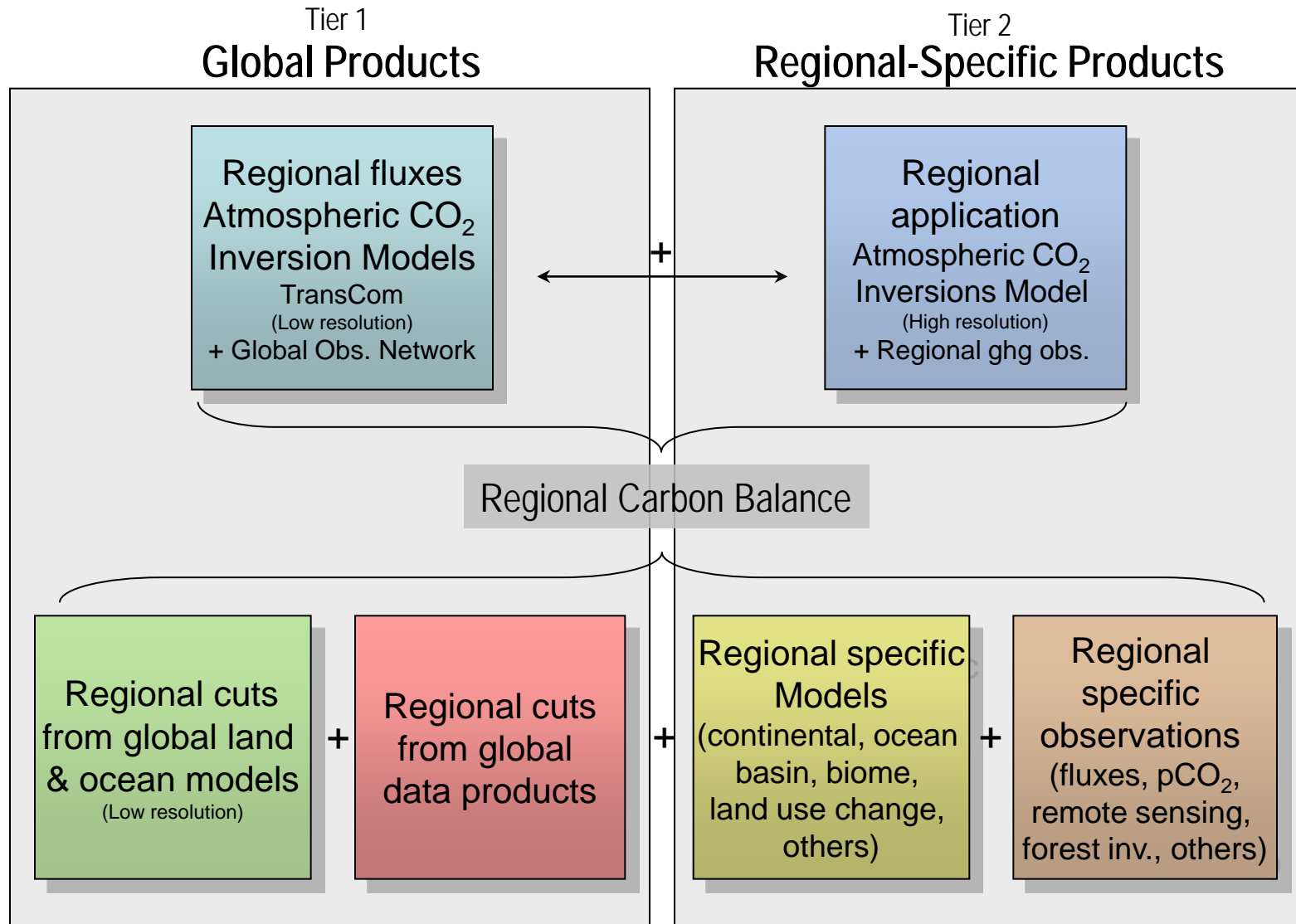




REgional Carbon Cycle Assessment and Processes (RECCAP)

