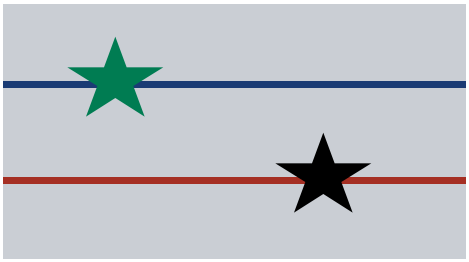
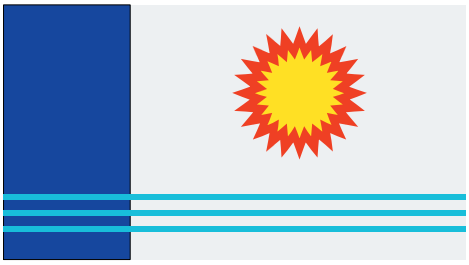
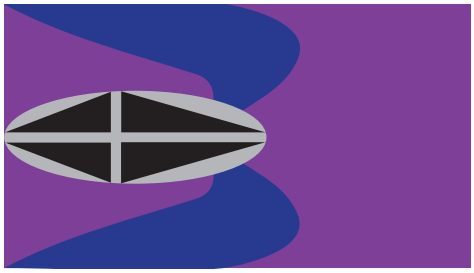
CROWDING THE RIM

RimSim

Understanding Risk

Mitigating Hazards Through Collaboration



RimSim Facilitator

International Disaster Working Group

RimSim

GENERAL INSTRUCTIONS

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Introduction

Goals of the Exercise

RimSim will involve five hypothetical countries recovering from two natural disasters, six months apart. The exercise has four primary goals:

- Ripple Effects. To provide a realistic environment for participants to experience how the "ripple effects" of a natural disaster (such as a typhoon, earthquake, volcanic eruption, etc.) can complicate short- and long-term recovery. As globalization continues, these reverberating effects will likely be increasingly rapid and unpredictable, with impacts both near and far from a disaster's location.

- Role of Science. To illustrate some of the problems surrounding the use of scientific information in disaster recovery situations. Participants, for example, will face the challenges of having to make judgments in the face of insufficient information, having to weigh new scientific information against established data, assessing the credibility of information presented by adversaries, and determining to what extent to use information that does not point to a definitive conclusion.

- Multi-Party Negotiation. To provide awareness for participants of several negotiating principles: that recovery from a disaster involves multiple stakeholders with different priorities; that the problems posed have many dimensions, including ripple effects manifesting far from the locality of the disaster; that joint fact finding and collaborative information generation can often enhance the confidence that participants have in the information on which decisions must be made; and that knowledge of the many different and changing perspectives, together with negotiating skills, mechanisms, and tools can be helpful in preparing to respond to natural disasters.

- Building Personal Relationships. To involve participants in an "icebreaking" experience that will allow them to experience the value of developing personal relationships as a prelude to collaborative problem solving.

The Countries

The exercise involves a group of five hypothetical countries. Three (Alba, Batia, and Concordia) have common borders, and two (Demetria and Erismania) are far away. (See the maps of the region, attached to these General Instructions; a list of the maps is on page 12.)

Alba is a large and wealthy country. Only a small part of its southern coast is shown on the map; this part of Alba has largely been seen by other Albans as a "far-away, backwater" part of the country. Batia is large and poor, although rich in natural resources (particularly oil and gas deposits). Only a small part of Batia is shown on the map; the rest of the country is located off the map. Concordia is a small, rapidly developing country; all of its area is shown on the maps.

Demetria is known for its excellent academic institutions and scientific research capacities; many of its people travel widely and Demetrian consultants have extensive connections throughout the region. Erismania has substantial philanthropic and financial resources, also with many connections to the region. (Additional details about all five countries are presented in the Attachments to these General Instructions.)

The Typhoon

About a year ago a typhoon (Typhoon Suzy) struck along the Concordian coast near Paradise, which had long been recognized as an area prone to typhoons. Damage was extensive in both Concordia and Batia, and a typical recovery scenario occurred. The political authorities took control of the disaster, often ignoring whatever emergency management planning had been done previously, due to the need to "get on top of the crisis." Military units were called in to keep order and to provide temporary shelter and food in the most devastated areas. Budgets of a variety of agencies were drawn upon quickly to cover the massive efforts required to move huge amounts of aid, to restore medical and public facilities and infrastructure, and to meet the needs of displaced populations. The financial demands were immense. During the first six months after the typhoon, the governments and humanitarian agencies of Alba, Demetria, and Erismania provided substantial assistance, as did other international agencies and several other countries. Recovery in Concordia, though more heavily damaged, was far more rapid than in Batia, due to its greater national capacity for organization and its larger resources, causing regional tension.

While the typhoon was a devastating event, with the passage of time, the world community moved on to other crises. During the recovery and later restoration and reconstruction periods, there were complaints that some of the funds did not reach their intended destinations, and that other resources were wasted or sat unused on loading docks or in warehouses. However, the typical finger-pointing and arguing had largely disappeared by the time another disaster struck.

The Earthquake

About six months ago, an earthquake of magnitude 7.9 struck along the Continental Fault. The epicenter of the Continental Quake, as it has come to be called, was located near the city of Yu, the capital city of Batia. The Continental Quake killed at least 25,000 people in the region, and some media have reported the death toll as much higher, ranging up to 75,000 or more. The number of injuries reached 100,000, and many tens of thousands were made homeless. Damage was heaviest in Batia and Concordia.

Several important implications have reverberated from this event. Some are immediately evident: Batia's excellent seaport at Great Harbor was 50% destroyed, knocking it completely out of commission for about a month. There also was extensive damage to Concordia's only major airport, Nodulais International Airport. The international fiber optic cable connection, which comes ashore in the Great Harbor area (near the city of Yu) was cut for about a week, causing widespread communications disruptions throughout the region, particularly in Alba, where a

small technology industry is rapidly developing along the Bluish River between Hombe and Giga.

Other implications have taken longer to appear. The economies of Batia and Concordia were weakened more than was estimated at first. Stock prices of companies engaged in international trade with the three most affected countries have declined--in some cases, sharply. Internal dissension between ministries in both Batia and Concordia now affects day-to-day relationships. And migration pressures have increased, as homeless and jobless people leave these countries in search of new opportunities.

The Recovery Efforts

Typically, recovery efforts from natural disasters follow patterns. Many in the disaster recovery field currently group their activities into four phases, in recognition of the need for consistent and ongoing activity: preparedness, response, recovery, and mitigation.

Some researchers who have studied responses to specific disasters have described four stages of responses, focusing on how communities *react*, as briefly described below:

- the *emergency* period--coping actions, with drastic changes in normal social and economic activity. May last for days or weeks in countries with high coping capacity, but much longer in countries with lower coping capacity.
- the *restoration* period--patching up of utility, housing, commercial, and industrial structures and returning to relatively normal function of social and economic activities. Generally completed in a few months in countries with substantial resources, but lasting more than a year in countries with fewer resources.
- *replacement reconstruction* period--rebuilding of capital stock to pre-disaster levels and returning social and economic activities to pre-disaster levels or greater. May last for months or years.
- *commemorative, betterment, and developmental reconstruction* period--this includes large-scale projects usually financed by the government to commemorate the event, to incorporate "lessons learned" from it, by focusing on mitigating damages to, and preparing for, future events, and changing construction practices, land use planning regulations, and altering social and economic behaviors (e.g., in commerce, education, and public institutions).

In the current situation, about two months ago--four months following the Continental Quake--Alba had moved from the emergency period into restoration. Batia and Concordia were just about to leave the emergency period. The International Commission on Disaster Relief and Recovery called a meeting to plan and coordinate restoration and reconstruction efforts and to raise the funding necessary. The meeting was attended by more than 100 people, including substantial delegations from the three most damaged countries (Alba, Batia, and Concordia), delegations from the other two involved countries (Demetria and Erismania), and representatives from various other countries and international bodies. The International Commission meeting developed an agenda for problem-solving and framed proposals or approaches on the two main issues before the group:

- reconstructing regionally significant infrastructure, and
- deciding how to allocate funding to each country for reconstruction of local infrastructure and ongoing humanitarian needs in the three countries most affected by the quake.

The Fund

Immediately following the Continental Quake, the International Commission established a fund with the goal of raising billions of "rims" for recovery and reconstruction. (Rims are the unit of hypothetical currency used in all five countries; the symbol is R.) Due to concerns that recovery money be used effectively, payments from the fund have been conditioned on the recipient countries achieving consensus on principles or approaches that could guide how priorities for reconstruction are set and how funds will be allocated. The world community--through the World Banking Consortium--has agreed to raise the funds necessary for recovery in the region and has designated Erismania's Finance Minister as the principal representative to see that proper financial controls are in place. Demetrian scientists, consultants, and others with a wide range of skills have mobilized and made themselves available to see that appropriate scientific and economic information is available for decision-makers in the region, together with assistance in collaborative processes.

To date the world community of nations--through the World Banking Consortium--has made donations totaling R 5 billion. Pledges totaling as much as R 10 billion in additional funds have also been made. Thus, if all the pledged funds were received, there would be about R 15 billion available in the fund available for overall recovery efforts. .

Hampered by its size, the presence of intense media coverage, and the tendency for delegations to make set speeches presenting familiar positions and rationales, the International Commission meetings were not successful in getting agreement on a coordinated plan for using these funds. So it was then decided to form a small, informal, representative group of eight--termed the International Disaster Working Group (IDWG)--to work collaboratively on the two issues.

Tasks Facing the IDWG

The IDWG's tasks are to gain a general understanding of each country's interests, concerns, and priorities, and to work toward a "framework of general principles" that all could support. The hope is that IDWG's informal, collaborative efforts will lead to consensus on principles and approaches to the issues, criteria for allocating funds or making difficult choices, and tools helpful in restoration and reconstruction efforts. The upcoming meeting will be the first for the IDWG. While the World Banking Consortium realizes there is a need for more data and more specific cost information, the conference must go on despite--or perhaps because of--the lack of perfect information. The expectation is that IDWG's work will eventually lead to a comprehensive agreement, but most recognize this may well require substantial work beyond this initial meeting. IDWG is not focused on immediate or emergency needs; another group is addressing those issues. IDWG's concerns are focused on the medium to long-term needs of the region.

The press has carried stories, quoting the head of the World Banking Consortium, saying that about R 10 billion would be devoted to reconstructing regionally significant infrastructure and the balance distributed among the most damaged countries to help meet humanitarian needs and reconstruct local infrastructure. There is no official requirement nor commitment, however, that such an allocation must be made. Indeed, the IDWG is free to make whatever recommendations it believes are warranted about the funds. If the IDWG is not able to reach agreement, participants fear that the pledged recovery funds will not become available and the region's major

problems will grow much worse. All IDWG representatives believe that this would be a tragic loss of an important opportunity, compounding the devastation already felt in the region.

Issues

In preparation for the IDWG meeting, and recognizing that the two issues are complicated and contain many opportunities for tensions and disagreements, staff of the International Commission have analyzed the two issues and their key options.

Issue I: Which Regionally Significant Infrastructure Should be Reconstructed?

The earthquake severely damaged Great Harbor, the rail lines in the region, and Nodulais International Airport, and also cut for a week a major transoceanic fiber optic cable line that came ashore at the city of Yu. These facilities with the most regional significance need to be restored to service. In rebuilding, though, some have advocated upgrading and modernizing to enhance capacity and to minimize future earthquake damage, through instituting new stringent building codes and effective enforcement and compliance programs. Others have advocated siting new facilities in less risky locations, which will require more study about where the safe areas are actually located and what levels of risk associated with each. And some have argued that regional infrastructure should not take an undue amount of the recovery fund, leaving little for local infrastructure and humanitarian, health, and economic development services.

Reconstruction of structures is complicated by the fact that earthquakes in this region will occur again. It will be important to identify the risks associated with different locations. Two different earthquake shake maps will be available to you during the meeting. One has been used by planning officials in the region for years; the other is based on new, not yet accepted, research.

Also, you will have to consider that when building structures in earthquake-prone areas, one choice often made is to construct them to higher standards than required by minimum building codes. More internal strengthening is used, more bracing material, and building inspections and compliance with building codes are strengthened. As a general rule for the exercise, you should assume that the normal estimates of construction costs should be doubled when higher building standards are specified, and should be tripled when enhanced enforcement and compliance programs are added.

While discussion has centered around five proposals briefly described below, variations, combinations, and other options and proposals are encouraged.

Proposal A Reconstruct Great Harbor facilities to make it a new, modern port.

This proposal would involve upgrading the port and oil storage tank, rail, and loading facilities to give Batia an updated, high capacity port. Basic cost: R 3 billion.

Proposal B Construct a new port facility at Shallow Bay.

This proposal would involve constructing a large new, full service port facility in areas that are now natural and is advocated on the grounds that it would have the greatest regional benefits. This proposal would involve dredging wetlands and other environmental impacts that will likely be controversial. Basic cost: R 5 billion.

Proposal C Reconstruct the Nodulais International Airport.

This proposal is advocated as the best relatively low-cost way to provide needed regional transportation services for the three countries, since the airport is centrally located and connects to rail lines serving all three countries. Basic cost: R 1 billion.

Proposal D Construct a new, small airport near Giga.

While about the same cost as reconstructing Nodulais International Airport, this proposal would provide transportation to an area of Alba not well served currently. Because not centrally located, a new airport at Giga would not have the same potential for region-wide benefits. Basic cost: R 1 billion.

Proposal E Reconstruct and modernize the rail lines throughout the region.

This proposal would promote regional connectivity more broadly throughout the region. It would have the potential for "add-ons", such as an extension to Giga and/or an extension to Oylpot. This option would emphasize existing patterns of development, since it is not currently planned to serve the Paradise coast. Basic costs: R 2 billion; Giga extension: R 1 billion; Oylpot extension: R 2 billion.

Cost Chart of Options under Issue I (in billions of "rims")

	Basic Costs	With More Stringent Building Codes	With More Stringent Codes and Enhanced Enforcement and Compliance
Option A	3	6	9
Option B	5	10	15
Option C	1	2	3
Option D	1	2	3
Option E	2 + 1 (Giga extension) + 2(Oylpot extension)	4 + 2 (Giga extension) + 4 (Oylpot extension)	6 + 3 (Giga extension) + 6 (Oylpot extension)

Issue II: How Should Funds be Allocated to Each Country for Reconstructing Local Infrastructure and Meeting Humanitarian, Health, Welfare, and Job Creating Needs

The earthquake left the local infrastructure of Batia and Concordia heavily damaged. While there was less dramatic damage in Alba, there has been considerable social disruption in the months following the earthquake, as refugee camps were established on the border between Alba and Batia and as high levels of immigration occurred.

