1. Selecting a region or country

We are interested in almost any place that is changing or that has not been in the forefront of U.S. news. You might consider how to leverage what you already know (e.g., language skills, previous work on a related problem, a country, or aspects of its geography or culture). You might also want to consider multiple projects on the "same" problem or the same country as a way to leverage data collection and to get multiple perspectives on related issues.

Here are some questions that might help get teams started – they are only a start.

2. Geography and human welfare

Water

How is it distributed throughout the country?

> What are the sources and how are they replenished?
>
> How have supplies grown or diminished?
>
> What activities use the most water? Is it re-captured in usable form after use?
>
> How is water moved from its source to users? What are the consequences of this system?

How is access to water managed?

> What are the formal mechanisms? Are they used? How can you tell?
>
> What informal mechanisms are used? Who controls them? How can you tell?
>
> Do any of these mechanisms conflict with traditional ways of managing water? What is the significance of such conflicts?
>
> How does water management differ geographically, and what accounts for the differences?
>
> Does water management differ in non-geographic ways (e.g., do traditional farmers and 'modern' farmers in the same region manage water differently?)
>
> What effects does the way water is managed have on water availability, and what are the 2nd, 3rd or 4th order consequences?

Is water an underlying issue in domestic or international political or economic affairs? How or why?

What "better" ways do you see to manage water in this country? Would people who live there agree? What can local communities do and what must be implemented by regional or national government or industry?

What indicators of change should we look for? What are they likely to mean? What interpretive pitfalls could we fall into? How do we prevent them?

Energy

What and where are the primary sources and how are they supplied? What are the primary uses and users and where are they located? How is energy distributed from generation to user? Does the distribution system work reliably? How can you tell? Where are the vulnerabilities today? Where are they likely to be tomorrow? Why?

How are the economics of energy and its use affected by physical geography? By the geographic or socio-economic distribution of money and/or power? What could cause them to change?

What indicators should we look for and what are they likely to mean? What interpretive pitfalls could we fall into? How do we prevent them?

Health

Provide a geographic and social assessment of health in your country. How are disease and vulnerabilities distributed regionally and across various populations? What role do physical and human geography play in current health issues? Look at vulnerabilities at a micro and a macro scale: identify sources of vulnerability, probability of occurrence, ways to mitigate the vulnerability or the impact of the health problem, impediments to implementing measures to improve health or prevent disease and what to do about them. How could local communities become more self-sufficient with respect to health?

What indicators should we look for and what are they likely to mean? What interpretive pitfalls could we fall into? How do we prevent them?

3. Social media and geography

- Investigate validity of geotagging for web sites
  - How to validate???
  - Results of validation exercises
  - Ways to use the data

Collect and tag a large data set of geo-tagged tweets over a defined area of interest. Generate heat maps based on topics/content and location of transmit. Look at how they change and see how the changes correlate to other things, e.g., local rhythms of work, social life, religion (daily, weekly, seasonal); specific events (e.g., an incident or news report). Can you typify "normal" and identify change indicators to look for?

Place names

- Inventory available gazetteers and compare holdings for a specific area/subclass of names
- Look for "ambient geographic info" in social media (see Stephanidis, et al.)
- Develop methods to extract place names from social media, e.g., Facebook check-in
- Collect "all" the place names for your area and see what you can infer about people from what names they choose to use. Can you write rules to interpret what choice of place names reveals?
- Collect all the foreign-language place names for places in the United States
  - What are good sources? Why are they good?
  - What problems did you find and how did you overcome them?
  - When do you stop looking?
- Do a variation of geo-caching where you tell people to put the device at named places. Collect data on where the devices actually are and analyze it—how consistent are the placements? What patterns can you see in the variations? How could you test your observations?

4. Demography

Identify and depict migration patterns between states and/or regions. What relationships can you find between origins and destinations? Why do people seem to be migrating? What trends and rhythms can you find? How can you spot them? How can you check out what you see?

Do you see potential conflicts between ethnic groups or speakers of different languages or dialects? How can we capture or track ethnicity/language/dialect movements or change?

What geographic and demographic patterns can you see in adoption of cell phones and social media? What innovative things are being done with them, and how do they reflect other aspects of the society? How can you tell?

Infrastructure and population change

Predict needs for schools, education and/or training, transportation, parks, medical facilities, utilities, public safety institutions in your area of interest. Are they in the right places? How will needs change? What has to be considered in addressing them and what role does geography play?