# NASA CMS Phase 2 Responsiveness Working Group End User Summary

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and additional input from CMS Phase 2 Investigators

# Goal

Develop a list of end users and stakeholders that may benefit from information provided by a CMS or by parts of a CMS

- Helps ensure that we understand different perspectives among CMS colleagues

- Helps develop potential stakeholders for future involvement and to guide future work

- Helps ensure responsiveness of CMS research to the greater research and non-research communities

# Requested Information

- Name of potential user or stakeholder
- Documentation of need (website, publication, etc.)
- Reason for CMS data need
- Data that may be used by the potential user

# Received Input and Categorization

~20 entries

Geographic domain:

Global (G)

National (N)

State, City, Province (P)


Nature of measurement:

Stock (S)

Flux (F)

# Results – *subject matter*

Subject matter consisted of the following:

- Woody Biomass Carbon Stocks
- Soil Carbon Stocks
- Carbon Flux / Emissions from Land-Use Change (Direct and Indirect)
- Carbon Flux / Emissions from  Fossil Fuels
- Uncertainty on all of the above
- Ocean Carbon Stocks and Fluxes

# Results – *categorization*

- Balanced between Global and National interests
- Balanced between stocks and fluxes
- Small but focused interest and need at the province scale

# Results – *Examples*

| Potential User | Reason for Data Need | Data Need | Geographic Extent | Primary estimate needed |
|---|---|---|---|---|
| EPA | Evaluate or verify current GHG emissions | Land class area, C stocks & fluxes | National | Flux |
| UNFCCC | Continental and global syntheses; policy negotiations | Globally consistent estimates of C flux | Global | Flux |
| USDA | US Farm Bill | Soil organic carbon | National | Stock |
| RGGI; CARB | Analysis of regional emissions and mitigation options | Spatial and sectoral metrics of emissions (emission density, emission per GDP, etc.) | Province | Flux |
| | | | | |

# Backup Slides

# Primary Data

| Name of potential user or stakeholder | Documentation of need (website, publication, etc.) | Reason for CMS data need | Data that may be used by the potential stakeholder | Geographic Extent | Primary estimate needed |
|---|---|---|---|---|---|
| EPA | http://www.epa.gov/ttn/chief/eiinformation.html; http://www.epa.gov/ghgreporting/ | Evaluate or verify current GHG emissions estimates and emission for NEI (two EPA programs) | Land area, carbon stocks, carbon fluxes (CO2, CH4, N2O) | N | F |
| USDA Farm Service Agency | | Verify changes in land area and land management associated with conservation programs & get estimates on how these programs influence carbon stocks/fluxes | Land area, land management, carbon stocks, carbon fluxes | N | S |
| NGOs: WWF, TNC, NRDC | | Understanding land management change and associated carbon stock/fluxes for policy purposes | Land area, land management, carbon stocks, carbon fluxes | N | S |
| UNEP – Global Environment Facility | | Quantifying changes in carbon stocks associated with GEF projects as they relate to changes elsewhere (i.e., leakage) | Land area and carbon stocks | G | S |
| UNFCCC | | Continental and global synthesis products. International negotiations on climate and emissions | Globally consistent estimates of carbon stocks and fluxes, country-level "confidence" information | G | F |
| CARB (Calif. Air Res. Board) | | Evaluate or verify current GHG emissions estimates | Land area, carbon stocks, carbon fluxes (CO2, CH4, N2O) | N | F |
| US State Dept, Intel Community, DOE | | Multi-lateral treaty or bi-lateral agreement (Kyoto follow-on) | Country-level & point sources of CO2 fossil-fuel emissions; Land Cover Change | G | F |
| DOI-USGS | | US EISA | US Ecosystem carbon (forest & soil biomass) | N | S |
| USAID | | REDD+/Silva Carbon | Global forest biomass (stocks & disturbance) | G | S |
| USDA-USFS, & state/regional | | REDD+ & existing forest mandates | US & Global Forest biomass (stocks & disturbance) | G | S |
| USDA-ARS | | US Farm Bill | Soil Organic Carbon (research) | N | S |
| USDA-NRCS | | US Farm Bill | Soil Organic Carbon (operational | N | S |
| Cities (Mayors, C40), CARB, AIRPARIF | | City level GHG stabilization agreements (C40, ICLEI), mitigation guidance, concentrated reduction opportunities, bias identification, consumption/production linkages | Urban CO2 & CH4 fluxes - both direct and consumption based | P | F |
| World Bank, USAID, GCP | | Many urban sustainability, climate & air-quality programs | Urban and ex-urban CO2, CH4, CO fluxes | G | F |
| National Forest System | http://www.fs.fed.us/climatechange/advisor/scorecard/carbon-assessment-stewardship.html | Congressional and internal guidance for improved monitoring of climate change mitigation in national forests | Carbon stocks and fluxes, particularly as related to disturbance and management processes | N | S |
| Group on Earth Observations (GEO): member states | http://www.globalcarbonproject.org/misc/JournalSummaryGEO.htm | Need for global and regional carbon budgets to inform policy action aiming to curve down the future increase of CO2 and CH4 while accounting for potential changes in carbon feedbacks | Integrated global carbon-cycle assimilation system for CO2 and CH4. Integrates data streams from fossil fuel, terrestrial, ocean, and atmospheric observations. | G | F |
| RGGI, states, state collectives | | Cluster analysis of regionally efficient mitigation information. | spatial/sectoral metrics of fossil fuel emissions (LISA, emission density, emit/GDP, etc) | P | F |
| EPA | http://www.epa.gov/globalmethane/ | Better information on methane sources at the national, state, and sector levels | Optimized methane emissions at fine resolution across North America with source attribution | N | F |
| Any oceanographer or modeler who needs to know the global ocean 3-D distribution of carbon system parameters and tracers that are not commonly cataloged by NODC | The data repository will be http://cdiac.esd.ornl.gov/oceans/index.html | Investigations of decadal scale climate change. Model initialization. Model calibration. Model input. | 3D distribution and objective maps of carbon system parameters, transient tracers and nutrients all of which have been subjected to significant calibration beyond the norm. | G | S&F |