The local infrastructure needs to be reconstructed and repaired in all three countries, but the decisions about which facilities will have highest priority and to what standards the structures will be reconstructed will be left to each country's decision-making, using similar cost multipliers as given above for Issue I. The difficulties with infrastructure are that reconstruction costs tend to be quite high, and once built, infrastructure tends to have long-lasting implications. (Low density housing, for example, tends to increase reliance on automobile use, with implications for public transportation, air quality, and land use planning.)

The discussion will have to address what priorities the countries will choose to give to reconstructing the following types of structures: roads and bridges, schools and other public buildings, housing, sewage treatment facilities and water supply systems, and local businesses.
An assessment was made of the damage to local infrastructure in all three countries and is presented in the chart below in general terms, since specific estimates of the cost to repair local infrastructure have not come in yet.

Damage Assessment Summaries

	Alba	Batia	Concordia
Roads and bridges	Light to moderate damage, mostly along the Batian border	Extensive damage over a wide area	Extensive damage, in heavily populated capital area but only moderate damage elsewhere
Schools and public buildings	Minor damage and virtually no buildings totally destroyed	Extensive destruction of structures and damage over a widespread area	Heavy damage, but only in certain concentrated areas, such as the capital region
Housing	Minor losses of structures	Very heavy damage, and thousands made homeless by houses destroyed and made unsafe for occupancy	Heavy losses in the most populated area; scattered damage in other areas
Sewage treatment plants and water supply systems	No systems destroyed, and some damaged and needing repair. Several systems under severe strain due to the refugee camps nearby	Extensive damage to systems over a wide area throughout the country	Heavy damage to a few systems in the urban and surrounding areas
Commercial and business structures	Minor losses	Thousands of structures lost; very heavy disruption	Extensive losses in capital region, but light damage in surrounding areas

Five proposals have been put forward in discussions about how best to allocate the recovery funds. They are presented here to help focus the discussion, but these options are just starting points. Other ideas and combinations are encouraged:

<u>Proposal A Proceed When Ready--First-Come, First-Served.</u>

Let countries apply to the reconstruction and humanitarian assistance fund for assistance as their projects are ready to go and meet any criteria for soundness set by the IDWG--what might be called a first-come, first-served approach.

<u>Proposal B Proportional Distribution</u>

There are likely to be more reconstruction and humanitarian needs than available funds will cover. So the funds might be divided proportionally, based on population, amounts of need in high, medium, and low priority categories, using some commonly agreed

criteria, or some other proportional basis. Fund managers could decide how many priority categories could be served, and divide the recovery funding proportionally for each country, based on the total projected costs for each country as a proportion of the total costs for all three countries. Priority categories not covered in a first round of funding might be considered later, if additional funding were to become available.

Proposal C Using Incentives for Retrofitting and Assistance

Give each country a basic allocation that it could use for its most critical reconstruction and humanitarian assistance needs (say 10 percent of the fund total to each country). The remaining 70% of the funds could be pooled, using such funds to make grants for the kinds of activities that would produce the most improvement in safety for the future or the most effective assistance over the longer term, as determined by commonly agreed criteria. For example, grants could emphasize seismic retrofitting for critical facilities in highest earthquake risk zones, or could emphasize benefiting the largest numbers of people, or the capacity to leverage funds from other private or nonprofit sources, etc.

Proposal D Blue Ribbon Panel

This proposal recognizes that many very difficult choices will have to be made, requiring expertise and independence. This proposal suggests establishing a Blue Ribbon Panel of experts in reconstruction and disaster recovery to make allocations based on general criteria developed by the IDWG. Once these criteria were approved, this mechanism would permit ongoing information-gathering about needs assessments and risk, and could be adapted to changing conditions on the ground, to accommodate to ongoing uncertainty.

Proposal E Targeting Greatest Needs Using Local Assessment Groups

This proposal would also seek to be adaptive and flexible in how funding allocations are made, but would rely on local needs assessment groups in each of the three most affected countries. These groups would be charged with gathering more detailed information on the needs in their country and costs of reconstruction and assistance needed. Representatives of the three groups would meet together to recommend allocations based on criteria developed by the IDWG. These needs assessments and allocations could be made in phases, with, for example, about 20% of the fund allocated in the first round, other percentages allocated in later rounds, in order to reflect feedback from affected areas and changing needs.

International Disaster Working Group

The International Disaster Working Group (IDWG) has eight members:

1. Alban Business Leader

   A highly respected, almost-retired leader in the business community in Alba, a former CEO of a major company, known for being able to bring resources to bear on problems and "get things done."

2. Alban Humanitarian Organization Representative

   A world renowned scholar in the fields of economics and sociology, who has studied Batian indigenous people and their migrations for many years and who now is representing an Alban humanitarian organization, Putting People First.

3. Batian General

A distinguished military leader from one of the leading families in Batia, who has served Batia in a variety of highly responsible positions and has become increasingly concerned about the need for economic development in the country.

4. Batian Emergency Management Director

A dedicated, knowledgeable, and competent official working to prepare for, and recover from, natural disasters, well liked by others throughout the region, but frustrated with the lack of coordinated responses when crises hit.

5. Concordian Mayor

A relatively young up-and-coming leader who wants to see wise decisions made on the basis of good science and a long-term viewpoint.

6. Concordian Land Preservation Advocate

A well informed, technically competent, passionate advocate for ecosystem preservation and development that can be sustained and will serve broad interests of the society at large, working as a manager of a land restoration fund.

7. Demetrian Economic Development Consultant

A creative, adaptable, highly effective advisor to governments on economic development throughout the region. This person emphasizes small-scale projects that will likely have widely dispersed benefits throughout the region.

8. Erismanian Government Finance Minister

A well respected, well connected government leader in whom the world banking community has placed trust to make sure that the international recovery funds are well spent and accounted for properly.

Goals

The working group's goals are:

- to discuss the two issues and the various interests and priorities of each of the representatives so that all are aware of each others' perspectives and concerns; and
- to try to find a possible *framework of general principles* that could be supported by all five of the principal countries represented in the IDWG.

Ground Rules

The IDWG will be convened by an independent facilitator provided by an international organization to assist the IDWG. The facilitator will be available, as the IDWG wishes, to record points of agreement or disagreement, to see that everyone has an opportunity to participate in the discussion, and/or to facilitate the discussion in other ways requested by IDWG members.

The facilitator has proposed that the IDWG seek to develop recommendations by consensus, where consensus means that all IDWG members can accept the recommendation.

The facilitator has also suggested the following additional ground-rules for all participants to observe during the meeting:

- To treat each other with respect at all times;
- To speak candidly and directly, but briefly and to the point;
- To use their best efforts to understand the interests, concerns, and priorities of the other representatives as fully as possible, regardless of whether they agree; and
- To use their best efforts in the search for agreement by sharing information, being open and creative, and maintaining good working relationships with the other participants.

Agenda (as proposed by the facilitator)

• Pre-meeting role meetings begin 8:30 am

An opportunity for those playing the same role to meet with each other.

• Break (to locate negotiating group) begins 9:15 am

• Game starts and country caucuses begin 9:30 am

An opportunity for those from the same country to meet with each other

• Meeting convenes 10:00 am

Introductions, review of goals for the meeting, review of the proposed agenda, review of ground-rules proposed by the facilitator, and discussion regarding any questions or concerns about the process for conducting the meeting.

• Discussion of interests, concerns, and priorities

Brief statements by each participant on their interests, concerns, and priorities for each issue, followed by discussion, questions, gathering information, generating options, and formulating possible agreements on framework components (principles and approaches, criteria, and tools).

• Lunch (in rooms during meeting) (whenever convenient)

• Discussion of proposals and possible agreements

Descriptions of proposals that participants believe might gain the support of others, with suggestions for enhancements that will attract the widest possible support without losing other participants.

• Small break out groups (as needed)

At any time during the meeting, small breakout groups of two, three, or more participants may ask the facilitator for time to hold breakout group meetings.

• Working group recommendations formulated

The group selects one or more persons to represent the group to the larger assembly and summarize points of agreement and disagreement and any recommendations for a future process or meetings that will be sent to the International Commission.

The International Commission would like a brief written report, including a "memorandum of recommendations" from the IDWG at the end of its meeting.

• IDWG meeting ends and in-group de-briefing begins 2:00 pm

• In-group de-briefing ends. Walk back to plenary for large-group de-brief 2:45 pm

• Break

• Large-group de-brief begins 3:00 pm

• RimSim ends 3:30 pm

Playing the Game

The game/simulation is designed to be challenging, but also interesting and entertaining. Participants who play their characters with energy, creativity, a sense of drama, and a sense of humor will gain the most from the exercise.

You should also be aware that the Confidential Instructions for your role do not give detailed positions on every topic that may arise during the simulation. You may improvise "in character" to deal with unanticipated situations during the exercise, but you should adhere closely to the preferences given in your instructions. In other words, imagine how you would deal with an unanticipated situation if you really were the character you are playing. We encourage you to be inventive about criteria, principles, and ways of bridging differences, as long as you uphold your character's fundamental values and interests.

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LIST OF ATTCHMENTS

Country Descriptions

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Batia page 14

Concordia page 15

Demetria page 16

Erismania page 17

Maps

Map A Geographical Features of the Region p. 18

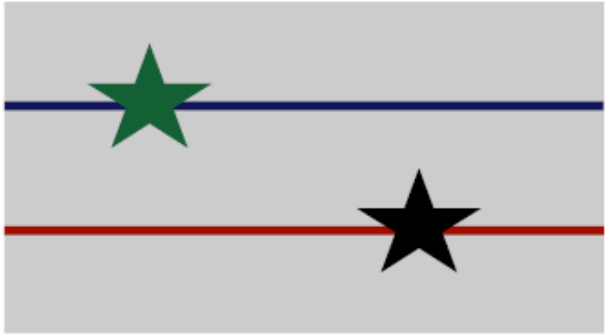
Map B Infrastructure of the Region p. 19

Map C Seismicity in the Region p. 20

Map D Earthquake Hazard Shake Map p. 21

ATTACHMENTS: BACKGROUND INFORMATION ON COUNTRIES

ALBA



History, Government, and Demographics

Alba was founded more than 150 years ago, following a revolution that overthrew the three colonial powers that had laid claim to its territory previously. Albans are very proud of their longstanding democratic traditions. Alba is a relatively large country in land area, spanning the continent. The population is approximately 140 million, consisting of about fifteen ethnic groups which get along in relative harmony with each other. Most of Alba's population live on the west coast (off the maps provided), where the country's wealth is concentrated. The region of Alba shown on the maps has long been considered a backwater within Alba, until recently. The region's two largest cities are the old manufacturing city of Hombe, situated on the Bluish River, and Giga, a small, but fast-growing city in Alba's emerging "Technology Valley" area.

Economy

Alba's economy is diverse and highly developed. Alba is clearly the wealthiest country in the region, with an average annual income of R 39,000. Alba's standard of living is high, and its investors and banking interests have tended to exert far more influence over the region than do those of any other country, owing principally to their wealth and business relationships. This power has been resented by some, but welcomed by others because Albans have furnished extensive development advice and provided investment capital in Batia and Concordia.

Environmental Concerns

In the past computer and other manufacturing activities in Hombe resulted in pollution of the Bluish River. The contamination virtually destroyed the fishing industry on the river, but this problem has now been largely corrected, thanks to the insistence of Alba's strong and increasingly important environmental movement. Some environmental problems remain, however, on which Alban organizations are focusing attention, with lawsuits and public education campaigns, raising "environmental justice" concerns and questioning the dominance of corporate power.

Current Development Plans

Developers have recently announced a plan to dredge Shallow Bay and build a deep-water port. This would involve extensive dredging and filling of wetlands, construction of port facilities, rail lines, roads, buildings, storage tanks, and other related facilities. The plan is strongly opposed by Alba's environmental organizations, who want to see the wetlands preserved.

Another proposed development is the construction of a major international airport near Giga, to serve the rapidly developing Technology Valley area. Environmentalists and native peoples oppose these plans because the noise and traffic, pollution, and general economic activity would disrupt traditional sacred places in the vicinity.

A third development is the proposed installation of a transoceanic cable crossing, which would make landfall in the Shallow Bay area and help to establish Giga as a communications center.

BATIA

History, Government, and Demographics

Batia is a large nation established more than a hundred years ago, following a long struggle for national liberation from colonial control by Erismania. While Batia officially considers itself a democracy with regular elections, a few strong families hold most political and economic power. The country is ethnically diverse and religiously divided.

With a long coastline stretching far to the north beyond the maps provided, Batia has a population of more than 110 million. Two hundred years ago native tribes were driven out of the territory now in Alba called the "Horn of Alba," which includes four sacred mountains, the fertile valley of the Bluish River, and extensive mineral deposits near what is now the city of Hombe. Following this humiliation, the tribal chiefs banded together into an alliance, which suffered several bitter defeats at the hands of Erismanian colonists. As a result of this history, many Batians feel anger toward Erismania and a national longing to someday regain sovereignty over the Horn of Alba.

Economy

Batian is the poorest country in the region, with an average annual income of less than R 12,000. Traditionally dependent on rice farming and subsistence fishing, the heavy impact of monsoon flooding in recent years has caused large numbers of Batians to migrate in search of work to Yu, Batia's only large city. Yu supports the new industries of oil and natural gas production with its deep-water port and railway that goes west to Alba. The economy in Batia is now primarily based on shipping and natural resource extraction, chiefly from the interior fields near Oylpot.

Social Impact

Oil and gas operations have impacted the simple economy and lifestyle of the population, threatening traditional village culture. While many Batians have left families behind to work in these industries, the new jobs have not provided significant income since all technical expertise is imported. With an extremely high unemployment rate following the Continental Quake, many have traveled to the port city of Yu or to Alba to try to find employment. Yu is now surrounded

by shantytowns. Lack of education, crime, and family dissolution are growing problems. Diseases including cholera, typhus, and parasite-related sicknesses are also prevalent, along with AIDS, brought in by the sex trade surrounding the port and increasing drug use. The current enlightened leadership desperately wants to address these persistent social problems.

Environmental Impact

The oil and gas industries have had major environmental impacts. The oilfields, discovered during the colonial years, were developed hurriedly and without environmental concerns in mind, and the infrastructure is old and unstable. There have been numerous spills over the years, and recently, villagers have broken into pipelines to steal oil for their own use and for sale on the black market. There has also been longstanding international concern about the corruption that permitted haphazard construction of Batia's oil storage tanks and pipelines; numerous instances of faulty welds, improper reinforcement, and use of substandard steel have been discovered. It is apparent building codes were not enforced during construction.