23-27 October 2011
Shepherdstown, WV, USA

Components of Regional Synthesis

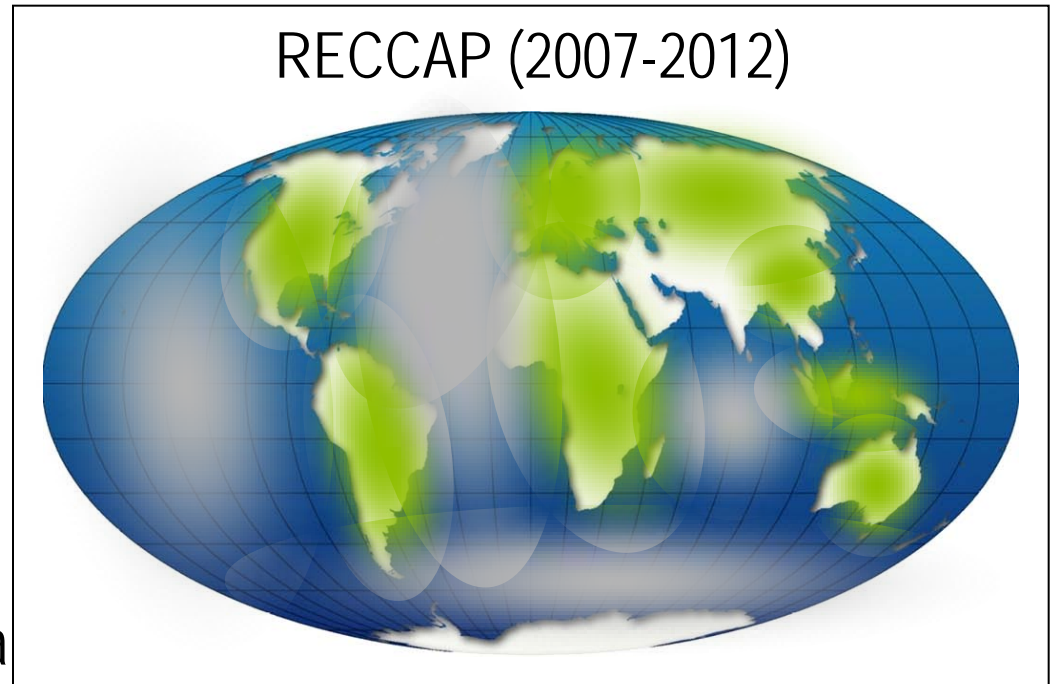


Global Products

Product	Specifications	Coordinator
Atmospheric CO ₂ inversion models	TransCom (11 models), 1° x 1°, monthly gridded and regional integrated fluxes according to RECCAP mask. 1995-2008	Kevin Gurney, Rachel Law, Philippe Peylin
Ocean prognostic biogeochemistry models	Six global models gridded for all major flux components. To 1958-2009	Corinne Le Quere
Ocean inversion model	1 model.	Niki Grubber
Terrestrial biogeochemical models and NEP-flux model	Five Dynamic Global Vegetation Models, gridded output for all major flux components. To 2009. GPP and NEP from eddy flux data-driven model	Stephen Sitch, Pierre Friedlingstein, Markus Reichstein
Fire emissions	0.5° x 0.5°, monthly, burned area and fire emissions (C, CO ₂ , CO, CH ₄ , NO _x , N ₂ O, BC others) 1997-2009.	Guido van Werf

