LAND-WATER COUPLING

Brasilia 6 de Outobro

Objective. 1. *Review* "Outcomes from Piracicaba"

Objective. 2. *Identify* focus Activities, and who will commit to doing what by when. *Central focal Activities (see next)*

Objective 3. *Select* outlets: Journals? Special edition? Book?
Focus on "maximum impact" journals

Objective 4. *Discuss* a Workshop #2 *Yes*

- **Mission? *Focus on cross- focal activity evaluations***
- ***Student modeling short courses? Discussion….***
- **When? *~ May 2007***
- **Where? *TBD (Piracicaba? Ubatuba? Miami?)***
- **(R$/$) *TBD***

Land-Water Synthesis Activities

(focus on "synthetic" activities; under development ….

"go", under discussion, tabled/specific

I. Provision of datasets for respective synthesis activities

Activity 1. Provision of geospatial datasets, in support of synthetic, simulation modeling activities (->DIS)

Detailed need depends on application: at least for modeled basins

Activity 2. Provision of composite datasets and data-sharing for specific synthesis activities (-> DIS)

Group-specific

Activity 5. Provision of Scale-dependent surface climate forcing of hydrology and coupled biogeochemical models

Big discussion!!!

Activity 3. Ready access to published papers and datasets

Straight forward

Activity 4. River drainage networks: from small streams to regional floodplains

Not in near term

II. Hydrological Processes: from Hillslopes to the Atlantic

Activity 6. Flow path Differentiation as a function of soil type, topography, and landuse in lower order catchments: Hydrological and Geochemical Interpretations

- ***EMMA (Neill et al): Rancho Grande/Faz Vista Alegre, Juruena, Paragominas (ZF2?)***
- ***DHSVM modeling (Richey et al): Ji-Parana, Santarem, Cueiras, Paragominas***

Activity 7. Why can't we see microscale landuse change effects at the mesoscale?

Under discussion: Tomasella, Trancoso, Linhares, D. Victoria et al……

Activity 8. Controls on Regional Water Balances of Amazônia: 197x – 2005

IBIS/VIC: THMB. Coe, D. Victoria, et al.

III. Lateral transport: Evaluation of C and Nutrient Dynamics from Soils to Streams across Riparian Interface

Activity 9. Processes Controlling Solute (and Gas Fluxes) across Land/Stream boundaries

* ***Concentration/Q. Markewitz et al***
* ***DHSVM-C Richey et al.***

Activity 10. Relation of Regional GPP/NPP/C sequestration/litterfall to C Available for Export

Open question! Needs terrestrial production

Activity 11. Injection of Soil water CO2 into streams (of different orders)

Group specific, but model-potential

Activity 12. Composite Evaluation of Hydrology/BGC Models across small order streams

Incorporated elsewhere

IV. Downstream advection and reaction, lateral exchanges and gas dynamics in large inundated areas.

Activity 13. Nutrient Inputs Related to Nutrient Outputs at Multiple Scales
Incorporated elsewhere

Activity 14. Hydrological and Biogeochemical Scaling in the Ji-Parana River basin
Incorporated elsewhere

Activity 15. Transport, Reaction, and Outgassing of CO2
More group-specific

Activity 16. Mesoscale-to Basin-scale
DHSVM-C/THMB Richey, Coe et al

Activity 17. Floodplains/River boundaries
More group-specific

IV. Downstream advection and reaction, lateral exchanges and gas dynamics in large inundated areas. (cont)

Activity 18. Rationalization of land/aquatic C cycle with overall basin C cycle ("new")

V. More public "relevance" (new)

Activity 19. TBD.