CONCORDIA

History, Government, and Demographics

Concordia is a federal parliamentary democracy. Its population of approximately 40 million is ethnically divided among five primary groups. The capital city is Harmony. Over the last three decades since independence, Concordia has grown from a third world country with a very low per capita income into a modern, rapidly developing country with the second highest standard of living in the region.

Economy

Concordia is a rapidly developing country. It has an average annual income of R 28,000. The domestic economy relies principally on tourism, a growing aquaculture industry, and manufacturing and technology. Concordia's population is rapidly becoming educated and expecting to have a dramatically improved standard of living in the future. The government tightly regulates economic affairs in order to maintain balanced growth and national stability, to ensure equitable distribution of income, to prevent the abuse of economic power, and to maintain a balance among competing activities.

The government has developed an economic blueprint, called Consensus 2010, aiming to develop Concordia into a vibrant and robust global hub with an increasing emphasis on knowledge-driven industries. Concordia, owing to its strategic location, educated and industrious population, and advanced airport and transportation facilities, hopes to attract multinational companies to anchor their key knowledge-intensive activities. Aquaculture has grown from a cottage industry, with only local distribution, to a major international exporting

business over the past twenty years. "The aquaculture product is generally considered better than marine fishery catches because production and quality can be planned according to demand," said the deputy director of the National Fisheries Department recently. Tourism continues to be a growth industry, with a number of resorts along the coast and more being planned.

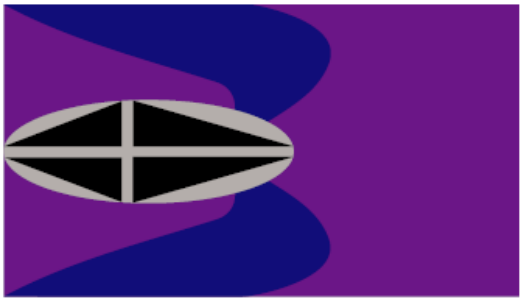
Environmental Regulation

Owing to the importance of environmental conditions, Concordia tightly controls pollution for the benefit of its tourism and aquaculture industries. Reports of pollution in Shallow Bay caused major concern recently. This pollution is thought to have killed thousands of fish. Fishermen are pointing their fingers at factories upstream in Hombe where they claim toxic waste is routinely discharged into the Bluish River, which flows into Shallow Bay. Concordia's Fisheries Department has offered to work with Alba's Department of Environment to ascertain the exact cause of death of the fish.

Future Development Plans

Concordia's three most important development plans are: (i) the expansion of Nodulais International Airport, which was heavily damaged during the Continental Quake; (ii) securing the transoceanic cables so important to establishing Concordia as a communications hub for the kinds of knowledge-based industry that Concordia hopes to attract in the future; and (iii) expanding tourism and aquaculture opportunities along the coast.

DEMETRIA



History, Government, and Demographics

Demetria is a relatively small island country with a population of 45 million. Prior to the 10th century Demetria consisted of six principalities. Over the centuries, the government evolved into a constitutional monarchy with an elected parliament. During the colonial period, Demetria maintained colonies throughout the world, including in the areas now considered part of Alba and Concordia. Today a prime minister heads the government and the monarchy is maintained only as a ceremonial vestige of the past. Representative government and democratic ideals are strong in Demetria, which is ethnically homogeneous with more than 80% of its population native and the balance comprising a mix of immigrants from former colonies. A weak social class structure exists as a remnant of the monarchy that governed Demetria until early in the 20th century. Demetria has a very high literacy rate and a very high standard of living.

Economy

Demetria has a well-developed economy and is a leading trading power, in large part owing to good relations with its former colonies. Demetria deploys an essentially free-market, capitalistic economy, with an annual average income of more than R 51,000.

Science and Technology

Technological and scientific advances have been major factors in Demetria's history, contributing significantly to its military and maritime power, industrial and economic growth, and social well being. Demetria has well-developed scientific institutions for research and data collection. Demetria also has major research collaborations around the world, particularly with its former colonies. Its scientific institutes are a resource for many countries as they develop their research and technology infrastructure. Demetria is an important and growing exporter of technological and scientific expertise, products, and information.

Evolving Role of Scientific Institutions

Because Demetria is one of the countries situated on the Rim of Fire, it experiences frequent earthquakes and has been impacted by tsunamis and volcanic eruptions. It also experiences the effects of widespread natural processes that include flooding, shoreline and coastal erosion, droughts, and large storms. These processes pose a hazard to life and the built infrastructure and may impact trade with other countries.

Scientists at the Demetria Earth Science Survey monitor and research these processes. The world's oldest geological survey, DESS was founded 250 years ago. Its original purpose was to map potential oil and gas deposits, but in recent years its mission has greatly expanded and evolved. DESS scientists and managers aggressively pursue opportunities to provide scientific services, particularly where science could play a significant role in resolving environmental, political, and other international disputes.

ERISMANIA

History, Government, and Demographics

Erismania is a democratic, industrialized nation in the Northern Hemisphere, with a population of 80 million. For the past 500 years, Erismania has engaged in imperial campaigns to extend its hegemony to other regions with natural resources, raw materials, and skilled labor pools. Not coincidentally, these regions have also provided forward points from which Erismania has projected and defended its interests militarily. Although in the 20th century its empire receded dramatically, Erismania enjoys unparalleled influence as a world center for banking and finance, private and commercial investment, international negotiations and treaty-making, health care, law and government, and the arts and sciences. In the last decade, roughly 550,000 people have immigrated there each year. Most hail from now-independent former colonies, but a substantial minority have escaped from poverty or ethnic strife in other nations.

Economy

While relatively resource-poor, Erismania has built a strong economy based on manufacturing and technological innovation. It enjoys a favorable balance of trade with both industrialized and developing countries around the world. It is considered one of the world's strongest economic powers, a designation that represents centuries of political, cultural, and technological development. Its average annual income is R 62,000. The massive influx of immigrants in recent years, however, has posed complex social and economic challenges for the Erismanian government. Its educational, health-care, and law-enforcement and judicial systems are overloaded, and the unemployment rate has risen.

Current Posture

While military power was historically its dominant characteristic, Erismania now maintains a neutral posture with respect to nearly all international conflicts. It seeks to play an altruistic role on the world's stage. It already has become a *de facto* world headquarters for more than a thousand humanitarian non-governmental organizations, foundations, and international agencies.

This stance, however, has come with a price. With every crisis somewhere on the globe, the world has increasingly looked to Erismania for rapidly deployable support, much more so than can possibly be accommodated. In response, most of the country's banking and philanthropic organizations have developed a rigid process for assessing which projects to support. This has caused friction with other countries.

It has also led to tensions internally. In the last four years, a small but increasingly strident minority has been protesting this classic emphasis on foreign assistance. Proponents of what has become known as the "Erismania First" movement say that this focus on the world's problems has come at the expense of Erismania's own future. They advocate that Erismania look inward to its growing problems of urban blight, rising unemployment, cultural diffusion, eroding societal standards, crime, and homelessness. This highly diverse group comprises both the left and the right. Those in the Erismania First movement have threatened to cause increasing civil unrest if the nation's executive and legislative branches fail to effectively address Erismania's many internal problems soon.

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR FACILITATOR

****

You are serving as the facilitator for the upcoming meeting. You were hired by the International Commission for Disaster Relief and Recovery to assist the group of eight representatives from the countries most affected by the Continental Quake, which struck about 6 months ago.

Historical Background

Here is some brief historical background supplementing what you know from the General Instructions. About two months ago--four months following the Continental Quake--the International Commission called a meeting to plan and coordinate recovery efforts and to raise the funding necessary. The meeting was not very productive, because it was too large, was conducted in the glare of intense media attention, and did not use good process techniques. You were hired to help the smaller, informal group--the International Disaster Working Group (IDWG)--be successful.

The upcoming meeting will be the first for the IDWG. We want it to go well, but there is limited time. So the goals for this meeting are relatively modest and include two topics.

Tasks of the IDWG

First, the group needs to discuss the issues and the various challenges, tradeoffs, and differences of viewpoint known to exist about them so they are all aware of each representative's perspectives and priorities. Everybody knows that there will be disagreements about a variety of concerns and topics:

- long-term vs. short-term concerns,
- local vs. regional priorities,
- infrastructure reconstruction vs. humanitarian services;
- personal hidden agendas vs. concerns for the larger communities or national interests;
- established knowledge vs. new and possibly uncertain information

These should be explored sufficiently so that all know what the concerns are that must be addressed.

Second, the group should focus on trying to find a possible "framework of general principles" that could be supported by all five of the principal countries. We do not expect the group to reach agreement on the substance of the issues. Instead, we think it is practical within the time available to try reaching consensus on principles and approaches to the issues, criteria for allocating funds, and tools that would be helpful in the ongoing restoration and reconstruction efforts.

The hope is that IDWG's work will eventually lead to a comprehensive agreement, but it is recognized that this may take some time beyond the initial meeting.

Suggestions

With this background, try to keep the group working on levels where progress is being made, without getting bogged down or stuck in positional, adversarial discussions. Therefore, you should help them focus on interests and priorities, possible principles and approaches that they might gain agreement on, criteria for decision-making and allocating funds, and finally, tools or resources that would help in the overall process.

One suggestion is that you open the meeting with a round of introductions of the participants in their roles. Follow this by an explanation of your role as facilitator and the proposals you have drafted for their consideration on the meeting agenda, its purposes and goals, and suggested ground-rules. You might then pause for questions or general discussion of the IDWG's process so that all participants are comfortable with the way the meeting will be conducted. Your facilitation style should be light, taking every opportunity to let the group develop its own personality and dynamics and stepping in as necessary to keep the discussion from getting bogged down or seriously off track.

When the group is ready to begin discussing issues, you might begin by suggesting a round of short summaries by each participant of their interests and priorities, but keep things moving along. These short presentations are sometimes called "elevator speeches," short enough in time to consume only the time an elevator takes between floors, say 1 to 2 minutes each. You could invite them to say which option they favor for each issue and why and how in general they would view the other options, approaches, etc. At this point, it might be helpful to record on a flip chart brief comments (words or short phrases only) which might focus on the pro's and con's for each option on each issue. This might be done in a matrix format, so participants will know that something will be said about each option of each issue, although not necessarily by each participant. This matrix format would also allow all to see the range of viewpoints on the various options for both issues, and to keep this information before them for the entire meeting. This array of data might be helpful before taking up the question of where to go from there toward crafting possible agreements.

After all have spoken, you might then open the floor for questions and discussion, particularly focusing on whether participants can suggest proposed principles, approaches, or criteria that they believe all the others would be able to accept or at least live with. Another question that you might pose could be: can anyone think of a proposal for dealing with Issue I (or Issue II) that they believe others would also support? Perhaps even that all might support?

Once you have some proposals to work with, you might ask the group to be creative in suggesting ways of enhancing or improving the proposals so that concerns or objections might be addressed, without making the proposal unacceptable to others.

It will also be important to be sure that everyone has an opportunity to speak, although some will want to participate more than others. Try to make sure that everyone is comfortable with the

amount of speaking time that they each have, but without controlling the discussion yourself too closely.

Science Issues

One of the most important parts of the exercise is dealing with science information. You will see that there are two "shake maps" presented, which seem to indicate different areas of risk. Be sure that the group discusses these two maps long enough to grapple with their implications. Everyone has two maps dealing with earthquake issues. Map C presents information on Seismicity, showing the earthquakes of different magnitudes during the past hundred years in the region. Everyone also has Map D, entitled Earthquake Hazard Shake Map, showing the areas of high, medium, and low shaking potential.

These maps do not present the full story, however. The Concordian Land Preservation Advocate has another map, Map E, which can be passed out to all participants, entitled a Preliminary Earthquake Hazard Shake Map--Not for the Public Distribution. It shows the results of some new research, which indicates that the fault may extend beyond the area shown on Map D and may indicate that risks extend over a larger area. Other participants have been given information about this new information, but they don't all have the map or science reports on which it is based, and they take the position that the group should assume a "worst case" until more definitive information is available. The group should be assisted to discuss the question of how should they react to this new information? What assumptions or procedures would be prudent to make? What further steps might be taken?

You may introduce a third map during the course of the game. It is a more detailed, larger-scale map showing a small area around Yu. A memorandum accompanies the map from a Demetrian scientist to the Concordian Land Preservation Advocate explaining the map and its significance. If you choose to use this new information, you should introduce the map by giving the special instructions, to which the map is attached, to the Concordian Land Preservation Advocate at a point in the game that you think is most appropriate, probably after the group has begun to grapple with the science issues surrounding Map D and Map E. You do not need to introduce this new information, but should do so if you think it would help the group grapple more successfully with the science issues presented by the other maps and reports.

In connection with the new information, you should explain that the memorandum and new map were just delivered to you by a special messenger to be given to the Concordian Land Preservation Advocate. Naturally, everyone will be interested to see what the new information is. Several participants have been told in their confidential instructions that it is important to have full information, and they will thus be primed to want to know of new material that is available. (Please note that the Concordian Land Preservation Advocate has been given 9 copies of Map E and 9 copies of the new map to pass out to all participants, so that everyone at the table will have a copy.)

It is important to the game that you allow the group some time to absorb the new information and some time to discuss its significance. You might prompt the group to discuss these issues using the following questions:

- What principles would be helpful to rely on when new information comes to light?
- How would the group want to make sure that everyone understands the information (through, for example, being permitted to ask questions of clarification, retaining science experts to advice the group, etc.)

You might also mention that facilitators often suggest joint fact finding as a way to deal with scientific and technical issues that are complicated requiring trust and confidence in the information being presented.

Plan for the Day

You will see from the General Instructions that the day is divided into three large sections: pre-meeting caucuses, the meeting, and the de-briefing.

Pre-Meeting Caucuses

The first hour will be devoted to meetings of those in the same role. These we have called "role meetings" and are the first and most important of the "pre-meeting caucuses." During the role meetings, which will be held in designated rooms, to which you will be directed, we are asking you to team with two other facilitators. Together, you will be asked to convene a meeting of all those in the same role to answer questions and help make sure everyone is knowledgeable about their role and prepared to play it with confidence.