Global Assessments

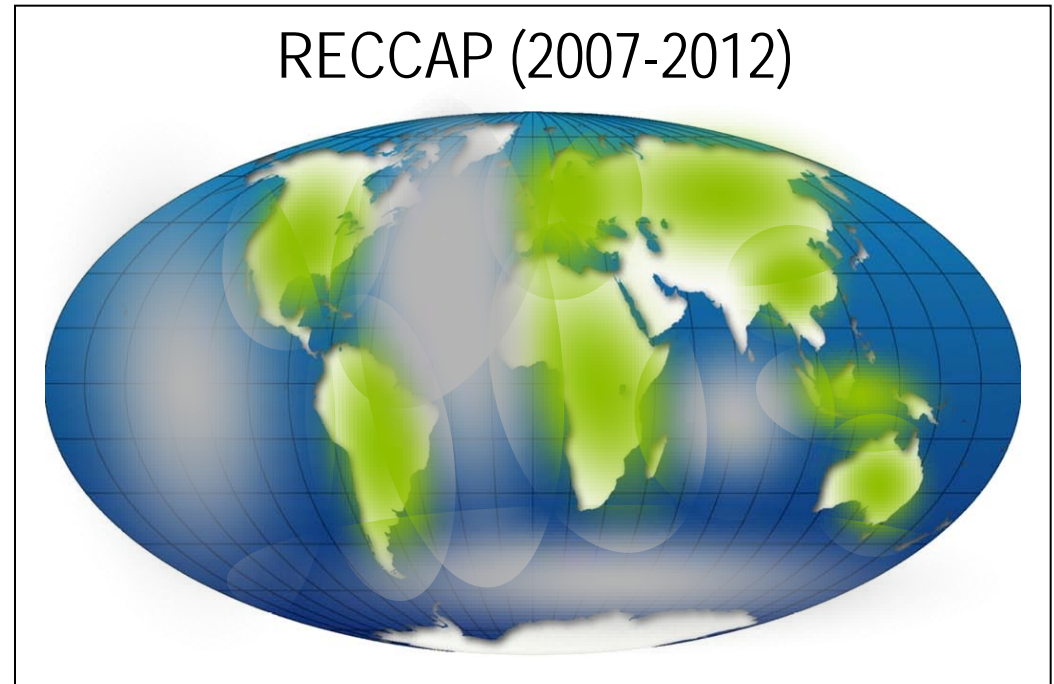
- Fossil fuel emissions
- Land use change emissions
- Global atmospheric budget
- Global ocean surface CO₂
- Global ocean storage
- Coastal Ocean & marginal sea
- Rivers fluxes
- Embedded fluxes in international trade



Land and Ocean Regional C Budgets

Land

- L1 Africa
- L2 Arctic tundra
- L3 Australia
- L4 Europe
- L5 North America
- L6 Russia
- L7 South America
- L8 East Asia
- L9 Southeast Asia
- L10 South Asia



