THE MILLENNIUM EARTH PROJECT

PROJECT PROPOSAL WRITTEN BY SCOTT ALLEN

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INSTITUTE FOR CONSCIOUS GLOBAL CHANGE

Institute for Conscious Global Change
MEP

Phase I (Pilot)

The project will be launched with an **initial pilot phase of 12 months** and an **estimated budget of $250,000**. Upon acceptance of this proposal ICGC will provide additional documents containing a detailed scope of work tailored to the project area and project implementation strategy.

Phase II

We will start by collecting comprehensive sets of infrastructure and utility data to use in creating city models and prepare for the geodesign process. During this phase public workshops will be held to allow citizens to participate in collecting certain data.

Phase III

Focuses on collecting high priority SDG data at a local level and streamlining collection methods to allow cost effective maintenance of data. During this phase we will encourage our partner organizations to begin developing sustainable solutions that will help move these communities toward meeting the SDG.

Phase IV

Focuses on developing collection methods for remaining SDG data not addressed in Phase III. We will continue to streamline workflows using webmaps to increase the efficiency of participatory data collection and field data collection using mobile devices

At a Glance

Project Title:	**Millennium Earth Project**
Lead Organization:	Institute for Conscious Global Change
Potential Partners:	Local/regional universities, HIBISCUS, EcoCity Builders, African Union, Columbia University International Research Institute, AHIDA
Primary Objective:	Introduce GIS and geodesign as a means of implementation for the United Nations' Sustainable Development Goals
Beneficiaries:	Citizens of the world; local and national governments
Budget Estimate:	US$ 250,000 (Pilot Phase)
Estimated Duration:	12 months (Pilot Phase)

Executive Summary

The Institute for Conscious Global Change (ICGC) has observed that the United Nations (UN) currently has **no clear implementation plan for achieving the Sustainable Development Goals (SDGs).** With this project, we propose to begin implementation by 1) Developing a geographic information system (GIS) to store infrastructure and localized SDG indicator data for participating governments and 2) Building the capacity of those governments so they can manage and maintain this system moving forward. This GIS will allow the international community to visually explore localized SDG data for use in planning sustainable solutions and, through the geodesign method, analyze impact assessments for numerous design scenarios.

Millennium Earth will provide government agencies with the technical knowledge and a cost effective method to collect, maintain, and quickly disseminate updated SDG indicator data to a global audience. **Upon successful completion of our project we will demonstrate that GIS and geodesign should be utilized as a means of implementation for the SDGs.**

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1.0 Objectives

1.1 Main Objective

The main objective of this project is to **introduce geographic information systems (GIS) and geodesign as a means of implementation for the United Nations' (UN) Sustainable Development Goals (SDGs).** *See appendices for more information on GIS and geodesign.*

1.2 Phase Specific Objectives

Phase	Objectives
I	➢ Familiarize government agencies with the uses of GIS through presentations, demonstrations, and hands on training ➢ Refine scope of work, budget, and timeline for additional phases
II	➢ Collect data to show the current landscape, assets, and resources ➢ Visualize this landscape using maps and models ➢ Engage citizens with data collection
III	➢ Develop cost efficient workflows allowing government agencies to report high priority SDG data quickly ➢ Familiarize government agencies with the geodesign process
IV	➢ Provide a plan to collect and report remaining SDG data ➢ Visualize sustainable development plans/proposals

GEODESIGN:

A method that brings geographic analysis into a collaborative process allowing designers, planners, geographers and civil engineers to find resilient solutions to 21st century urban conditions such as population growth, decreasing resources, disaster mitigation and climate change, etc. *See Appendix B for more information on geodesign.*

"Geodesign's mission is to imagine a different future for a place—based on thoughtful creative change."

2.0 Background and Justification

The Rio+ outcome document, *The Future We Want*, set out a mandate to establish an Open Working Group to develop a set of sustainable development goals by the General Assembly at its 68th session. On July 19th a document with a set of 17 goals and 170 targets was sent to the General Assembly for approval. The overarching goal is to eradicate extreme poverty in all its forms for all people everywhere by 2030. The Institute for Conscious Global Change (ICGC) aligns itself with the goal of the United Nations and is committed to help fundamentally change the way humanity lives in and creates its environment. To accomplish these objectives, ICGC will work with each member state of the United Nations and its citizens to show how with the integration of the goals and targets we can collect the relevant data to each goal, analyze, plan and design the future we want that leaves no one behind.