When the role meetings are finished, there will be an announcement that it is time for the meeting of the IDWG to begin; one role player for each role (eight players in all) will then gather together in the negotiating room with you as their facilitator. The first thing you should do, when all the role players have entered the room, is to invite them to meet with the other role player from their same country, if they wish (i.e. the two Albans can meet together, the two Batians, the two Concordians, etc.). This is to permit them time to meet each other and begin to prepare their strategy to represent their country. There is only one Demetrian and one Erismanian; they can meet together if they wish or simply prepare by themselves. These meetings of the country representatives are also considered "pre-meeting caucuses." During these same-country caucuses, you should be sure the two Albans can meet together privately, and that the two Batians also have the same opportunity, and likewise the two Concordians. You might also invite the Demetrian consultant and the Erismanian Finance Minister to meet together, if they would like to do so, but this is optional. While they are meeting, you can use the time to review your plans for the meeting.

The Meeting

When the pre-meeting country meetings, the final part of the "pre-meeting caucuses," are finished, you will help facilitate a meeting of the IDWG. Please be sure to familiarize yourself with the Agenda for the IDWG meeting contained in the General Instructions.

The meeting will go on four about four hours, including time for breaks and lunch. During the day, you should keep track of time for the group and provide opportunities for breaks as needed. You should also help the group select a time for lunch whenever it is convenient.

You might generally partition the time into four approximately one-hour blocks, as follows, or as you think would be best for your group:

10:00 to 11:00	Welcome, introductions of all participants, ground-rules and understandings about how the group will work
11:00 to 12:00	Discussion of each participant's interests, priorities, and goals for the meeting in depth regarding the two issues
12:00 to 1:00	Generating options, discussing criteria for selecting options, and evaluating options and packages of options
1:00 to 2:00	Reaching specific agreements, and discussing how to handle disagreements; bringing closure to the meeting, celebrating whatever progress was made and setting other process plans to continue in the future, if necessary

See the suggestions above for possible questions and topics you might use throughout the day during these blocks of time.

The De-Briefing

When time is called for the end of the IDWG meeting, you will begin the de-briefing phase of the day. The first part of this will be in-group and in role. You should facilitate a discussion, using the comment form to be provided. First ask all the participants to fill the comment form out; then engage them in a discussion of what was learned, what techniques helped in the search for an agreement and what barriers made it difficult to get agreement. Discuss as many of the comment form questions as you have time for in your group. At the end of the de-brief, collect the comment forms from all participants and return them to the game organizers.

The second part of the de-briefing phase will take place in the plenary meeting room, during which all the groups will convene and we will try to draw out common themes and lessons from some of the different games that are instructive to the group as a whole. During the break time while coming to the plenary meeting room, you should put any highlight points you wish to contribute to the general de-briefing on a flip chart (large enough so all in the room can read it) and post the flip chart somewhere in the plenary room, preferably on a wall near to where your group is seated. The de-briefing leader will call upon the facilitators or participants in the groups to describe how their groups worked, what some agreements were, and how they got there.

Thank you for your help in making this exercise instructive and enjoyable for the participants. We hope you will also find it fun and educational!!

RIM/SIM

NEW INSTRUCTIONS FOR
CONCORDIAN LAND PRESERVATION ADVOCATE

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Note to Facilitator

This message was delivered to you by an overnight message service to pass along to the Concordian Land Preservation Advocate during the IDWG meeting.

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Memorandum

To: Concordian Land Preservation Advocate

From: Demetria Earth Science Survey Scientist

Subject: New large-scale preliminary shaking potential map area of Yu

You may recall that when I gave you the draft Preliminary Earthquake Hazard Shake Map derived from the hypothesis that the Continental Fault extended under the Shallow Bay area that I mentioned ongoing field work in the vicinity of Yu. This field work was initiated after the Continental Quake for the purpose of refining the regional Earthquake Hazard Shake Map that is now many years old and used by many as the basis to assess potential earthquake hazard risk in the entire tri-country region. Both the new preliminary map and the old are small-scale maps that do not show details in any specific area. Your group deliberations would benefit by having larger-scale, more detailed maps.

Yesterday we completed a new large-scale map based on the field data collected around Yu. This new map shows greater detail within an area. Whereas both the old and new small-scale regional maps indicate that the entire area around Yu is subject to high shaking given an earthquake, the new large-scale map shows a mosaic of medium and high shaking potential in the vicinity of Yu. I have no doubt that more field work and more data will further refine this map and better define the zones of high, medium, and low shaking potential.

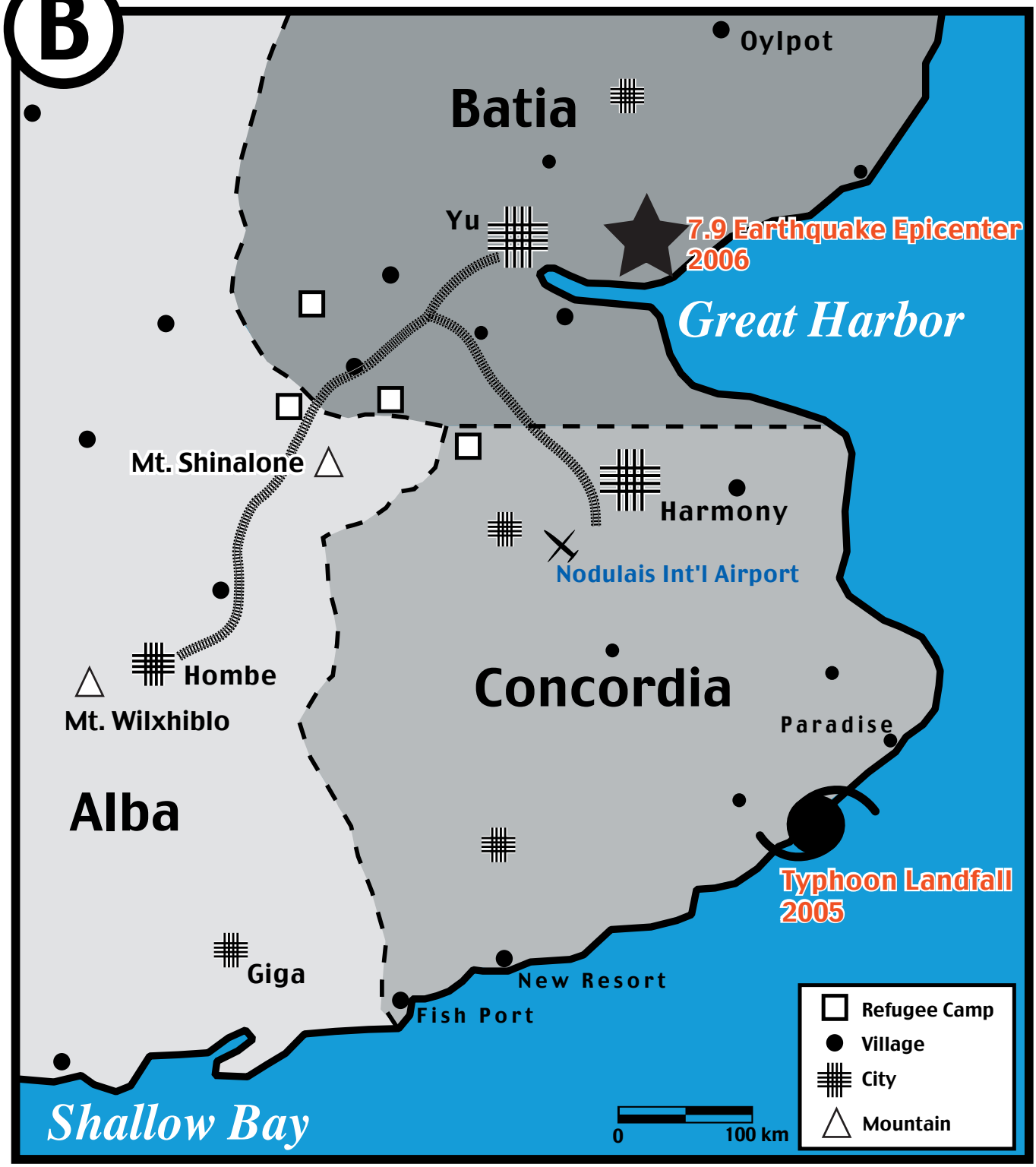
This larger-scale map showing more detail may be of use to you in your deliberations on restoration, and possible relocation, of regional infrastructure. Even larger scale maps, those that show greater detail, would provide information that could be helpful with respect to the restoration or relocation of local infrastructure such as roads and buildings.

If there is interest by the International Disaster Working Group to recommend that such maps be produced, the Demetria Earth Science Survey would be pleased to conduct field studies over the entire tri-country region to collect data for larger-scale maps. As the opportunity presents itself, please make this known to the IDWG.

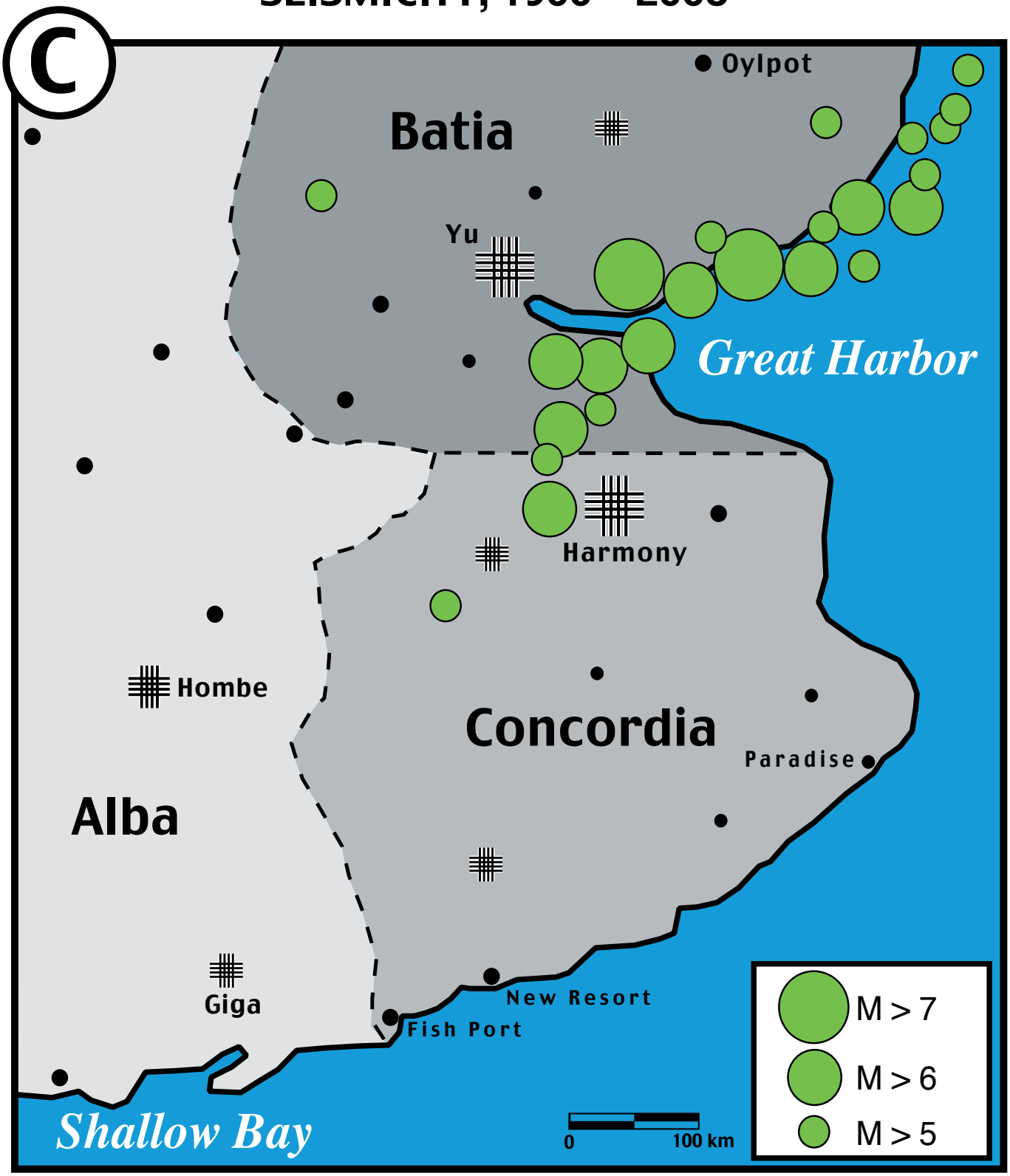
Attachment: Map F-- Shake Map for the area surrounding Yu (larger scale)
(9 copies to pass out to all participants at the meeting)