Oceans

- O1 Pacific
- O2 Atlantic and Arctic
- O3 Southern Ocean
- O4 Indian

Global Syntheses of Syntheses

S1 Comparison of top & bottom up

S2 Trends & variability

S3 Attribution to processes

S4 Human drivers of regional C budgets

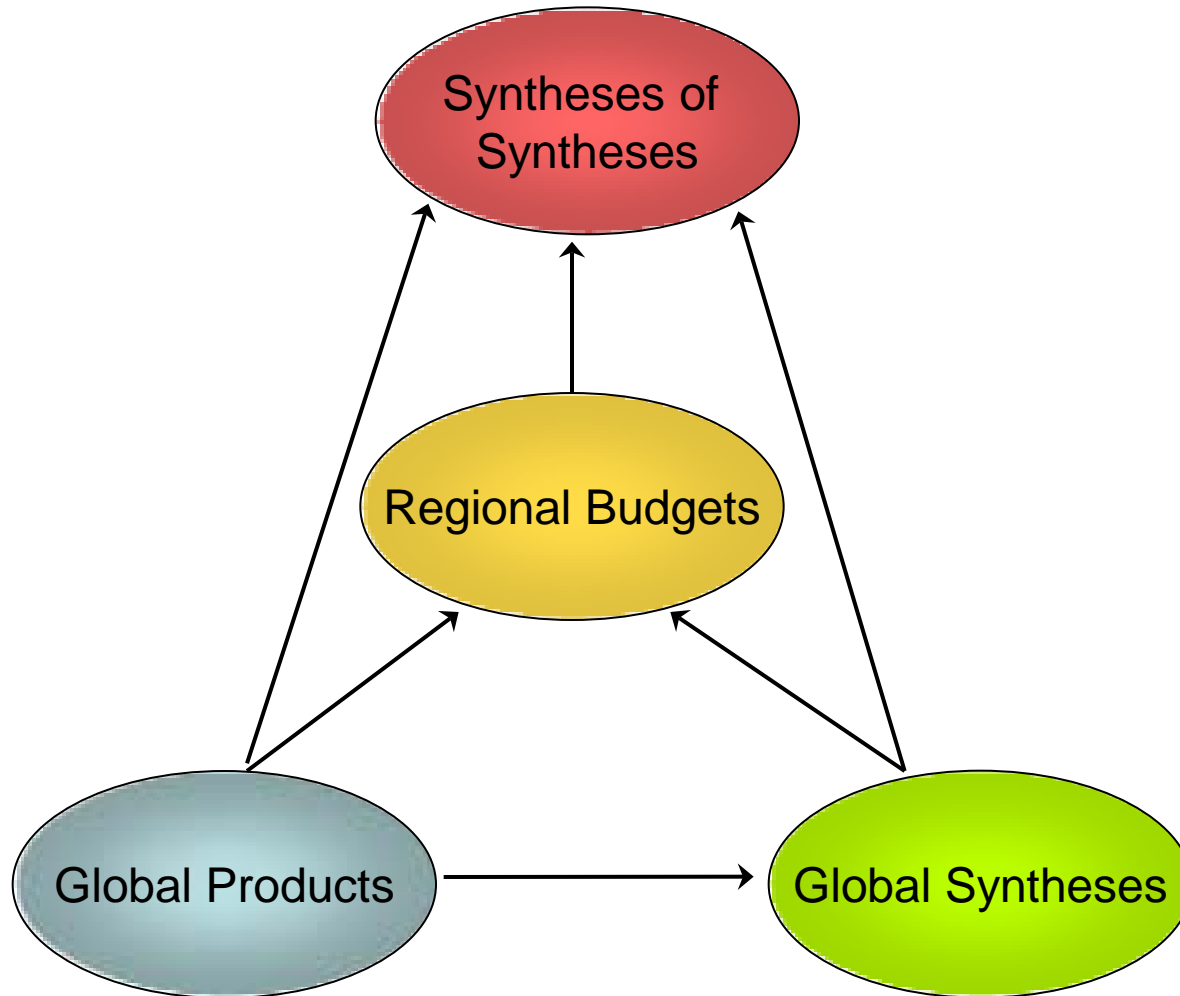
S5 Uncertainties

S6 Final recommendations

RECCAP (2007-2012)



