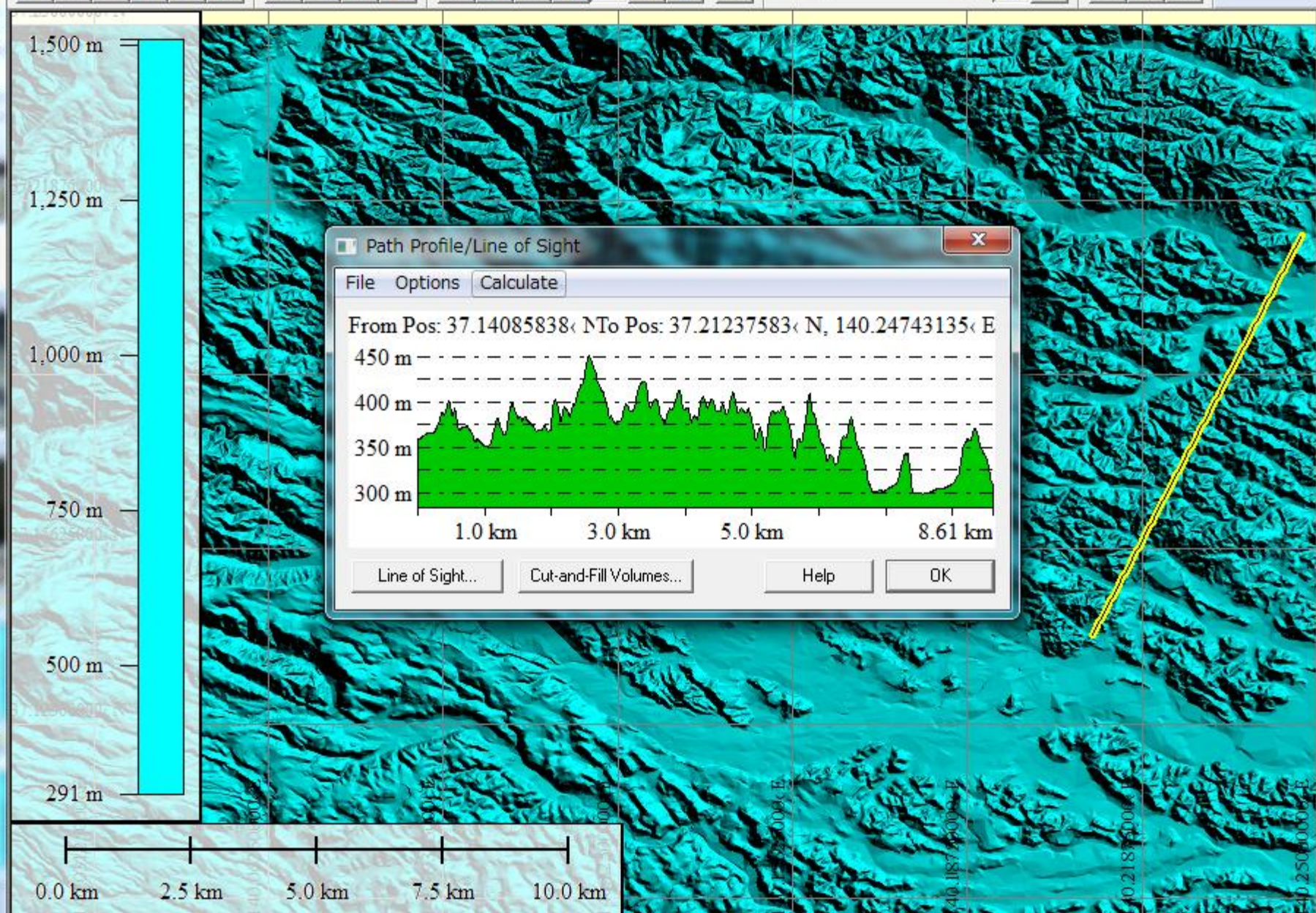
 Kik net NJSHIGO (37.1585, 140.0963)

 Slope failures caused by the EQ of March 11th 2011.