GEOGRAPHIC MAP

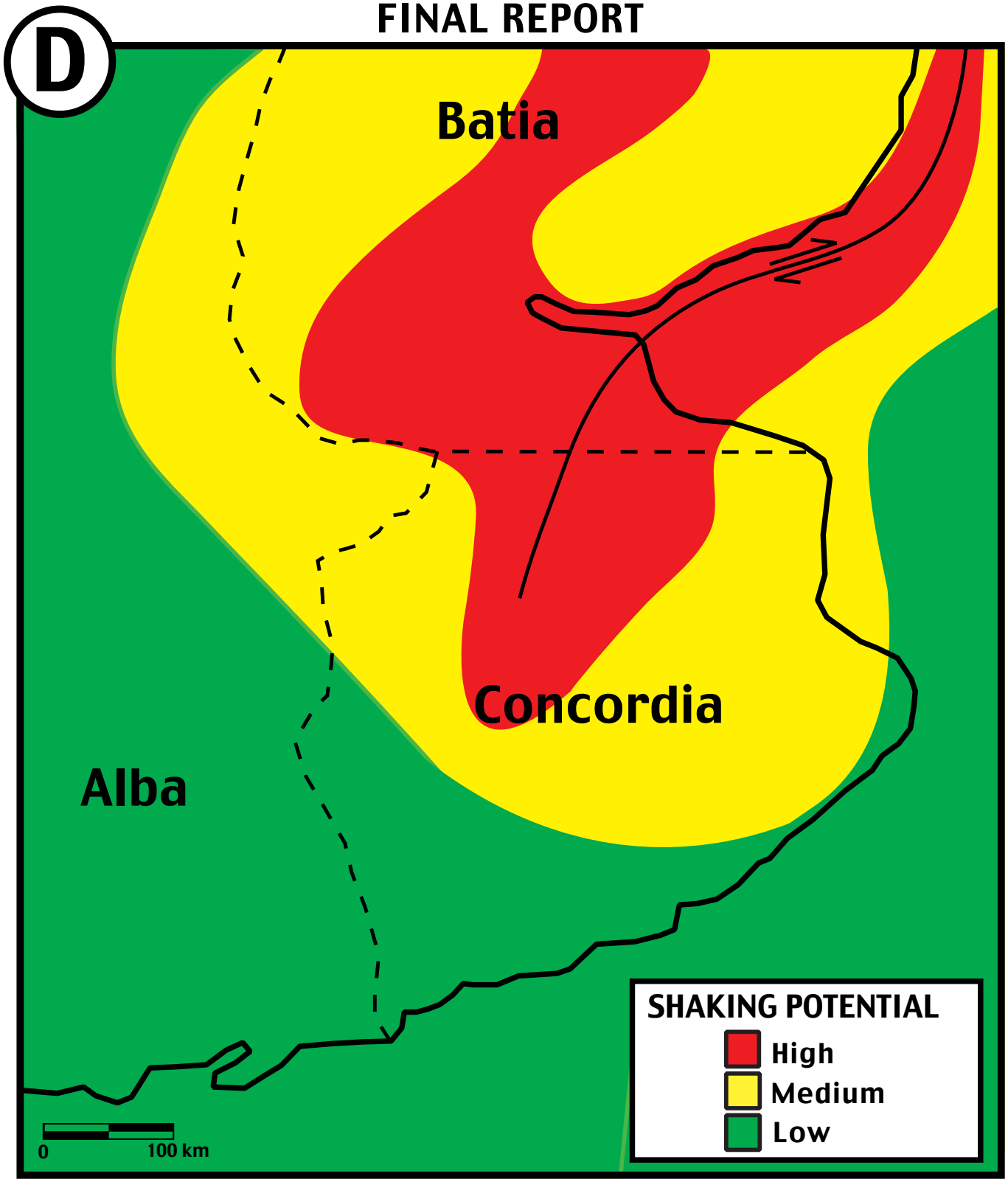
INFRASTRUCTURE AND RECENT DISASTERS



SEISMICITY, 1900 – 2006

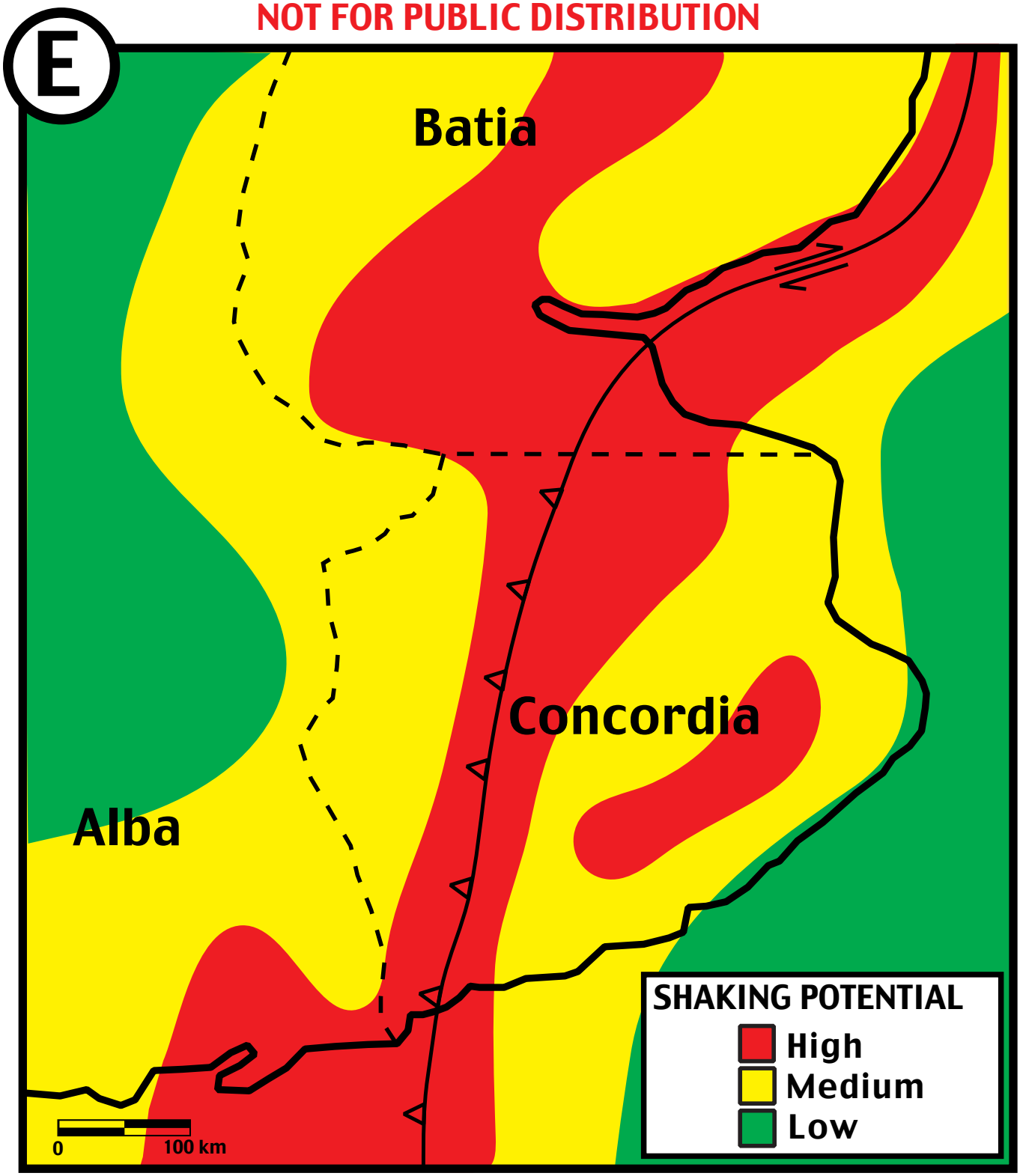


EARTHQUAKE HAZARD SHAKE MAP
FINAL REPORT



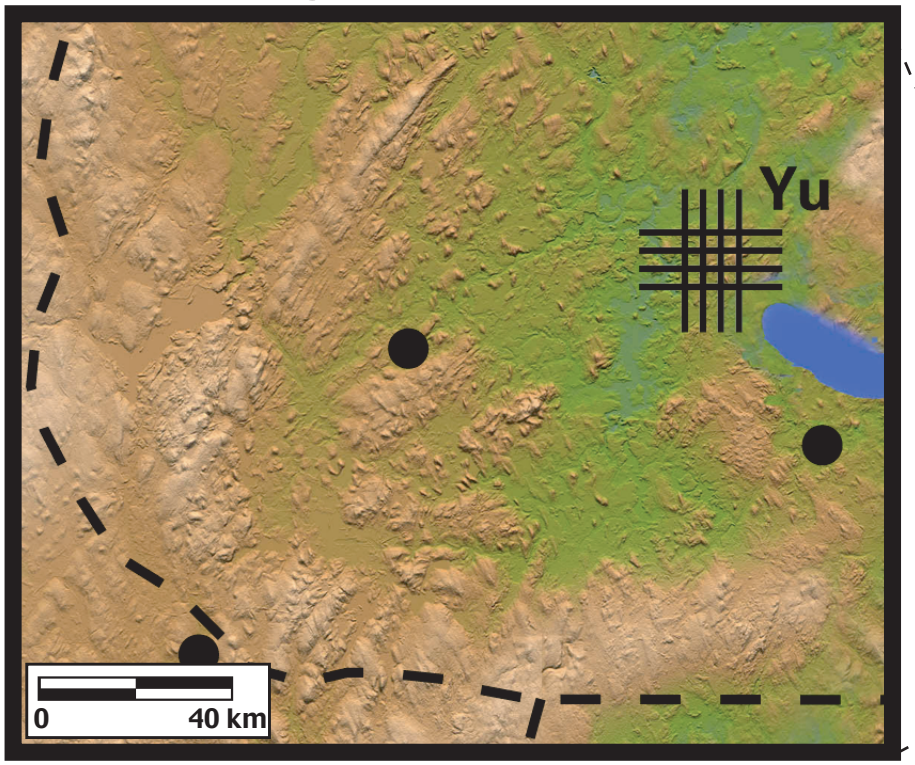
PRELIMINARY EARTHQUAKE HAZARD SHAKE MAP

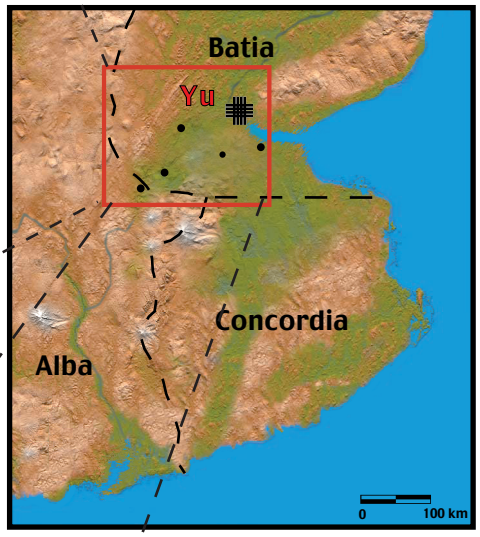
NOT FOR PUBLIC DISTRIBUTION



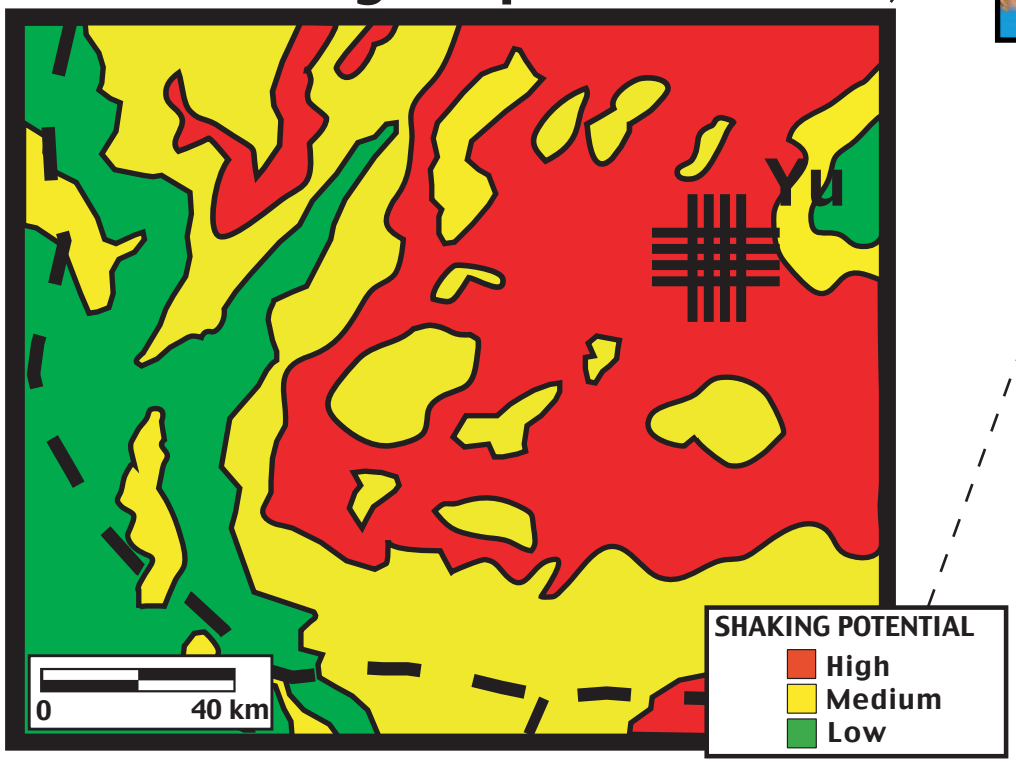
F DETAILED MAPS FROM THE CONCORDIAN LAND PRESERVATION ADVOCATE

1. Physiographic map





2. Earthquake hazard shaking map



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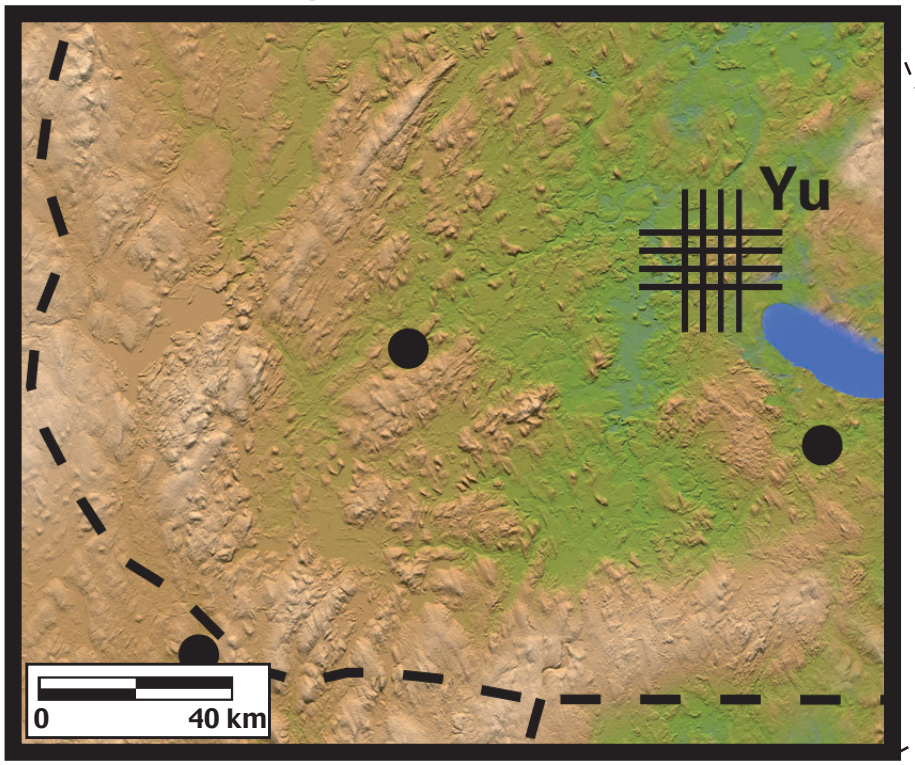