3.0 Project Description

3.1 Phase Descriptions and Deliverables

Phase I: Begins with a kickoff meeting with government employees to demonstrate geographic information systems (GIS) and its applications as related to the Sustainable Development Goals (SDG) and typical government operations. During this phase we will conduct a needs assessment to determine needs for GIS data, staff, software, and hardware and use this to create as the base for a GIS Strategic Plan. This plan will include methods for collecting and organizing data, as well as how it will be made readily available through online web mapping services. Additionally the Strategic Plan will allow us to refine the scope, budget, and timeline for additional phases. Technical workshops will be conducted periodically during this phase to allow government employees to start using GIS and global positioning systems (GPS) hardware and software while giving them a better understanding of how each works.

Deliverables:

1. Needs Assessment
2. GIS Strategic Plan
3. GIS/GPS technical training materials

Phase II: Focuses on collecting raw GIS data at the local level, organizing it and making it quick and easy to access. Our data will be hosted online so very shortly after, if not as soon as it's collected, it will be online and available to the public. We will start by collecting comprehensive sets of infrastructure and utility data to use in creating city models and prepare for the geodesign process. This data will provide spatially accurate maps and 3D models to visualize the pilot city's current landscape. During this phase public workshops will be held to allow citizens to participate in collecting certain data.

Deliverables:

1. Assistance procuring and installing GIS and GPS software
2. Data from United Nations, Federal, State/Province, and City/County agencies
3. Infrastructure and utility data for pilot city collected in the field
4. Infrastructure and utility project files
5. Access to infrastructure and utility GIS services hosted on the web
6. Access to city models hosted on the web
7. Configured webmaps for field data collection using mobile devices
8. Hard copy, preconfigured maps

Phase III: Focuses on collecting high priority SDG data at a local level and streamlining collection methods to allow cost effective maintenance of data. During this phase we will encourage our partner organizations to begin developing sustainable solutions that will help move these communities toward meeting the SDG. Advanced workshops in geodesign and analysis will be conducted using collected project data allowing citizens and government employees to begin thinking about how to make their community more sustainable.

Deliverables:

1. SDG specific GIS data for pilot city created from various sources
2. Access to SDG GIS services hosted on the web
3. Hard copy, preconfigured maps
4. Training materials for geodesign and analysis

Phase IV: Focuses on developing collection methods for remaining SDG data not addressed in Phase III. We will continue to streamline workflows using webmaps to increase the efficiency of participatory data collection and field data collection using mobile devices.

Deliverables:

1. Access to GIS services hosted on the web
2. Access to sustainable development models hosted on the web
3. Configured webmaps for field data collection using mobile devices

3.2 Methods

Multisectoral involvement: Everyone plays a role in creating a sustainable future so our project seeks to engage citizens, businesses, schools, and government agencies within the project area. This will be done through public training workshops, academic internships, and allowing anyone to collect and submit data using mobile devices.

Capacity building: From the beginning we will be working alongside employees of government agencies to allow their participation in all stages of the project. Hands on technical training will ensure the system will continue to develop even after our project is delivered.

Participatory GIS: Reduces the workload of governments while empowering communities. This technique promotes interactive participation of stakeholders integrating and managing spatial information and uses information about specific landscapes to facilitate broadly-based decision making processes that support communication and community advocacy.

Participatory geodesign: The participatory design approach assumes that there is more than one designer, and that each has a concept about what the future design should be. This allows everyone to take ownership of creating the future they want for their community.

Open source/standards: This promotes universal access via free license to a product's design or blueprint and universal redistribution of that design to anyone. We will work with governments to integrate open source software into their workflows wherever appropriate and follow open data standards when creating and publishing resources to ensure our work is universally accessible.

4.0 Expected Accomplishments and Indicators of Achievement

Expected Accomplishment	Indicators of Achievement
Enable timely reporting of localized SDG indicators.	➢ How many SDG indicators can be reported on a regular basis? ➢ How often are indicators updated?
Engage citizens in sustainable planning.	➢ How often do citizens post comments regarding plans for their community on MEP message boards? ➢ Number of sustainable development plans submitted by local citizens ➢ How many users are accessing web applications per month?
Visualize current landscape.	➢ How long does it take citizens to find key buildings or infrastructure in their community? ➢ Ratio of users that do/do not feel maps and city models reveal local culture (%) ➢ How complete are city models and web scenes (%)
Visualize development plans.	➢ Ratio of users that do/do not understand how development plans will change their current landscape (%) ➢ How complete are development models and web scenes (%)
Integrate geospatial technology into school curriculum.	➢ Number of schools (K-12) offering GIS courses ➢ Number of universities offering GIS courses ➢ Total number of students enrolled in GIS courses ➢ Ratio of women/men enrolled in GIS courses (%)
Develop government agencies' capacity to maintain their GIS.	➢ Number of government agencies using GIS ➢ Number of GIS jobs created each year
Improve citizens' attitudes about future development plans.	➢ Ratio of citizens who are/are not hopeful for the future of their community (%) ➢ Ratio of citizens who agree/disagree with the development plan for their community (%)

GEOGRAPHIC INFORMATION SYSTEMS (GIS):

A collection of interacting and interdependent geographic components used to describe the earth. It integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information. *See Appendix A for more information on the benefits of GIS.*

"GIS reveals patterns, trends, and new relationships not otherwise known."

