

# iUTAH EPSCOR External Advisory Board Report

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The following is the iUTAH EPSCOR External Advisory Board Report. It is based upon presentations from and discussions with iUTAH scientists, students, and staff.

## Commendations

- The iUTAH environmental observatory (gradients along mountain to urban transitions: <http://data.iutahepsc.org/tsa/>) is an important advance, of state-level significance, and worthy of state support.
- The neighborhood typology and household survey provides an important framework and data for understanding the social systems of iUTAH's study areas as well as the basis for interdisciplinary studies and applications.
- iUTAH's modeling work has advanced well. Model integration is an important next phase.
- The Education programs have developed well. However, they have developed in relative isolation from other iUTAH program activities. It is important for Education activities to be better connected to the three research focus areas.
- iUTAH activities have done a good job in Training, Engagement, and Informatics

## 1. Sustainability of iUTAH in Terms of Funding

At this stage of iUTAH's development, it is important that the team recognize that it has been successful. The team has built a platform for research, applications, education and training, community engagement, and data informatics. The team has made sufficient progress that there is something to "sell." Now is the time to dream big and to proceed with confidence.

Dreaming big requires strategic planning for iUTAH's long term sustainability. The team should explore:

- What are the key components that need to be sustained;
- What does it cost; and
- How to engage stakeholders willing to cover those costs, including hi-level stakeholders from the University and State Government?

## 2. GIRF and GIRN

The iUTAH team needs to make a decision soon about building out GIRF (green infrastructure research facility) as a node for GIRN (green infrastructure research network). This decision should be informed by similar projects such as the University of Delaware's Green Infrastructure Performance Test Bed.

The Campus As Learning Lab (CALL) could be the showcase project for GIRF and a local, regional, and national asset for research, demonstration, training, and education.

To fully appreciate and communicate what GIRF / GIRN / CALL could be, it would be useful to conceive of it as a 10-20 year dream project, unconstrained by budget and with an accompanying marketing document (1 page, front and back). This may require senior leadership from iUtah and advocacy and support from University leadership.

### **3. Engage Stakeholders**

#### **A. Network Analysis**

iUTAH should consider a structured and systematic process for engaging stakeholders. This could include network analysis, which would

- Characterize stakeholder networks in order to identify opportunities and constraints. Measures could include nodes of centrality, influence, organizations that may be marginally linked, and where stakeholders work (spatially explicit).
- Monitor and evaluate iUtah progress: how does its network performance change over time in terms of centrality, influence, and ability to reach marginal organizations.

#### **B. Collaborations with local agencies**

iUTAH should continue to develop strategies for collaboration with local, state, and federal agencies and NGOs. These activities include:

- Be aware of partner activities. For example, where they have capital projects or education programs
- Research needs
- Monitoring assets and needs
- Training and education needs
- Develop an iUtah on-line library: journal articles and policy accessible documents that may be 3-5 pages.
- Periodic technical committee meetings (3 times/year).
- Encourage stakeholder attendance of annual meeting. The annual meeting could be a showcase of activity for stakeholders and university administrators.
- Have a distinct stakeholder meeting, with breakout groups to advise on the research needs, research priorities, models, and scenarios.

### **4. Visualization**

We believe a physical center for large groups is a bad idea because of the substantial costs without commensurate benefit. iUTAH should consider alternatives to a physical visualization center emphasizing large groups. This includes focusing on small-scale facilities for small groups and investing in persons trained in effective data communication. We emphasize the need for persons trained in effective data communication because the risk is to create centers that effectively communicate poor data visualization.

## **5. Collaboration with comparable projects and platforms**

iUTAH should look to collaborate with comparable projects and platforms in order to share experiences and expertise and to seek additional resources. Examples of potential collaborations include other EPSCOR efforts and LTERs such as CAP, BES, and FCE. Types of collaboration include activities associated with platform building: stream sampling; neighborhood typology and surveys; K-12 education; and modeling. Specific projects include stream denitrification and residential land management. Proposals might focus on multi-site research projects where Utah's urbanization, in terms of history and climate, would provide opportunities for important comparisons. The NSF Macro-Bio program is a good example for such multi-site comparisons. In addition to NSF, iUTAH should look to other federal agency support such as NOAA, EPA, and USDA FS. In order to build both iUTAH's platform and projects, consider strategies to recruit potential partners to use the platform and collaborate on projects such as an invited speaker series.

## **6. Continuing Items for iUTAH to Address**

### **A. Diversity**

- Need to develop a plan for how iUTAH can identify diversity and measure success
- Leverage community partners who have existing relationships.

### **B. Education**

- Better integrate student projects into research focus areas.
- It is not entirely clear how all the EOD activities are connected, and whether people participating in EOD activities understand how they fit in to the iUTAH project generally. The conceptual model could be used as a teaching tool in this regard.
- Enhancing diversity is a long-term commitment. It seems that DET lacks "stick-to-it-ness" in that some projects were started but not continued
- Monitor and assess progress
  - Milestones report: measuring the diversity of recruitment of students and measure success.

### **C. Research**

- RFA1 should revise strategic plan to clarify or remove nutrient model.
- RFA2 should consider role in bridging RFAs 1 and 3.
- RFA3 should consider the audiences for whom the model outputs are intended and bring to the table now. The iSAW conceptual model is a great parts model. Think about how it will be applied; in what spatial and temporal contexts; slow vs. fast variables and path dependencies.
- Conceptual model: The iSAW conceptual model is a great parts model. Think about how it will be applied accounting for spatial, organizational, and temporal complexity (fast and slow variables) and at scales such as parcel, neighborhood, municipal, regional, watershed scales?

#### **D. Project management**

- Make sure to include milestones report with materials to EAB.
- Consider traffic light analysis for mapping progress of strategic plan milestones; this allows for more systematic follow-up.
- Need explicit measurement of diversity when recruiting to iUTAH