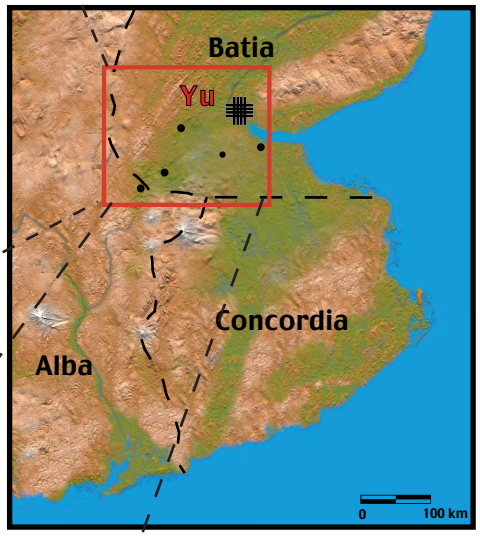

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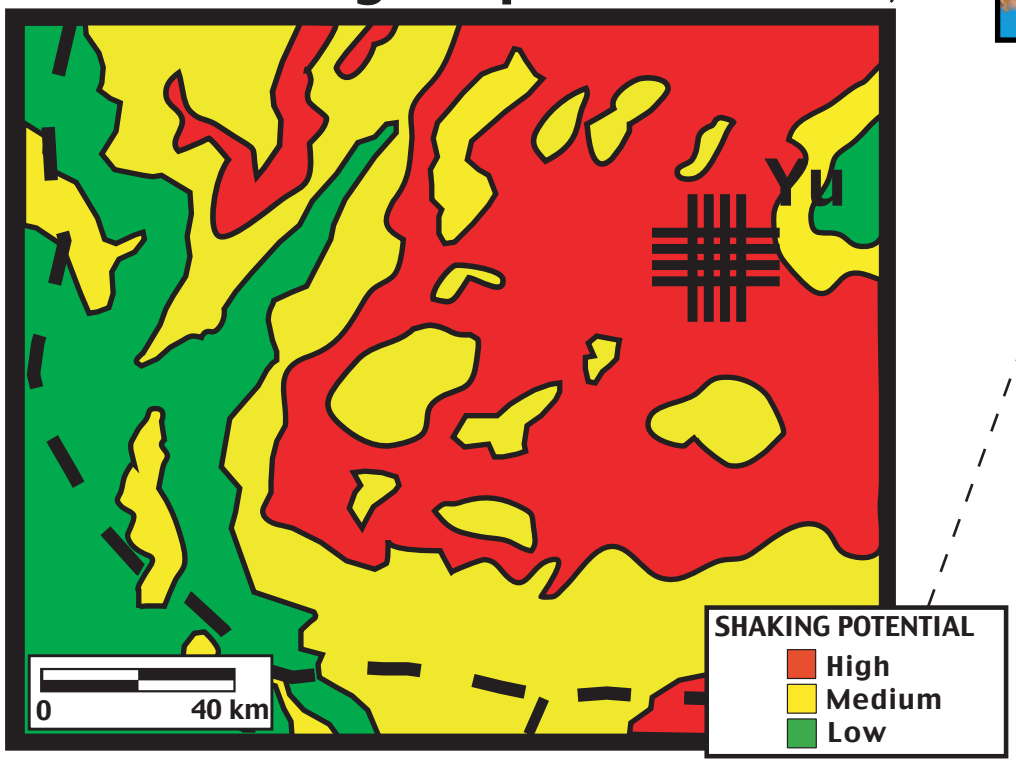

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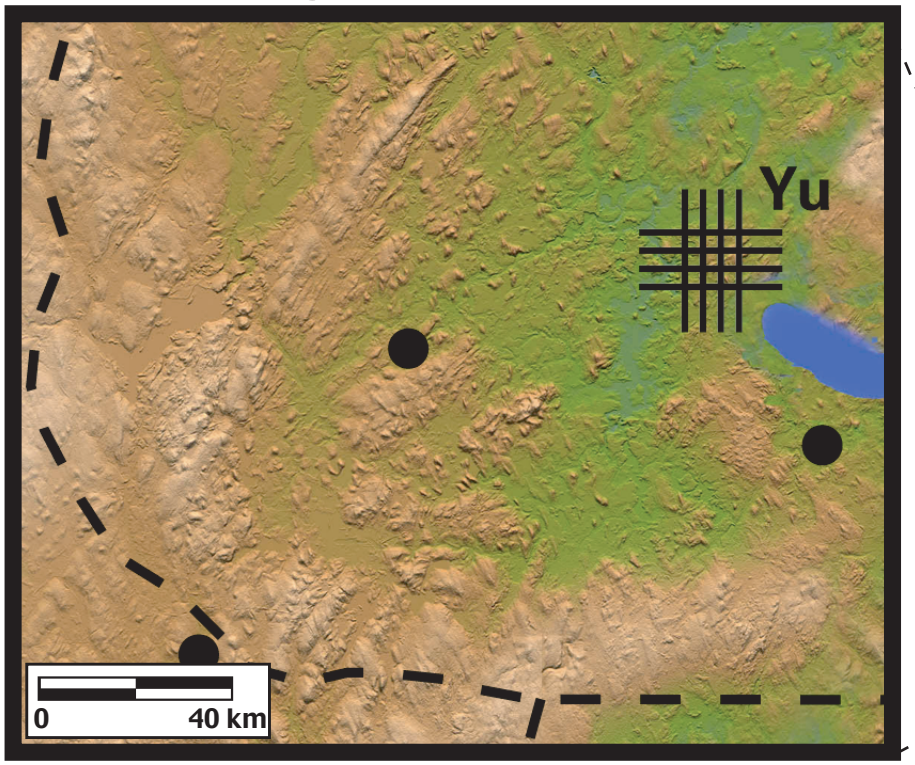

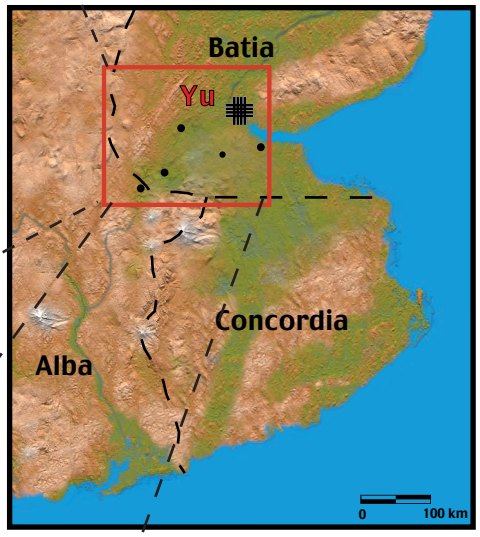

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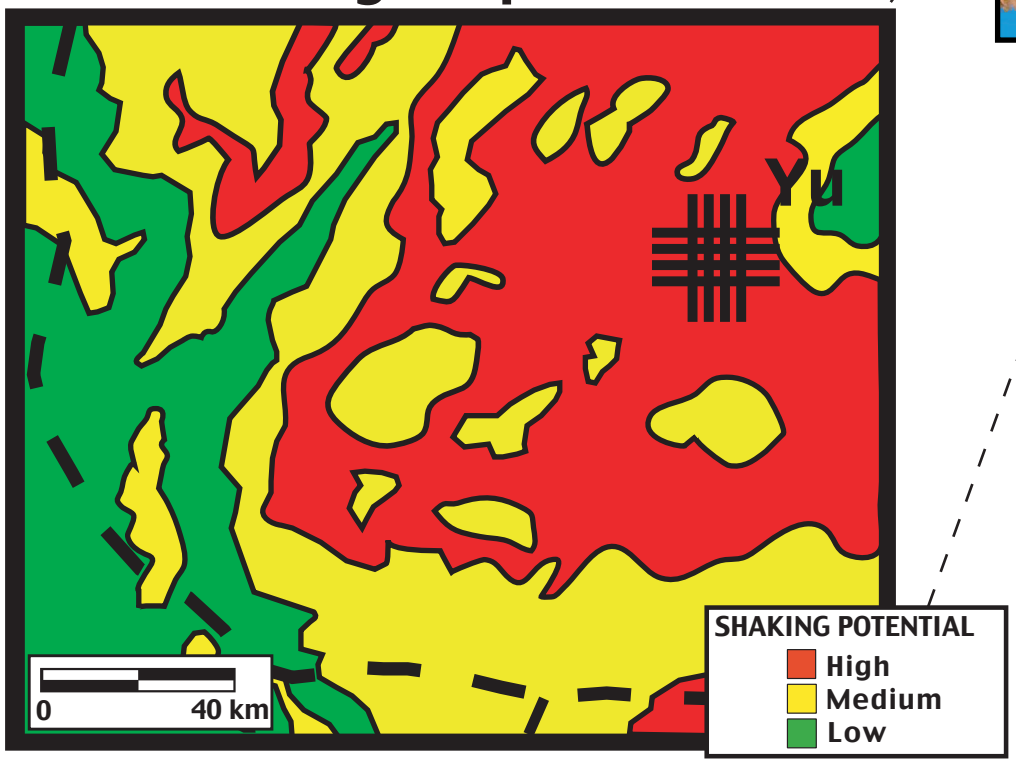

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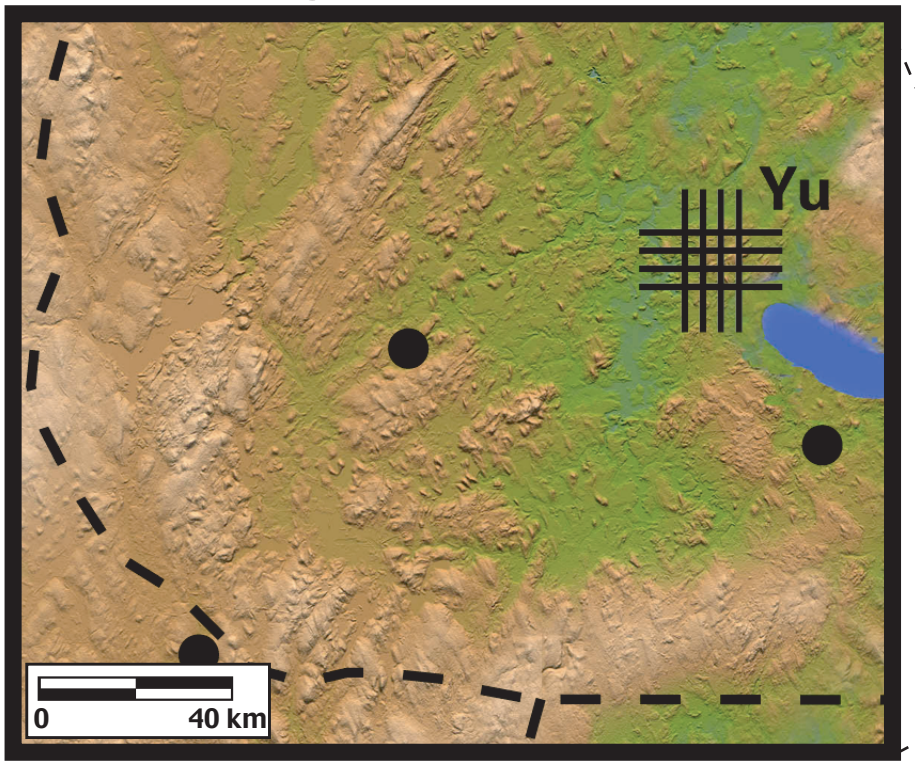

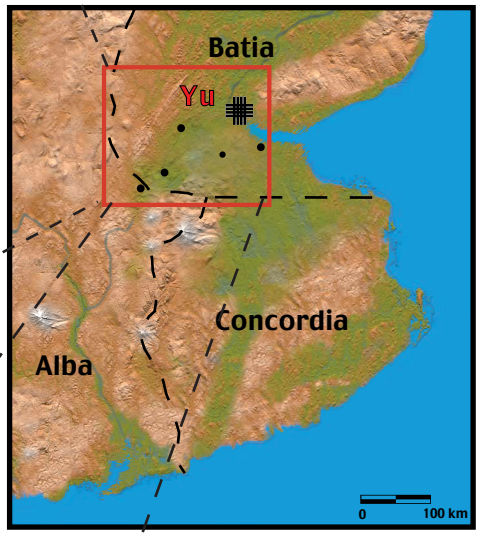

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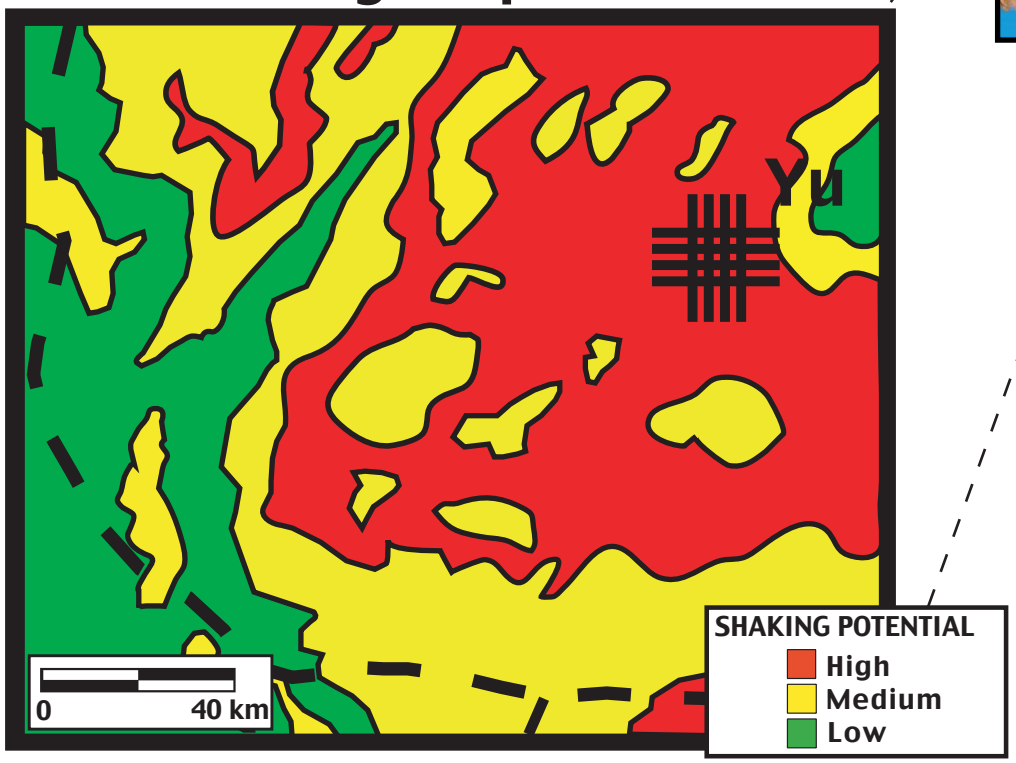