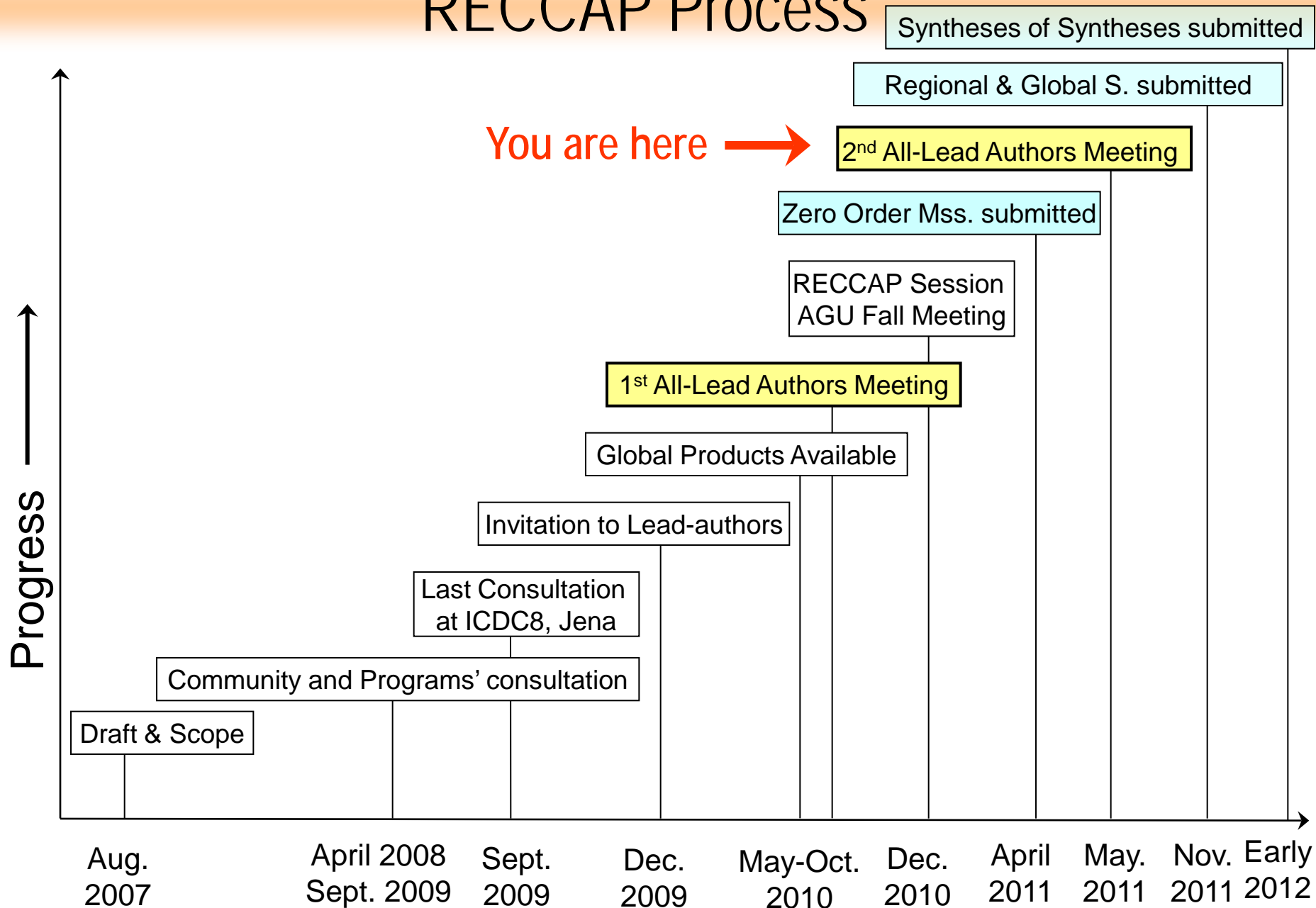
How all comes together



Products

- **Scoping paper for EOS or “News” in Science:** 'An international effort to quantify regional carbon fluxes'.
- **Special Journal Issue/s** (Biogeosciences) with all regional and global syntheses. And Methods/Reference paper.
- **4 high-level syntheses papers reporting key results** (eg, Nature-Geosciences).
- **Recommendations paper for Policy Makers.**
- **Distributed Data Repository** (to be updated in the future) C fluxes from regional and global estimates available for further research and publications.

RECCAP Process



Objectives of the Workshop (i)

U.S. F&W National Conservation Training
Center, West Virginia, USA
23-27 May 2011

- To discuss progress towards the final completion of the regional carbon budget and global syntheses.
 - Research highlights
 - Issues to be resolved
 - Key estimates:
 - Mean annual flux for the entire RECCAP region (decadal means)
 - Trends and variability over 20 years
- To initiate and advance on the second phase of RECCAP: “Syntheses of Syntheses”.



Objectives of the Workshop (ii)

- To discuss the future of RECCAP
 - Repeat/update assessment.
 - The legacy of the global products, production of updates and the continuous availability of model output.
 - The availability of datasets from the regional and global syntheses.

Structure of the Workshop

Day 1, a.m., pm.

Day 2, a.m.

Presentation of Regional and Global Syntheses:

- Scientific highlights
- Steps towards completion

Break out groups (land/ocean) to discuss issues and consistency across syntheses

- **What we need to achieve:**

- An agreement on standards, budget components, terminology, units, consistency across regional C budgets, and across syntheses, uncertainties, key flux estimates, etc. (also see RECCAP Protocol doc.)
- A resolution of any pending issues in support of the completion and submission of mss.
- Submission by November 2011

Structure of the Workshop

Day 2, p.m	SS – Outlines: presentation/plenary discussion
Day 3, a.m.	SS – Break out group
Day 3, p.m.	Unstructured afternoon
Day 4, a.m.	SS – Breakout groups report in Plenary
Day 4, p.m.	SS – Breakout groups
Day 5, a.m.	Plenary and Wrap up

- **What we need to achieve:**
 - Extended outlines / zero order drafts.
 - Initial text for introduction, methods, description of data, some results, some discussion, key messages (even if hypothetical at this stage).
 - A work plan to carry on and complete the mss.
 - For what cannot be achieved, a work plan with the analyses and datasets to be performed/used, who is doing what, timetable, and the network of critical contributors, etc.
 - Submission of ZODs by October (5 months).