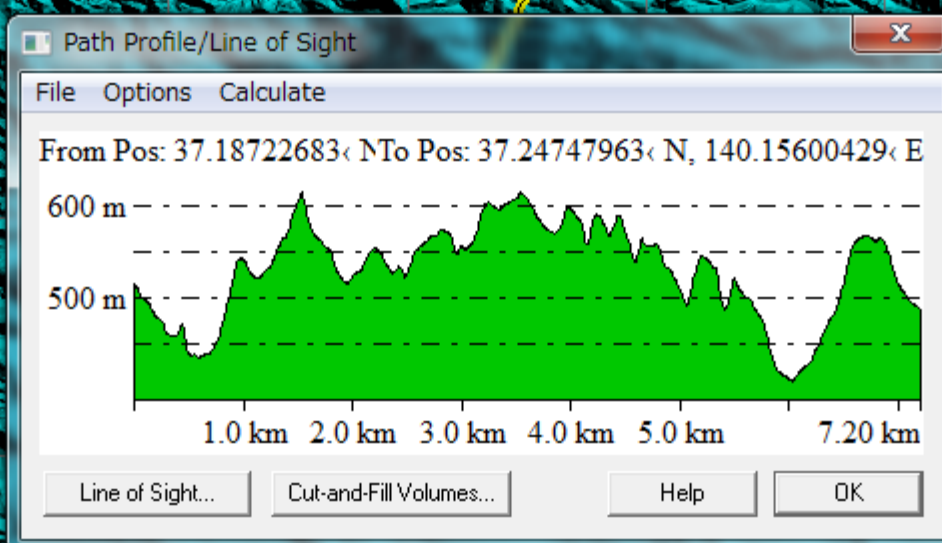
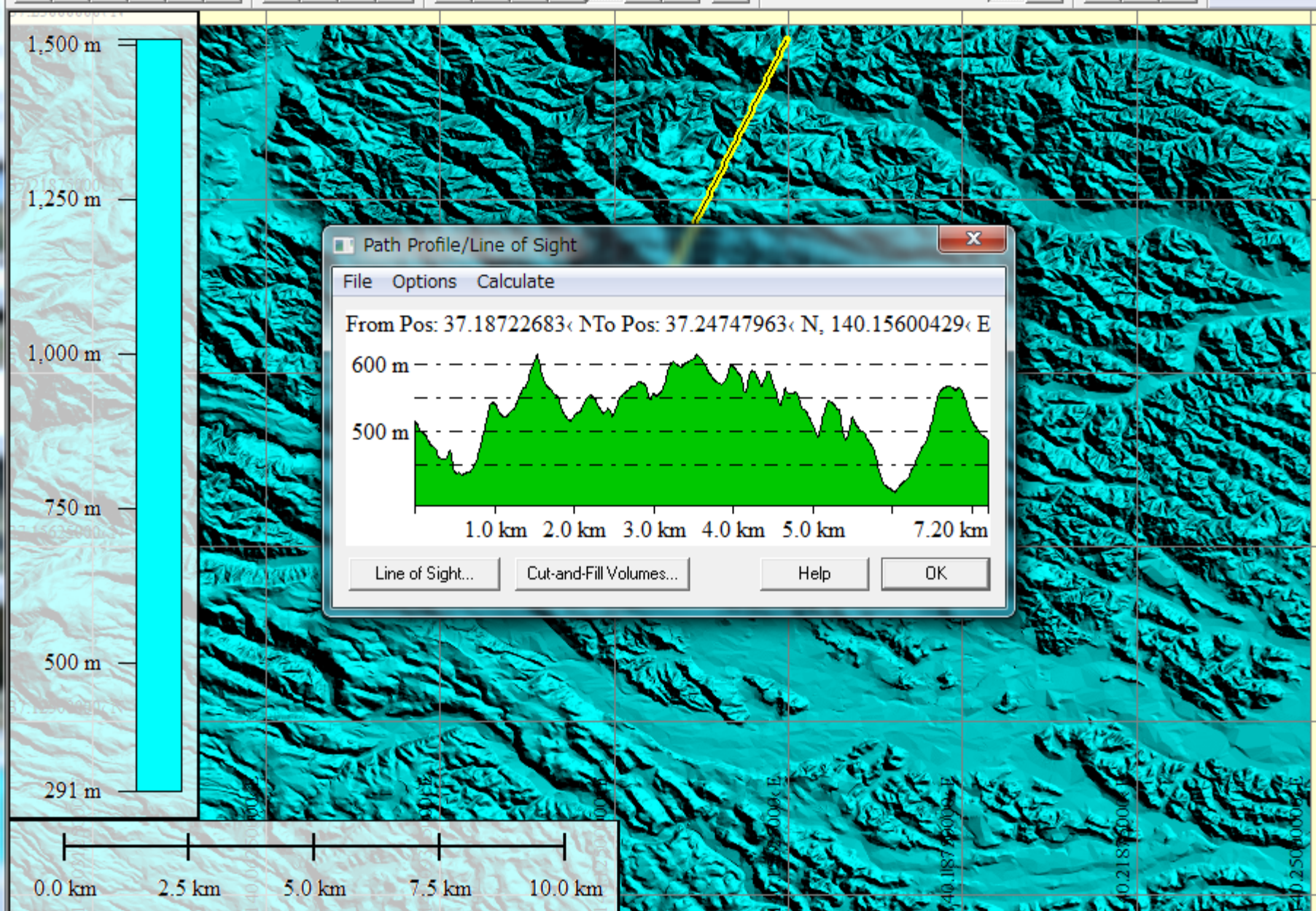
 Slope failures caused by the heavy rain of Aug. 27th 1998 (after Iguchi.)

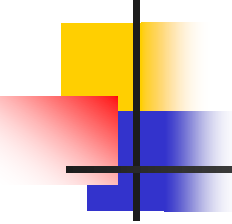
 Early Pleistocene non-alkaline pyroclastic flow volcanic rocks

File Edit View Tools Search GPS Help



Left click to add points, right click to finish --> Height: 1:110000 GEO (WGS84) - (140.2474313504, 37.2123758255) 37.21237583° N, 140.24743135° E





まとめ

- 基盤/岩盤で0.1G前後の揺れが“広範”に、しかも“長い時間”続く。
- 東京湾岸部の東京砂礫層などで観測された加速度0.1G以下だが過去の長期間の観測の中では著しく大きい。
- 阿武隈上流域の鮮新世火砕流地帯の斜面崩壊はかつて豪雨被害のあった地域より傾斜の緩やかな部分に目立ち、サイズも大きい傾向。