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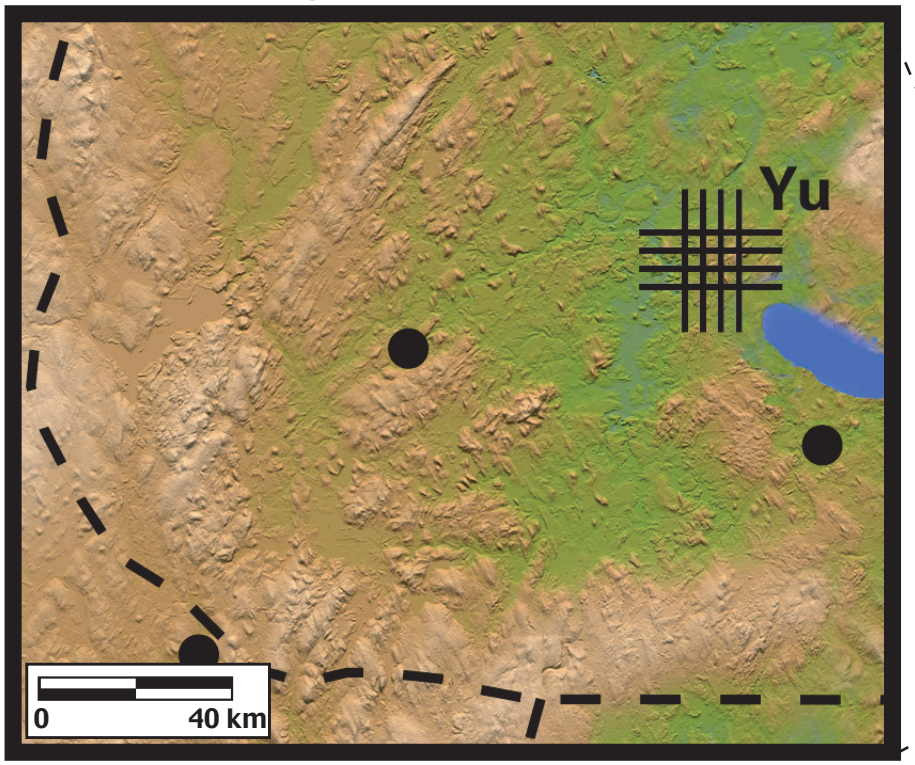

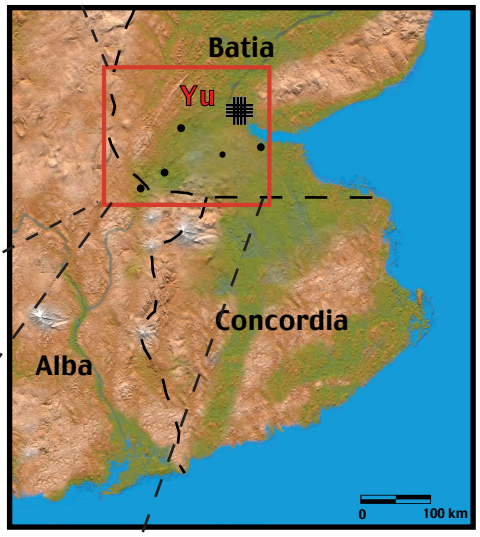

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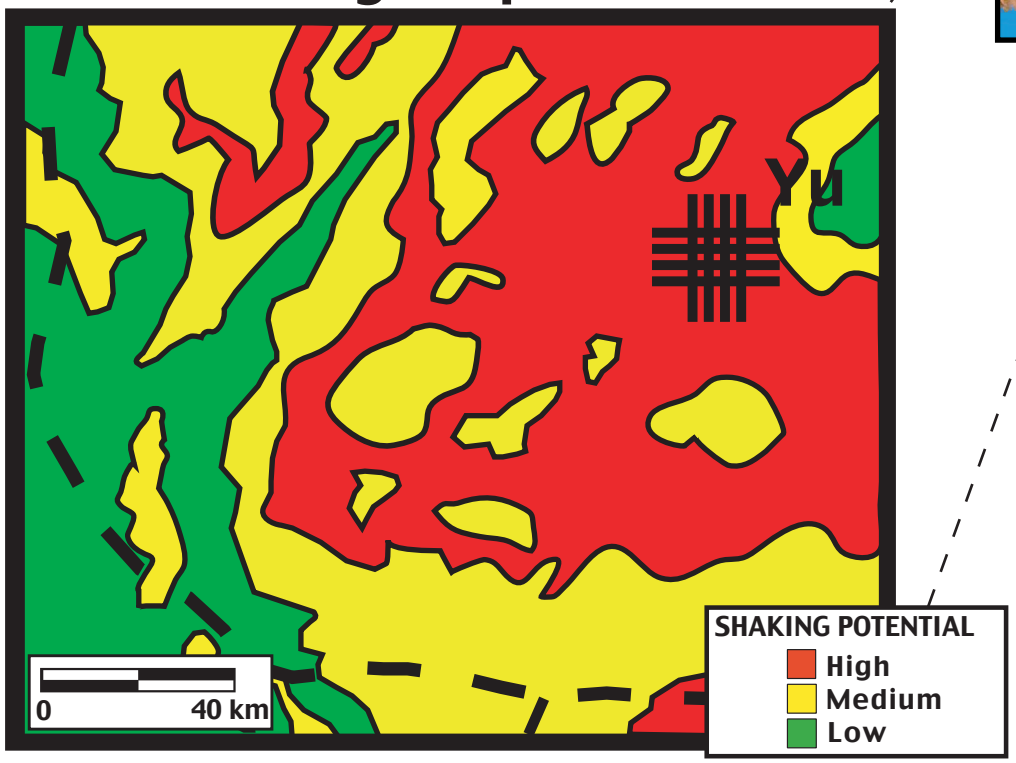

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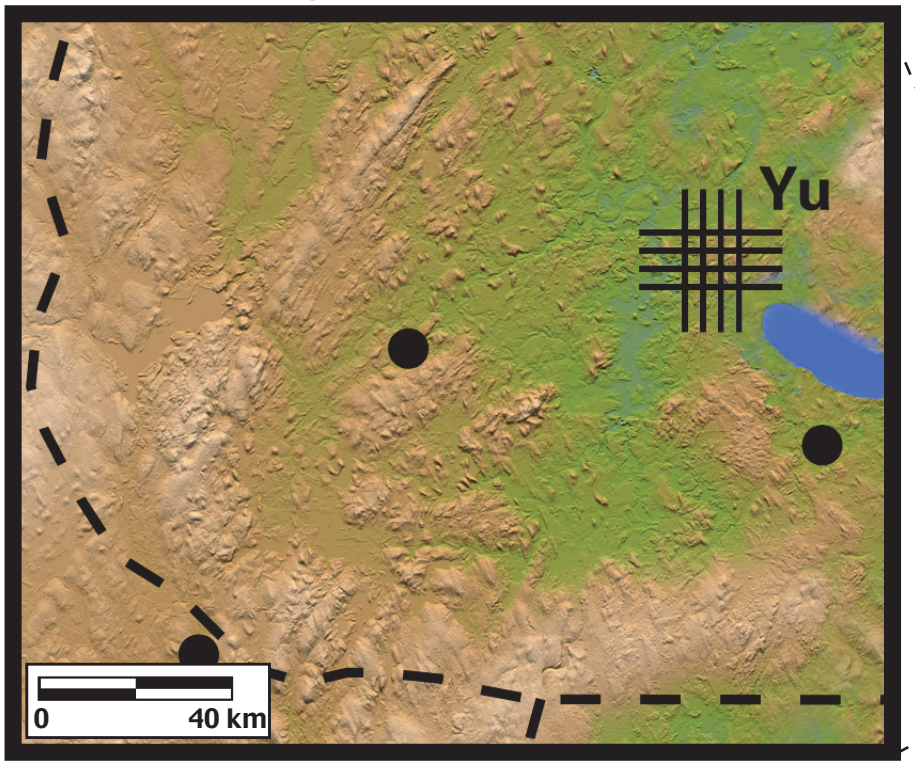
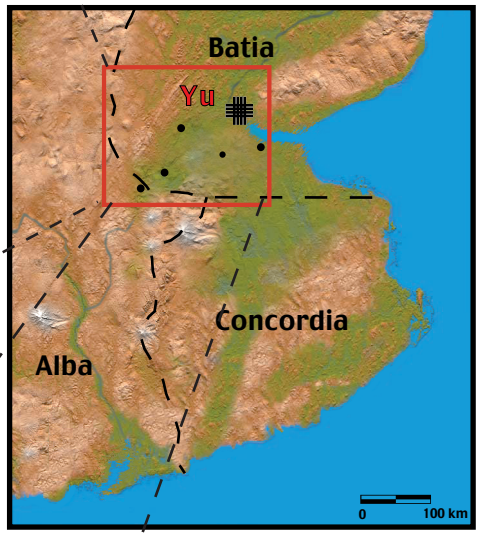
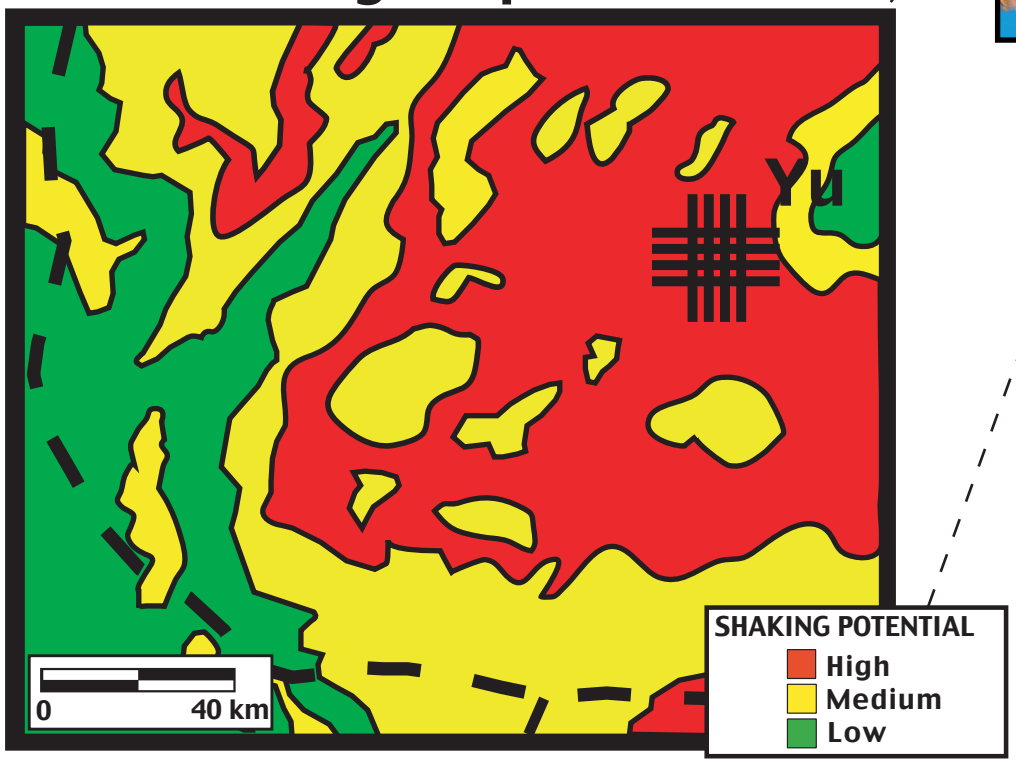




2. Earthquake hazard shaking map



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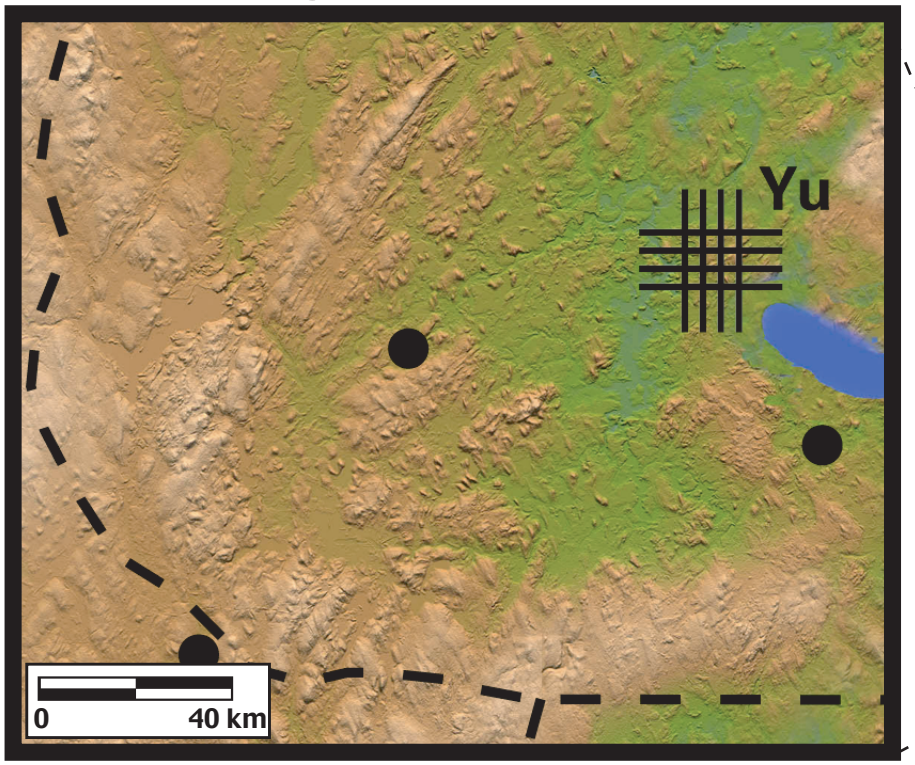

