

# ESD.864 PROBLEM SET #2

## Assessment Design/Evaluation

Due Tuesday, March 19:

### Frameworks and System Modeling

This assignment will allow you to practice applying the analysis frameworks we've covered in class so far to case studies of modeling and assessment for policy, and to use quantitative modeling in decision communication.

1. For question 1, choose a scientific assessment process relevant to decision-making. You may choose a process that you've been involved in or interested in, or any one of the cases we've mentioned or read about in class.<sup>1</sup>

a) Describe the context. What is the decision process involved? What is the role for scientific or technical information in contributing to decision-making? Who are the major decision-makers and/or stakeholders?

b) Use the "Salience, Credibility, Legitimacy" framework to evaluate your case. Select a decision-maker and/or stakeholder. Was the assessment process salient, credible and/or legitimate to that decision-maker/stakeholder? Why or why not? Reflect on whether this framework helps in understanding the effectiveness (however you might choose to define it -- but be sure to define it!) of the scientific assessment process you've chosen.

2. For Problem 2, you will need to identify and run (yourself) a simulation in a quantitative model of your choice that has implications for policy-making. (EN-ROADS or C-ROADS are options).<sup>2</sup> Identify a decision-maker and policy question that can be addressed by the model, and describe your conclusion in a memo to that decision-maker, including one (and only one) figure of your model results. Your memo should, in a way that is understandable to your chosen decision-maker:

a) Describe the model

b) Describe your chosen simulation (e.g. inputs, boundary conditions, uncertainties)

c) Identify a policy-relevant conclusion

The decision-maker and decision context should be clearly identified in your memo.

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1 Please provide citations for your case where appropriate. If information comes from your personal experience, say so.

2 A useful web site source for online environmental models is <http://www.epa.gov/epahome/models.htm>; if you have suggestions of easy-to-use models from other domains, please post them on the class discussion forum. You are also free to use a model from your own research.

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ESD.864 / 12.844J Modeling and Assessment for Policy  
Spring 2013

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