

3.11 GREAT EAST JAPAN EARTHQUAKE AND CADASTER

Measures and Issues against Boundary Movements
Caused by Diastrophism

Japan Federation of Land and House Investigators' Associations
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Gratitude for International Support

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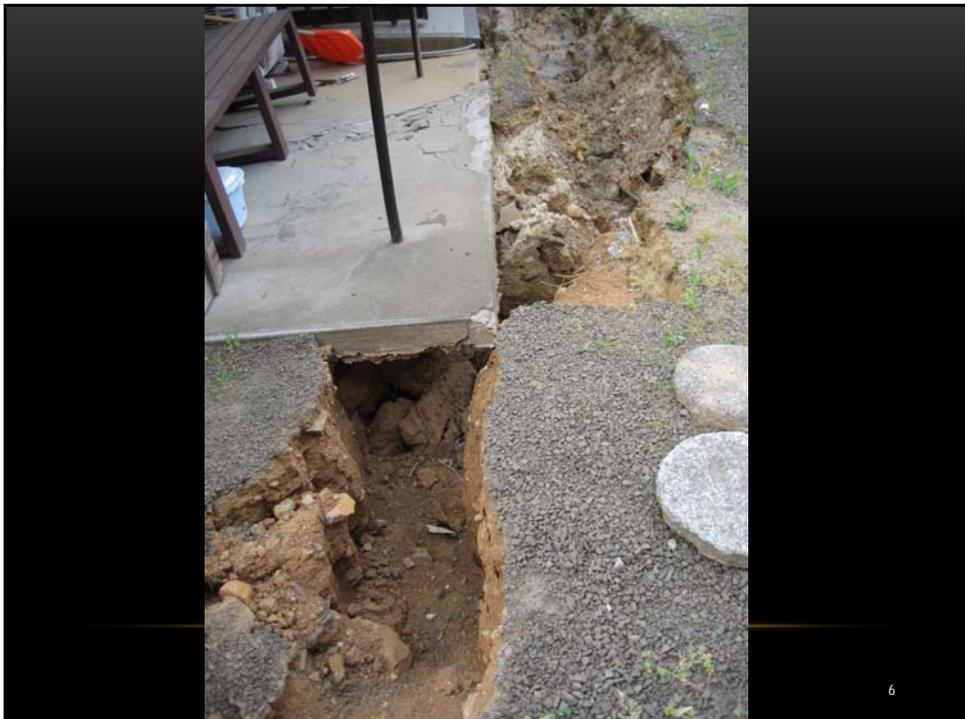
CURRENT STATUS OF DISASTER AREA

- Damage in Inland Area

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TYPES OF BOUNDARY MOVEMENTS CAUSED BY EARTHQUAKE

- Horizontal Movements of Ground Surface
- Slope failures / landslides / land cracks
- Local movements

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VIEWS OF MINISTRY OF JUSTICE ON LOT BOUNDARY MOVEMENTS CAUSED BY EARTHQUAKE

- Horizontal Movements in Great Hanshin Earthquake on 1995.1.17
- Views of Ministry of Justice
 1. Horizontal movements of ground surface = Boundaries also move relatively
 2. Local movements like landslides are not boundary movements
- Application to 2011.3.11 Great East Japan Earthquake

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MISSING BOUNDARIES BY TSUNAMIS

- Destructive force of tsunamis
- Structures destroyed by tsunamis

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INVESTIGATION OF BOUNDARY MOVEMENTS

- Investigation on movements/missing of lot boundaries by earthquakes
- Undertaken by Ministry of Justice
- Field investigation by Land and House Investigators
- Target area: Damaged area in Miyagi, Iwate, Fukushima
- Area covered: 29,000 km²

CADASTRAL SURVEY MAPS AFTER EARTHQUAKE

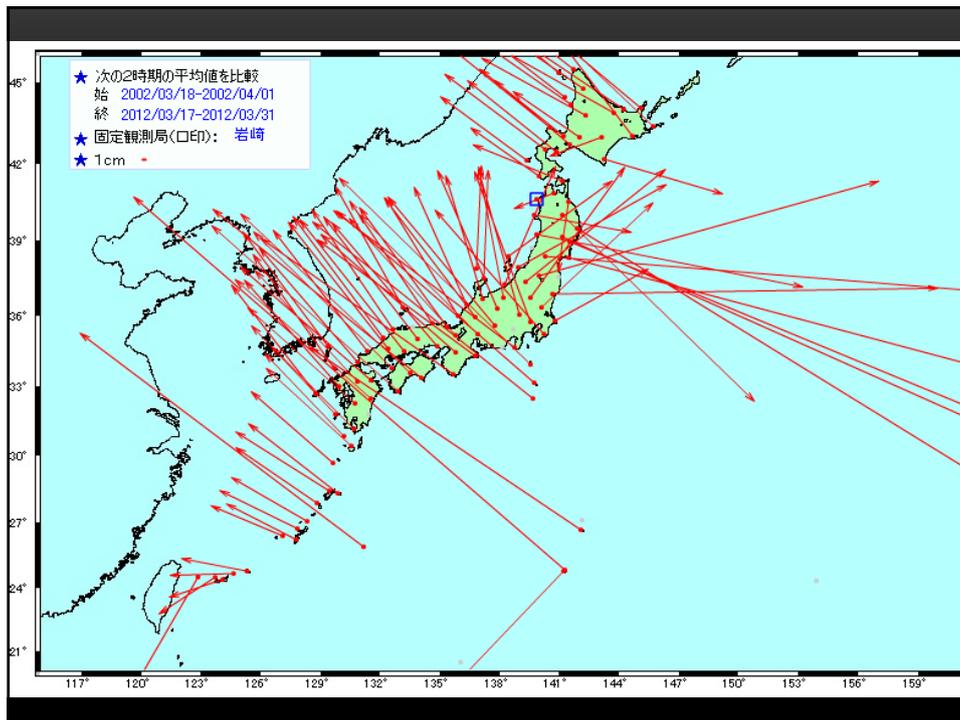
- Cadastral survey maps in Real Estate Registration Act
- Description of types of used geodetic system
 - Tokyo Datum
 - Japan Geodetic System 2000
 - Japan Geodetic System 2011
- Caution on management / restoration of boundaries

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CONCLUSION

- Change in commonsense in Japan
 - Land (fixed property) = Immobile assets
 - ⇒ Land moves at all times
- Causes
 - Earthquakes
 - Plate tectonics
- Update management of cadastral maps according to purposes of use

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THANK YOU FOR YOUR ATTENTION!

Sources of Information / Cooperation

Sendai Legal Affairs Bureau, Ministry of Justice

Tohoku Survey Office, Geographical Survey Institute, Ministry of Land, Infrastructure,
Transport and Tourism

Sendai City