

CHAPTER 19

HAZARD IDENTIFICATION AND FORECASTING BREAKOUT SESSION REPORT

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The breakout group discussed issues relating to the use of land cover data and hazard identification and forecasting. The discussion focused on the importance of land cover to this issue and ways that the data could be used and produced more effectively. The breakout group developed seven specific conclusions. The conclusions are summarized below:

- 1. Common definitions are needed for hazards, vulnerability, and risk across disciplines, organizations, and nations.** Planning new applications across organizations will be facilitated through improved communications with terms that have commonly understood meanings. Hazards were defined as the potential for an event that could cause harm to people or property. Understanding and predicting the hazard requires physical and biological science information. Vulnerability was defined as the susceptibility to loss of people, property, or resources if a hazardous event occurs. Risk combines the hazard and the vulnerability and represents the expected hazard-related losses which includes the likelihood of a hazard occurring.
- 2. Clear definitions and boundaries are needed for land use and land cover.** Both types of data are essential for improved hazard identification and forecasting. Land cover relates to the physical features on the earth. Land use addresses the human interactions with cover. It

deals with how land cover is used and managed by humans. The two types of data should be viewed as complementary rather than as substitutes. It is important that the distinctions between land cover and land use data be understood and that the potential for applications for both types of data be developed. Limiting the discussion to land cover or land use limits the scope of analysis.

- 3. Multi-scale, multi-temporal land cover data based on land characteristics are needed to inform decisions for land use and mitigation decisions on multiple hazards.** It is important that the need for multi-scale land cover data be developed and understood and that trends data be used to not only record the past, but more importantly to develop predictions and scenarios for the future. This will support improved linkages between the data and its use to inform decision making.
- 4. The use and development of land cover data needs to move from a reactionary descriptive emphasis to an enhanced focus on prediction, mitigation, and decision support.** It is important that applications be explicitly considered and understood even by data providers.
- 5. Common or harmonized classifications are needed across the borders between Canada, Mexico, and the United States.** Currently, classification systems are different among the North American nations. The difficulty in changing definitions is recognized. However, where the need is great such as in reducing the risk from natural and environmental hazards, consistent classifications are important. Consistency should address issues associated with granularity, definitions, standards, interoperability, and names. Common classifications will facilitate increased cooperation and collaboration across borders. This is important because land characteristics do not stop at borders.
- 6. Communications channels should be developed and improved in advance of potential disasters. Cross-boundary disaster response rehearsals should include development of plans for using relevant land cover, land use, and other spatial data.** An emergency geospatial kit should be developed documenting data sources and availability, tools, and

methods to be used during emergency situations. These should be developed through existing international groups so that duplication among organizations is minimized.

7. Planning should be expedited to develop priorities across borders for multiple hazards.

Joint data needs and availability should be identified and agreement should be developed on the types of decisions and issues that will be faced across borders.

The breakout group suggests that addressing these seven issues is important to improving effective land cover and land use data application and production. Existing international groups should provide leadership on these issues so that additional bureaucracy is not unnecessarily developed and duplicative activities do not result. However, it is urgent that action be taken on these issues expeditiously so that Canada, Mexico, and the United States can more effectively benefit from land cover data.

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