

IAMC Community Scenario Database (Beta-version)

Volker Krey, Keywan Riahi, Peter Kolp
(based on discussions and inputs from many others...)

International Institute for Applied Systems Analysis (IIASA)

Starting point...

- The RCPs cover the climate space, however, their underlying assumptions about drivers are not sufficient to cover socio-economic uncertainty space
- Need of a participatory process (IAV & IAM) to
 - define scenario taxonomy and limited number of storylines
 - collect & manage a large ensemble of new IAM scenarios that are useful for (nested) IAV analysis
- Process/tools needed that foster wide participation
- Socio-economic data needs to be accessible to the communities (eg like the IAMC-RCP database for the CM modelers)

Community Scenario Database

- First experience with community databases: IMAC-RCP database with integrated visualization and data export
- Limited number of modeling teams (4 RCPs)
- Nevertheless, very labor-intensive for the database-manager (IIASA)
- New functionalities to provide
 - Interactive upload procedure based on standardized data template (AME, EMF24 – to be further developed into IAMC standard)

Ideas for Database Features

- User management system with different rights for individual modeling teams and public users
- Automated categorization of scenarios
 - climate categories (RCP)
 - socio-economic categories (RSP)
- Online simple climate model (MAGICC or similar)
- Automated basic quality control (definitions, units, standard base year quantities, ...)
- Flexible regional aggregation based on model-specific regions – country mapping

Community Database

Front-End (database):

Automized (simple) quality control features

Scenario classification:

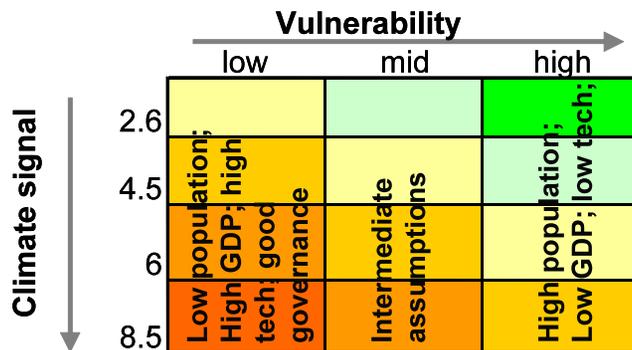
- 1) Climate signal (RCP class)
- 2) Vulnerability (eg by socio-economic ranges?)

submit



User

manage



Community Database:

- Facilitate open process
- Model teams manage own scenarios
- Data comparisons and downloads available to all teams
- Library grows evolutionary (populating the matrix)
- Provides the basis for selecting RSPs

One Possible Process (among many alternatives)

- Short Term (parallel process):
 - Start filling database with initial scenarios (eg RCPs and replications to jump-start the process)
 - Definition of scenario taxonomy (criteria for socio-economic assumptions that define eg h/m/l vulnerability)
 - Define data categories for scenario template (IAV & IAM jointly)
- Open Process:
 - Invitation to IAM community
 - Modeling teams submit additional scenarios to fill the scenario library (matrix)
- Data analysis and post processing for AR5 (eg including selection of RSPs)

Feedback

- Usefulness of the tool
- Functionalities
- Data categories
- Etc...