5.0 Actions Needed By Phase

Phase	Actions
I	➢ Assess needs for GIS data, staff, software, hardware; ➢ Familiarize government agencies with the uses of GIS and its benefits; ➢ Provide hands on technical training; ➢ Collect pilot GIS data; ➢ Create GIS Strategic Plan for building and implementing a centralized GIS with data from local to national scale; ➢ Refine scope, budget, and timeline for additional phases;
II	➢ Collect infrastructure/utility data; ➢ Facilitate crowd-sourced participatory GIS data collection and surveys; ➢ Assist with data acquisition from vendors and government agencies; ➢ Create file and folder structures to organize data; ➢ Provide centralized data storage on ICGC servers; ➢ Create web mapping services (WMS) for infrastructure/utility data; ➢ Configure infrastructure/utility project maps and web maps; ➢ Create 3D City Model and web scenes; ➢ Develop strategy for collecting SDG data; ➢ Facilitate the establishment of national and regional GIS coordinating councils;
III	➢ Collect high priority, localized SDG data; ➢ Conduct advanced workshops for geodesign and analysis; ➢ Create WMS for SDG data; ➢ Configure SDG project maps and web maps; ➢ Create detailed models of culturally significant buildings/infrastructure and landmarks; ➢ Provide recommendations for policies to help achieve UN SDG;
IV	➢ Create maps and models of proposed sustainable development plans; ➢ Continue advanced workshops for geodesign and analysis; ➢ Plan for the collection of remaining SDG related statistics;

6.0 Conclusion

ICGC brings together staff members with many years of experience working with governments, universities, and businesses across the globe and offers solutions specifically tailored to put countries on track to achieve UN Sustainable Development Goals. By building the capacity of national, provincial, and local governments to collect, maintain, and analyze SDG indicator data, communities within these countries will be able to make informed decisions regarding sustainable development.

Why you should leverage GIS:

- ➢ Identify new insights through spatial analysis that would otherwise remain unknown
- ➢ Use visualization as a key to understanding data
- ➢ Improve your communications with stakeholders
- ➢ Facilitate a more open, transparent and collaborative government
- ➢ Improve management of resources and organization
- ➢ Help communities plan and respond to crises.

BUILDING SUSTAINABLE COMMUNITIES

VISUALIZING THE CHANGE

Visualizing development plans gives power to the voice of the marginalized or under-represented, including poor communities, resource users and women who are otherwise excluded from decision-making processes. Our visual approach eliminates educational and language barriers and allows everyone a chance to join the conversation.

Creating 3D spatial models of development plans allows Millennium Earth Project (MEP) to be used as a tool to increase transparency and accountability. These cataloged plans show development projects as promised to the community and can be compared to what was actually built.

Institute for Conscious Global Change—Millennium Earth Project (MEP)

APPENDICES

Appendix A: Geographic Information Systems (GIS)

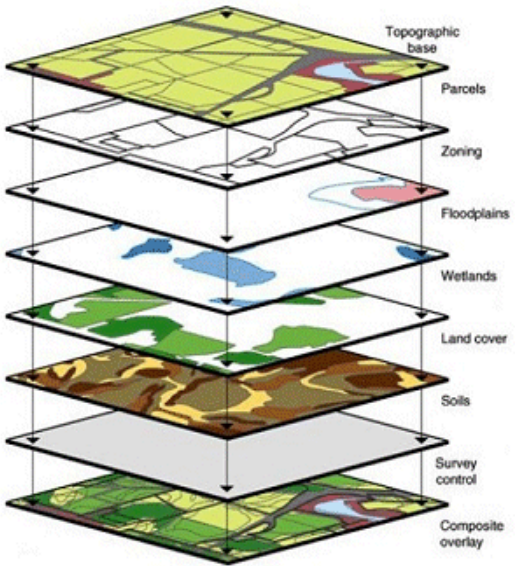
Definition: A collection of interacting and interdependent geographic components used to describe the earth. It integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.

