

Which event(s) are you registering for?

1. [Mobile Geo-survey \(open between February 1 and February 10, 2021\)](#)
2. [Geodesign Game One \(1:30 p.m. to 4:30 p.m. on March 1\)](#)
3. [Geodesign Game Two \(1:30 p.m. to 4:30 p.m. on March 3\)](#)
4. [Geodesign Game Three \(1:30 p.m. to 4:30 p.m. on March 5\)](#)

Schedule for Geodesign Game One (1:30 p.m. to 4:30 p.m. on March 1)

1:30 - 2:10 Briefing presentations (40 mins)

You will be introduced to strengths, weaknesses, opportunities, and threats of each water resource region (WRR) network’s green, blue, and human infrastructure systems. Figure one and table one show how we organize water resource regions into networks using the geographic domains of the Climate Adaptation Science Centers (CASC)

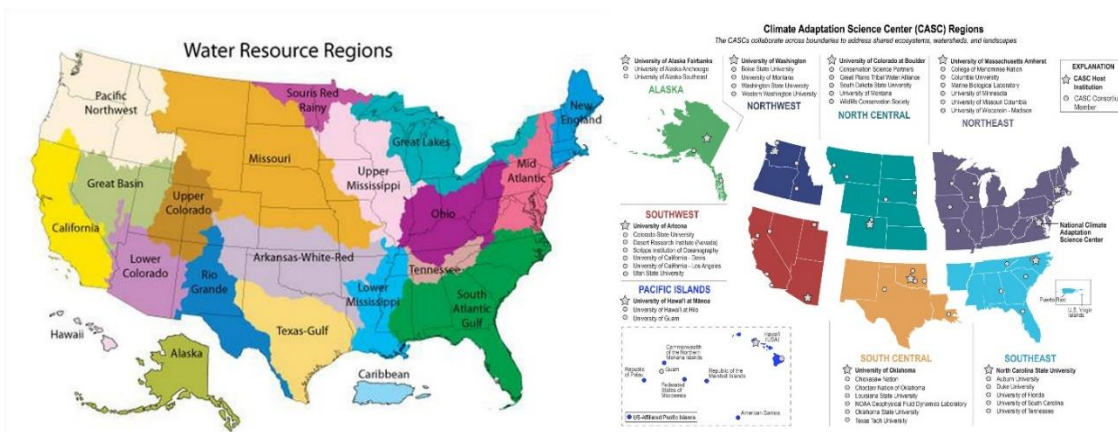


Figure 1. USGS Water Resource Regions (WRRs) (Left) and Institutions in CASC Networks (Right)

Table 1. CASC Networks of Water Resource Regions (WRRs) for Gulf of Mexico (GoM)

| CASC Networks | USGS Water Resource Regions (WRRs) | | |
|---------------------|------------------------------------|---------------------|--------------------|
| South Central (SCN) | Rio Grande | Texas-Gulf | Arkansas-White-Red |
| Southeast (SEN) | Lower Mississippi | South Atlantic Gulf | Tennessee |
| Northeast (NEN) | Ohio | Great Lakes | |
| North Central (NCN) | Missouri | Upper Mississippi | |

We will also share prototypical climate adaptation actions generated from best practices that have been used to transform these weaknesses and threats into strengths and opportunities. Finally, we will provide suitability criteria for selecting priority intervention zones and sites for implementing these best practices in a way that maximizes their collective hydrological, ecological, and socioeconomic performances.

2:10 - 3:10 Network team session (40 mins for team work + 20 mins for presentations)

For the first 40 minutes, you will be assigned to a network team to cocreate a consensus-based climate adaptation plan for one of the four networks of WRRs that contribute to the Gulf of Mexico (Table 1 and Figure 1). You will review the geosurvey results to resolve conflicts between green, blue, and human infrastructure systems. As shown in the integration model from Figure 2, each member will take turns to make a design move that prioritizes monarch butterfly habitats over water management areas and water management areas over relocation destinations.

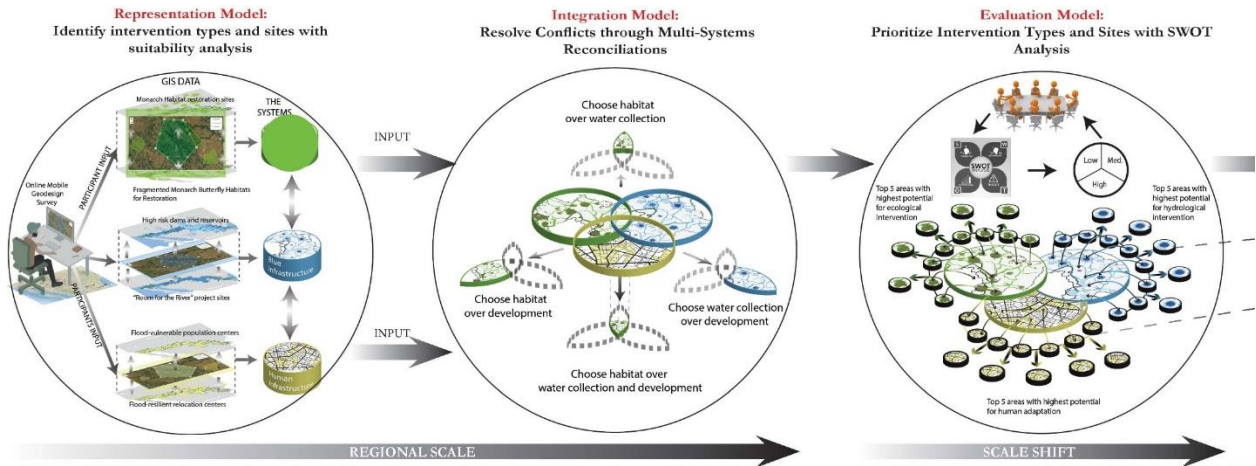


Figure 2. First Three Phases of Geodesign Games (Representation, Integration, and Evaluation Models)

