Telemeeting Notes

May 16, 2012, 10:30 – 11:30
1-877-413-4790   conference ID 3381344#

Introduction

The forum is the 11th of monthly opportunities to share knowledge about incorporating Hazus Risk Assessment into disaster reduction decisions in Canada. The NRCan Quantitative Risk Assessment Project of the Public Safety Geoscience Program supports the forum until March 2013 (or so).

Suggested telemeeting program :

1 Introductions

2 news and views

3 QnA

4 Topic: Analyzing Flood Damages in Minot, North Dakota: by Sean McNabb, Hazard Risk / GIS Analyst, FEMA Region VIII, Mitigation Division, Denver, CO - Slide deck available for download at http://www.usehazus.com/canadianhug/ courtesy of Jamie Caplan.

5 Discussion

Your News and Opportunities

What's Your Hazus News?

Disaster scenarios for fun and reward

Regional HUGS or CanHUGlets or more intimate hugs.

Last time we talked about the potential of starting regional HUGS in Canada. I have designed a poll for a potential southwest British Columbia HUG and am fleshing out a mailing list. If you know of people who should be on that list please let me know.

Central HUG topic of interest (see CHUG page of www.usehazus.com)

May 30, 2012
2:00-3:00pm Eastern Time
"Flood-loss Modeling of Levee Protected Floodplains" by Dr. Jonathan W.F. Remo of the Department of Geology, Southern Illinois University, Carbondale.
To view the slides, open a web browser and access http://connect.iu.edu/levee/ . Sign in as a guest.
To listen to the audio portion of the presentation dial in to (317) 278-7008 - Password 746967#

Hazus 2.1 Beta for Canada is available. (Earthquake functional for aggregate data, floods does not work with on board dataset)

Contact Nicky Hastings for a copy. nicky.hastings@nrcan.gc.ca

Resources

Jamie Caplan made podcasts of previous Hazus User Group meetings and posted them to http://www.usehazus.com/hugs/podcast/ and iTunes (search Hazus). Check them out. Follow @usehazus A new national and international coordinator of Hazus outreach will be doing these things starting sometime this year.

CRHNet 2012 call for abstracts. (Annual Symposium, October 24- 26, 2012, Sutton Place Hotel, Vancouver, BC)

Call for abstracts: Call for abstracts open until June 15.

Registration now open online.

www.crhnet.ca Annual Symposium > Call for Abstracts

> Hazus special session
> Resilience Planning special session
> Hazus users group meeting

CWRA/CGU 2012 National conference to be held in Banff (AB) June 5-8

(http://www.elements2012.ca/program.htm)
Special session on natural risk assessment with Hazus methodology
(http://www.elements2012.ca/pro/SessionDocs/CGU/CGU-SEarth.pdf):

Une session spéciale sur l'évaluation des risques naturelles avec la méthodologie Hazus
(http://www.elements2012.ca/pro/SessionDocs/CGU/CGU-SEarth.pdf):

Topic: Analyzing Flood Damages in Minot, North Dakota:

Sean McNabb, Hazard Risk / GIS Analyst, FEMA Region VIII, Mitigation Division, Denver, CO - Slide deck available for download at http://www.usehazus.com/canadianhug/ courtesy of Jamie Caplan.

Sean has been with FEMA region VIII (8) for 4 years concentrating on hazard risk analyis and associated GIS.

Long term highwater flood of Souris River affected Minot, North Dakota, early summer 2011. The flood affected Manitoba to north as well. The Souris River flows north to near Brandon, Manitoba and then east where it joins the Assiniboine River.

The Souris River nornally flows at 2000 - 3000 cfs. During the flood it flowed to 24000 cfs. Approximatley 4000 homes were affected by the flood in Minot, ND.

The river is dammed upstream and downstream from Minot. The dam provided some initial flow control and permited time for orderly evacuations from homes in the flood plains with Minot.

It was a multi-week flood.

Risk analysis played a useful role in evaluation of flood losses during the event.

The analysis played a role in the disaster declaration process. Nature of declaration determines if Individuals or public provide assistance for the event.

Depth grids were supplied by contractor, who happened to be on a flood evaluation project at the time. Depths were determined from guage readings.

Analyzed the town by census block and individual buildings.

With the loss estimation technique the damage could be estimated prior to the event.

FEMA team had census data, LiDAR, pre and during event Pictometry at 6" resolution (cardinal point oblique aerial photos).

Had depth grids within hours of the event

Had initial damage estimates within a day. Done as aggregate spreadsheet / database analysis based on Hazus damage functions.

Used various technologies to determine highwater mark (HWM) during event. Were able to acquire oblique aerial photos during the event. Done with small fixed wing airplane. Had to be coordinated with sun positions to avoid low angle glare from water surface.

Did not run Hazus during the event because it was more efficient to rerun the aggregate loss tables (spreadsheet) with constantly updated values.

created GIS census block and building centroid location map (location dot in centre of each).

Extracted the high water mark (locally over 10' [3m] of flood water)

Used water depth to calculate percentage of building damage.

In the slides the orange lines are dike protected areas, some of which had water accumulate from the ground up as the groundwater table rose.

Calculated the impact on losses from structure and business disruption for structures with economic and social significance (Priority structures).

Labeled structures as one of four categories: affected, minor damage, major damage and destroyed.

4100 homes calcuated affected, 4500 actual

2300 major damage

For the loss calculation table the value of the structures was from known values and primarily the RS mean (industry average cost for a structure in the city).

Questions

Q: Did table of losses account for time variation?

A: Done for the crest water level.

Q: How should the time component of economic losses be done?

A: hmmm. For this effort we concentrated on the structural damage at peak levels. The water level is proportional to the damage estimate.

Q: What about business losses?

A: Oh! We weren't doing that now. It would be good to include that in future. Thanks.

Q: Why does there seem to be a difference of losses for the same thing between the tables? e.g. destroyed in one table and 51% loss for same in another.

A: one is individual assistance calculation and the other is Hazus.

Q: what is "declaration process"?

A: Formal event designation that is correlated with the type of compensation / assistance.

Q: The percent loss seems low?

A: Yes. Hazus has default value of maximum of 50% and then based on % by water level during event.

Q: Did you say the DEM was updated during the event?

A: The depth of water grid was updated.

Q: How fast did it take to get the pictures and water elevations from the pictures during the event?

A: A week. The company worked around the clock at its offices around the world. Moved the job west by time zone.

Q: Why not use Hazus throughout instead of the separate loss tables?

A: It was faster to update the data in the tables.

Bert Struik, March 21, 2012