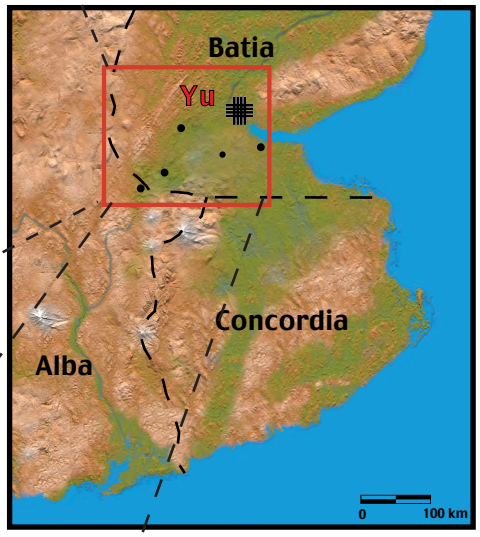

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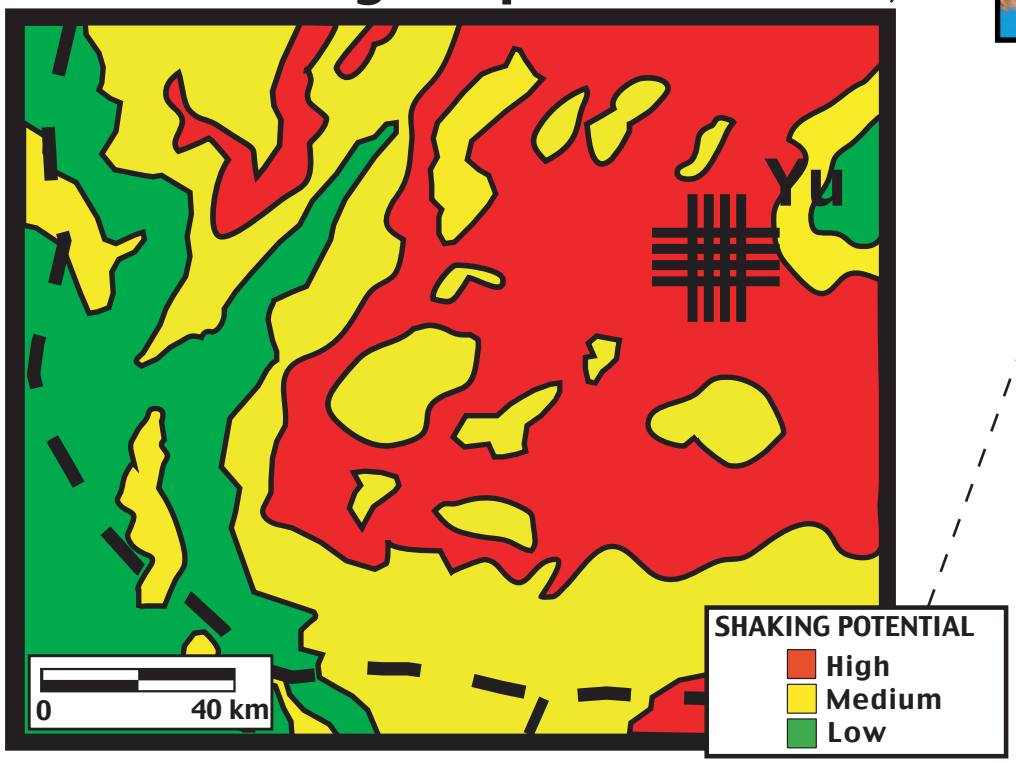

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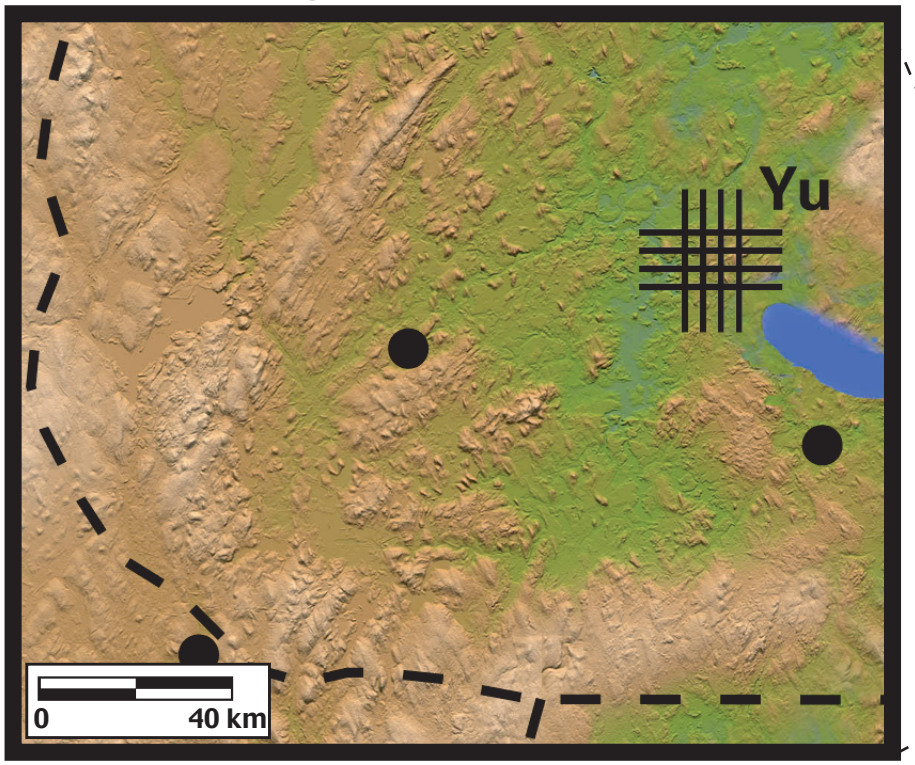

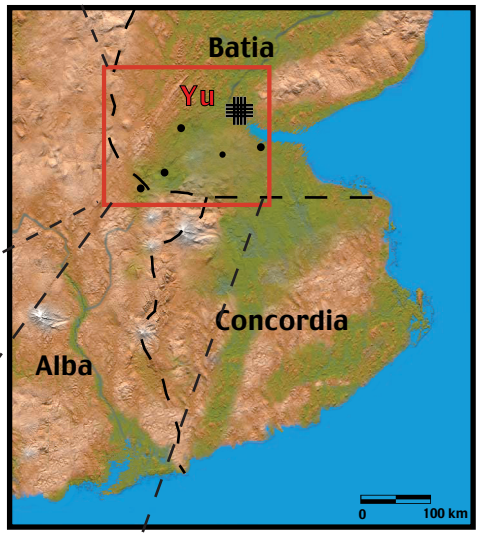

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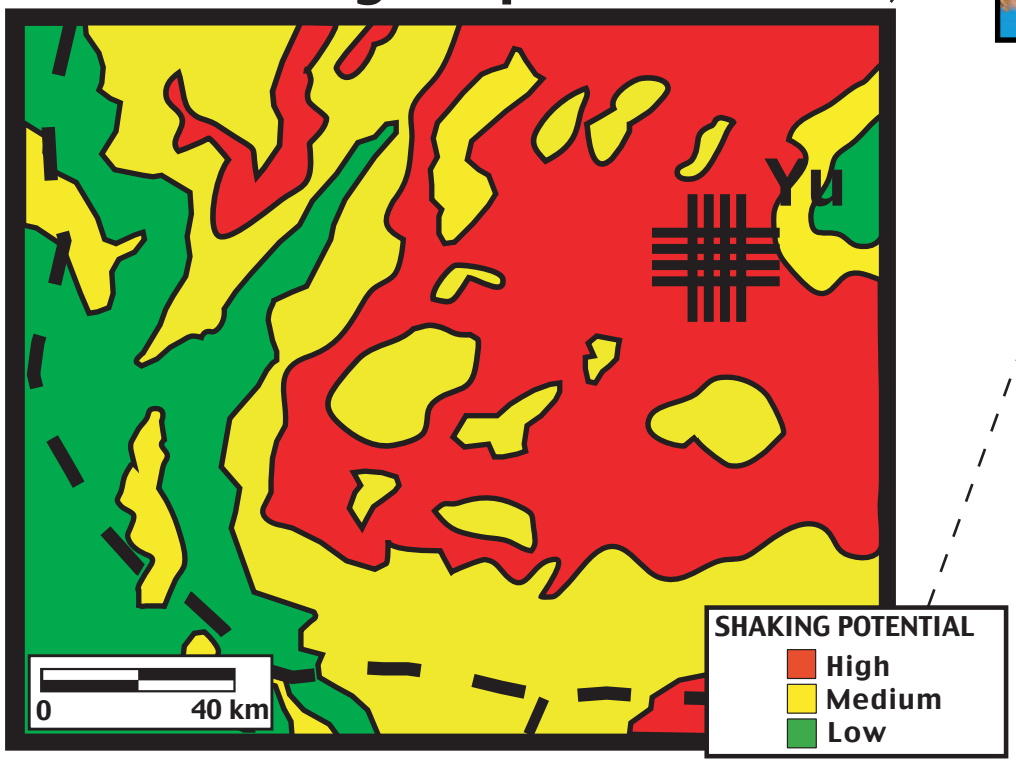

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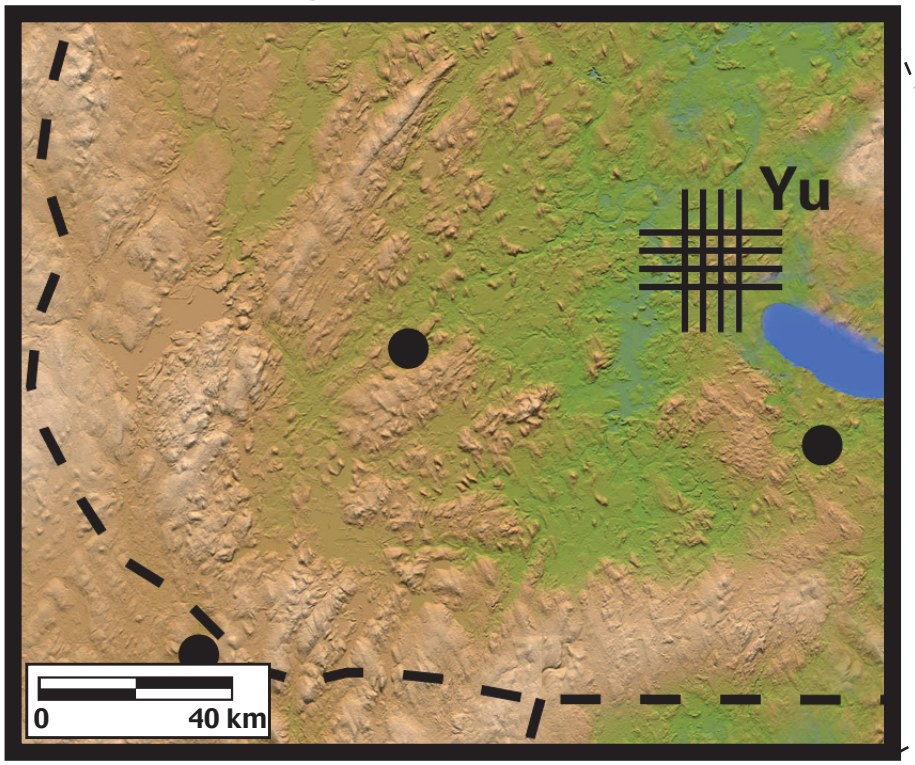

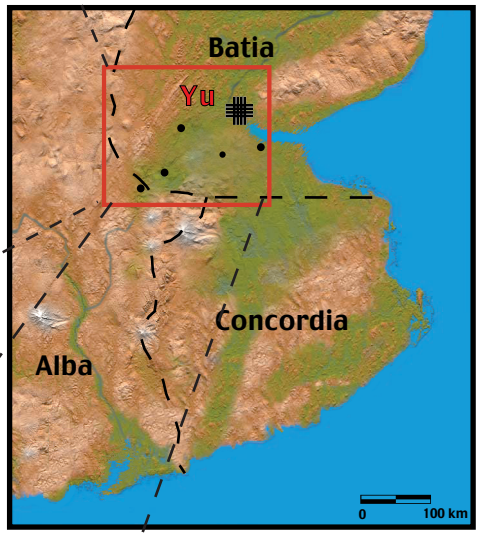

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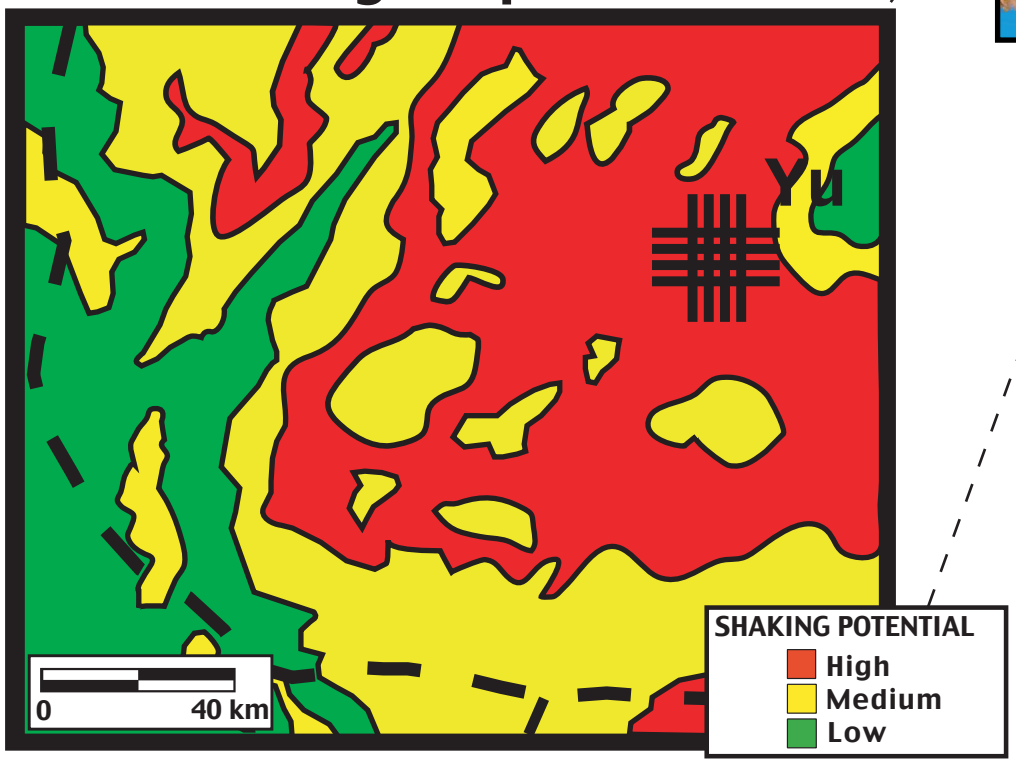

COMMENT FORM

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1. If your group reached an agreement, what were its key elements?

2. What tools or techniques were most helpful in reaching agreements?

3. What were the most important obstacles to reaching agreements?

4. What were the most important things you, and others in your group, learned ...

- about the ripple effects of natural disasters?

- about the role of science in decision-making?

- about multi-party negotiation principles and consensus-building skills?

- about the value of building personal relationships?

5. How likely would it be for officials and stakeholders in your country or your organization to begin a collaborative approach to understanding the implications of, and preparing to recover from, natural disasters likely to occur in the future?

6. What obstacles would have to be overcome for you to be willing to participate in such collaborative efforts?

7. What tools, techniques, or approaches from the simulation would be most useful to beginning a collaborative approach to disaster planning and recovery in your country or region?

8. How useful was it to have the services of a facilitator in your group to help plan an agenda, to record ideas and proposals, and to help everyone participate in the discussion?

9. What other comments would you like to make about the simulation? Was it fun? Instructive? Realistic? How could the simulation be improved?

Name _____ E-mail _____

Address _____ Phone _____

Thank you!

tape or staple here

CROWDING THE RIM ■ Understanding Risk ■

fold along dotted line

RimSim Facilitator

write your name in the space above

fold along dotted line

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