Break-out Groups (Wednesday to Friday)

S1

Top-down
Bottom-up

Write your name

S2

Trends &
Variability

S3

Attribution to
Processes

S4

Human
Drivers

New Science Talks

Yude Pan	The role of forests in the terrestrial C sink
Andrew Lenton	Global trends in oceanic pCO ₂
Ken Davis	Intensive regional experiment on flux estimates in the corn belt of the US
Niki Gruber	The changing C ¹⁴ inventory of the global ocean: new constraints on the oceanic uptake of anthropogenic CO ₂

Last Day

Global Syntheses of Syntheses

S1 Comparison of top & bottom up

S2 Variability

S3 Trends

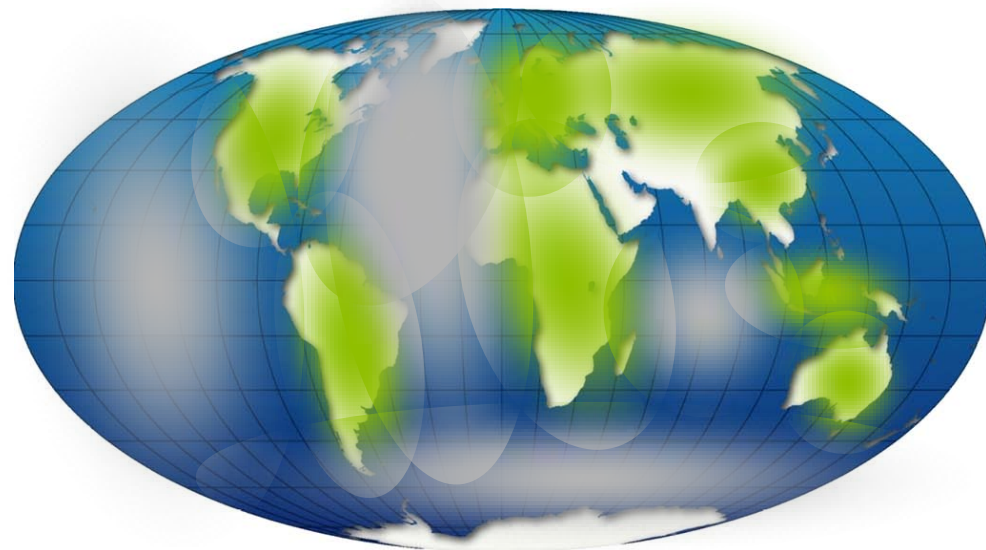
S4 Attribution to processes

S5 Human drivers of regional C budgets

S6 Uncertainties

S7 Final recommendations

RECCAP (2007-2012)



Deadlines

- **Scoping paper for EOS or “News” in Science: 'An international effort to quantify regional carbon fluxes'.**
- **Special Journal Issue/s (Biogeosciences) with all regional and global syntheses. And Methods/Reference paper. Submission to Biogeoscience Nov. 20.**
- **5 Syntheses of Syntheses papers. ZOD by Dec. 15.**
- **Recommendations paper (for improved observations and policy relevance). Begin end of 2011.**
- **Distributed Data Repository (to be updated in the future) C fluxes from regional and global estimates available for further research and publications.**

Review Process

- Regional Zero Order Drafts: Self-review, day 1,2
- Global ZODs: Direct feedback to authors
- Next review for consistency: Biogeosciences Discuss.
(Nov. 20 – Dec. 15)
- Submissions of SOS ZODs: Dec. 15

Authorship on Papers

- Sensible judgement by lead authors with fair reward of people's efforts .
- Consistent with Fair Policy of Data Use, check with us (or directly with lead contributors of each product) to ensure the appropriate protocol for acknowledging the use of those products is followed (in some instances will include authorship).
- Some form of measurable contribution unique to the paper.
- For papers largely building from regional budgets we will need to have an open discussion with the regional lead authors (eg, do we need to include the more than 100 authors from the regional budgets papers).

Future of RECCAP

- Maintenance and update of global products.
- Data open access to the broader community.
- What data from the regional budgets could also be made open access.
- Next Assessment?
- Next workshop on _ _ _ _ ?
- Global Carbon Atlas



GEO-Carbon Conference:

Carbon in a changing world

24-26 October 2011, FAO, Rome.

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