

人工地層と地質汚染に関わる国際ワークショップ

国際地質科学連合 (IUGS) 環境管理研究委員会 (GEM)

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会場：香取-成田-潮来

香取-成田-潮来 国際宣言

2011年東日本太平洋沖地震にかかわる国際地質災害防止宣言

我々、世界の人工地層と地質汚染の研究に係わる研究者は、東日本大震災での犠牲者の方々にご冥福を祈り、災害に遭われた方々へは、速やかな復興を心よりお祈り申し上げます。また、原子力発電所事故での放射能汚染の被害者には、心からお見舞いを申し上げます。

この度の国際ワークショップの閉幕にあたり、次の提言をいたします。

- ① 東日本大震災では、水面埋立地・谷埋立地内の人工地層で液状化・流動化・地波現象が大規模にみられ、それによる地質災害が発生しました。人工地層の分布は、日本のみならず、全世界で拡大しています。大規模地質災害の防止のために、人工地層と下位の自然地層境界との不連続、すなわち人自不整合の綿密な調査が必要です。
そして、人工地層内の单元(時間的单元・物性的单元)の綿密な調査が重要です。
- ② 東日本大震災では、津波による大規模地質災害が発生しました。津波災害の防止では、次の提言をします。津波災害予想地域では、地域の一般住民・地域に関わる歴史学者・地質学者・津波研究者が地域ごとの津波の歴史とその最高潮位を明らかにし、地域住民も含めて確認することです。その科学的調査結果をもとに、弱者を中心とした高所避難が重要であることは自明です。また、対策にともなう海との付き合いのメリット・デメリットをも考慮し、科学的調査で確認された最高潮位をもとに短期・中期・長期の対策をおこなうことです。
- ③ 福島第1原子力発電所事故からの放射能汚染の調査対策にあたっては、地質学的法則に沿って行う事が最も重要です。それは、重力場にある地球の大気圏・地質圏における放射性物質の移動の法則です。放射性物質を、発生(崩壊)・移動・堆積の法則に沿って測定し、対策を行うことです。また、調査・対策では、科学性・民主性・公開性が原則です。全ての地質汚染に係わる調査・対策でもおなじです。

International Workshop on Man-Made Strata and Geo-pollution
International Union of Geological Science (IUGS)
Commission on Geoscience for Environmental Management (GEM)
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Katori-Narita-Itako International Declaration

**International Declaration for Deterring the Geological Hazards
occurring in the 2011 Earthquake off the Pacific Coast of Tohoku**

We, international researchers of man-made strata and geo-pollution, extend our sincere prayers for the rest in peace of the souls lost in the 2011 Earthquake off the Pacific Coast of Tohoku and heartfelt wish to those hit by the disaster for the quickest possible recovery. We also extend our deepest sympathy to those who are suffering from radiation pollution following the nuclear power plant disaster.

At the closing of the International Workshop, we are making the following proposals.

1. The 2011 Earthquake off the Pacific Coast of Tohoku caused serious geological hazards, including large-scale liquefaction and fluidization in man-made strata formed by reclaiming land from the sea or valleys, and the calamitous tsunami along the coastline. Man-made strata are abundantly seen not only in Japan but also in the entire world. To prevent further occurrence of these large-scale geological disasters we need to conduct detailed investigation of the Jinji unconformity, i.e. the boundary discontinuity between man-made strata and natural strata in Japan, and the physical units in the man-made strata.
2. In the 2011 Earthquake off the Pacific Coast of Tohoku, the tsunami which followed the earthquake generated tremendous geological hazards. We recommend the development of plans to evacuate people from tsunami and minimize damage. In areas with tsunami risk, people interested in tackling the local tsunami problems, including general residents, local historians, geologists, and tsunami researchers, should work together to identify record highest sea levels in the tsunami history of that area. The identified level must be agreed upon by the local authority and people in general. Once such a value is determined and agreed upon, it goes without saying that the local residents, particularly the vulnerable people should be relocated to higher places than the record level. Short-, medium- and long-term measures must be taken based on the agreed highest sea level while considering the benefits and costs of implementing the measures including impacts on the sea. Surveys of marine and coastal topography area are also needed to identify areas at maximum risk.
3. For survey of radiation pollution resulting from the accident of the Fukushima Daiichi Nuclear Power Plant and measures to deal with it, the most important thing is to take actions according to the geoscience principles. To be specific, it is the law of movement of radioactive materials in the atmosphere and underground. We should measure radioactive materials according to the law of generation (decay), movement and deposition and take necessary actions. Scientific accuracy, democracy and openness are the key elements for such surveys and actions. It holds true for surveys and actions concerning all geopollution.