Main purpose:

1. Planning and Analysis
2. Asset/Data Management
3. Operational Awareness
4. Field Workforce

Benefits:

- ➢ Reveal patterns, trends, and new relationships otherwise not known:
  - **Through spatial analysis, government leaders can take a holistic view of a policy, program, or process to understand how to improve their decisions based on a multitude of factors.** To make a proper decision, agencies must look at a variety of regulations, existing programs, and policies in order to make a decision. In many cases, this information is difficult to understand in isolation, and the data needs to be looked at through a variety of factors. GIS can simplify complex data, integrate a variety of sources of information, and summarize complex information when viewed spatially.
- ➢ Improved communications during a crisis
  - GIS can help communities plan and respond to a crisis. With GIS, communities can **define emergency routes, know location and status of critical buildings during a crisis**, and allocate the proper resources for response. With GIS, organizations can prepare, respond and recover from crisis more efficiently than ever before.
- ➢ Improved allocation of resources and planning
  - By viewing data spatially, government agencies can easily track and view underserved communities and use this information to **allocate resources more efficiently**, reform policies, or spot distressing trends about communities and offer remediation strategies.
- ➢ Instantaneous collaboration through the cloud:
  - Through the cloud, organizations can **share maps, data and pertinent information to improve collaboration** efforts. In today's world, collaboration and capitalizing on resources is essential to improving how the public sector delivers services.
- ➢ Improved transparency for citizen engagement:
  - GIS provides increased transparency and accountability for citizens. With the combination of the cloud, sharing of data, maps, and pertinent information, GIS is allowing **increased engagement with citizens and more succinctly showing trends in the community visually**, which enables a more constructive conversation for government employees.



Appendix B: Geodesign

Definition: A method that brings geographic analysis into a collaborative process allowing designers, planners, geographers and civil engineers to find resilient solutions to 21st century urban conditions such as population growth, decreasing resources, disaster mitigation and climate change, etc.

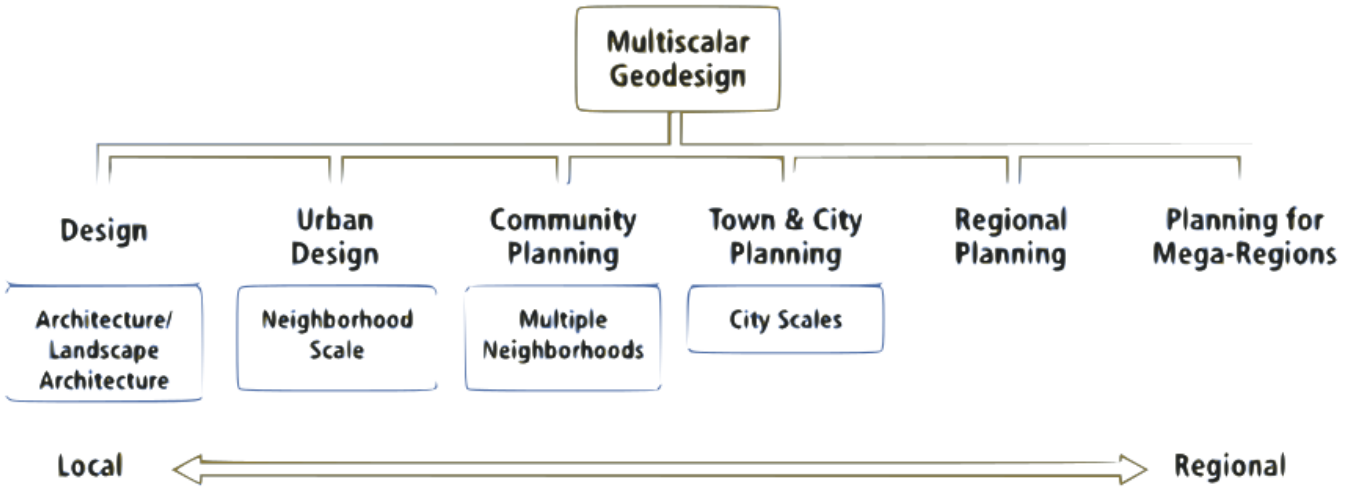
Geodesign is design in a geographic space. The essential aspect of this definition is the idea that design--the process of designing (creating or modifying) some portion or aspect of the environment, be it natural or man-made--occurs within the context of geographic space.

Main purpose:
A design and planning method which tightly couples the creation of design proposals with impact simulations informed by geographic contexts.

The purpose of geodesign is to facilitate life in geographic space.

Benefits:

- The referential link between the entity being designed and its geographic context provides the tangible basis for doing both science-based and value-based design. Additionally, it has the ability to provide operational linkages to a wide variety of domain-specific information and, in so doing, **provides the multidisciplinary platform for doing integral design (holistic design)**.
- Visualization tools:
  - Screen displays, map viewers, video viewers, and tools for displaying reports are one of the most important components of the geodesign system. These tools **provide greater depth of understanding and improve communication**.
- Scenario management tools:
  - Beneficial to most land-use planning and design projects. This allows the **exploration of many alternative solutions** based on differing assumptions regarding performance requirements; design concepts; the deployment of different design strategies; and any number of other conditions.
- Improved collaboration:
  - Particularly during the accumulation of intellectual capital, the application of that capital to the assessment of conditions, and how those conditions affect the creation of something. It also **provides the operational context for co-creating that something.**



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