As shown in the Evaluation model from Figure 1, each member will then take turns to use the strength, weakness, opportunity, and threat (SWOT) analysis to evaluate each proposed intervention prototype and site's potential to transform the weaknesses and threats into strengths and opportunities at the site, system, and network level respectively and assign 3, 2, and 1 for high, medium, and low transformative potential as the SWOT analysis scores. Each team member will select top five components with the highest transformative potential from each of the green, blue, and human infrastructure systems for each network.

For each pair of intervention prototype and site, we will then assign a return of investment score of 3, 2, or 1 for high, medium, and low and a capital investment cost score of 1, 2, and 3 for high, medium, and low. The total of both scores, or the cost-benefit analysis scores will be used to identify intervention prototypes and sites with the least capital investment cost and the most return of investment. Then, we will spend 20 minutes presenting the network-specific climate adaptation plans from all the teams.

3:10 – 4:10 Continental team session (40 mins for team work + 20 mins for presentations)

You will be reassigned to a continental team with representatives from all the network teams to codevelop a continental climate adaptation plan for the first 40 minutes. You will review the network plans from all the network teams to resolve conflicts between the network plans. Each continental team member will take turns to make a design move that prioritizes the internetwork connectivity of monarch butterfly habitats over water management areas and water management areas over relocation destinations. Then, each member will make a design move to select top 5 intervention prototypes and sites from all the alternatives for each system

within each network using the SWOT analysis and cost-benefit analysis scores. We will spend 20 minutes to present all the continental climate adaptation plans from all the teams as alternatives.

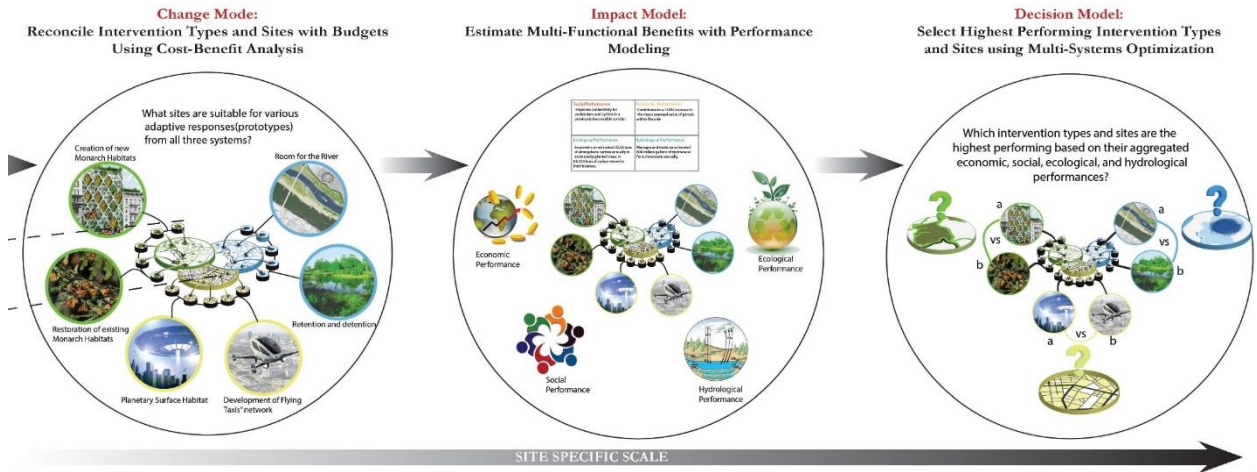


Figure 3. Last Three Phases of Geodesign Games (Change, Impact, and Decision Models)

4:10 – 4:30 Converging alternatives into a consensus-based continental plan (20 minutes)

For the last 20 minutes, for each component from each alternative, all participants will be asked to complete a survey to provide comments on how to reconcile conflicts among alternatives and the following scores for **the evaluation, Change, Impact, and Decision Models:**

- 1) SWOT analysis (3, 2, and 1 for high, medium, and low transformative potential);
- 2) Cost-benefit analysis (3, 2, and 1 for high, medium, and low economic performance);
- 3) Hydrological, ecological, or social performance (3, 2, and 1 for high, medium, and low); and
- 4) Relative importance of hydrological, ecological, social, and economic benefits (4, 3, 2, and 1 from the most important to the least important)

The scores will be used to rank the various components in the alternative continental climate adaptation plans. The rankings and comments will be used to merge alternatives into a final continental climate adaptation plan.