

Big papers Plans from 2015 Annual Meeting

1. Life cycle impacts of certified wood under changing climate

1. SFI/FSC,
2. CTLs,
3. value based wood products

Authors:

Puneet Dwivedi*, Bob Teskey, Dan Markewitz, Mark Megalos, James McCarter*, Gary Peter, Bob Abt*

Data/input needs:

1. soil carbon data
2. changes in forest productivity
3. FSC/SFI distances

Logistics/ next steps:

1. Create a listserv
2. Put timeline in place
3. Assign responsibilities

Outreach/audiences/messaging:

1. 2 pager (ex. Doc.)
2. Papers
3. Webinar

2. Strategies to Enhance Climate Education

K-12 – PLT (3), UG Fellow (4 levels), Grad course (2)

- How to use research framework
- How to meet NIFA/NSF RFP requirements/ opportunities
- How to increase effectiveness
 - Cultural cognition/ inclusive of perspectives & worldviews
 - Relevance (standards, course req's)
 - Barriers
- Integrative nature of climate focus
 - Outreach-stakeholder-research component
- Multiple audiences

Authors:

Kidd, Li, Kunkle, Ritchie, Monroe, Boyles

Data/input needs:

New: how other projects meet education (K-12+) goal

Have: evaluations of our projects/ efforts

Logistics/ next steps:

FL meeting John skypes in

1. Read JOF article, Aim 5 reports (next week – meeting 3rd week June
2. ID rel. journals
3. Outline and assign chunks

Outreach/audiences/messaging:

How-to guide for proposal writers and RFP developers

3. Climate Education

- Evaluation: formative, summative data to evaluation, lessons learned on evaluation on curriculum model, DSS formative (Tracey, Christine – explore possibilities)
- Integrate climate education into broader discussion of effort:
- UG intern, grad course (JOF), K-12 all got exposure to issues – what to learn? On interdisc. Education – J. of Sust. Ed., J. of ESD, Science Ed.?

Authors:

Monroe, Ritchie, Kunkle, Li, Kidd, Boyles, Oxarart, Seiler, Krantz, Hall, Glover

Data/input needs/next steps:

Tested 3 different strategies for different audiences. What we did, not RQ. Descriptive that raises Qi, new directions for research

Understanding audiences' perceptions and interest/engagement. Experiments needed w/ new data*

NEW:

- What defines an expert? Who is trusted as expert in controversial topic? Is a systems approach effective strategy to teach climate? Easier? How do we teach teachers to know – teach climate systems...
- UG students contribute/present/alter message by audience – teacher perceptions, peers, first experience w/ research
- PLT – what do teachers use – how did it work – systems help.
- How we designed curriculum w/ RFP/NIFA goals w/ research, not ideal prog. Development. Hos it is > add on.

Obtaining:

- What we have done to increase efficacy in teacher workshops. KK: Prof. devel. Decrease conf, increase barriers to teach.
- How to develop curriculum on controversial issue:

- Cultural cognition
- Hope/efficacy student
- Prof. develop. Teacher efficacy
- Relevant (standards = system)

New: assessment of how NIFA/NSF integrative research addresses education – how ours was different.

4. Management and Climate Effects on Ecosystem Carbon Storage

Authors: Vogel and TBD (blank on sheet)

Data/input needs: Climate – Idaho

Logistics/ next steps: recheck GPS coordinates

Outreach/audiences/messaging:

DSS (need to look at data first

- Biomass, FF (empirical vs. model), and soil pools of C
- NUE vs. N input
- %RH vs. %C

5. Throughfall reduction and fertilization effects on NEP (Tier 3 sites)

Authors: Bracho, Noormets, Gonzalez-B, Martin, Vogel, Markewitz

Data/input needs: Ra, Rh, Rs, Soils and Climate databases

Logistics/ next steps:

- calculate effects of rainfall reduction and nutrient availability on NEP
- translate into understandable response on ecosystem C and C accounting and accumulation
- validate and extrapolate responses using Tier II

Outreach/audiences/messaging:

- factsheet of treatment effects: “Effects of rainfall reduction + fertility on ecosystem carbon”
- inclusion into DSS, linking to soils (fertilization response) + climate, soils, VPD (water effects)
- include into 3-PG and other models???
- J.C. nominated to star in videos on how to measure carbon, why NEP is important, carbon accumulation.

6. Tier 2 Rs and Rh:Rs Partitioning

Authors: Tier 2 (Brown, Markewitz, Noormets, Strahm, Maier, McElligott, Lin) and Tier 3 (Strahm, Selier)
NEP-NPP tradeoffs, validation of templeton model

Data/input needs: template filled and submitted to Brown/Markewitz

Age, season, genetics, weed control, fertilization

Outreach/audiences/messaging:

Forest landowners (talk)

7. a) sap flux synthesis, b) hydraulics synthesis, c) integrative paper including data from other studies

Authors: Ward et al (cast of thousands)

Data/input needs:

- Hydraulic data 2015
- Sap flux (in), met, soil moisture to Terra C
- Biometric, litter
- Monthly LAI
- Sapwood area (carbs?) – need bark thickness
- Dbh over time
- Soil moisture – deeper data?
- Roots (Jill? 2015) – coordinate timing at sites (how many cores/plot?)
- Water potential – coordinated days among sites (JC) – based on soil moisture

Logistics/ next steps:

Schedule?

LAI meeting

Root/branch hydraulic meeting water potential

Root sampling meeting

Outreach/audiences/messaging:

Impacts on models

Water portal in DSS

Fact sheet: management effects on water use

Risk of stress in particular location/climate/soil

How do forestry practices affect water budget (fertilizer?)

How does a landowner learn about water? Soil?

8. Evaluation CC: PINEMAP's Outreach Activities

- Steps to take to convey pine forests' resiliency in face of changing climate.
- How we learned that foresters will make changes on the ground in the face of environmental pressures.

Authors: Eric Taylor, Leslie Boby (co-leaders); Heather D., Corey D., Mark M., Bill H., Dan G., Rachel B.

Logistics/ next steps:

Leslie will outline by July 1, monthly progress

9. Key results “applicable research nuggets summary” paper

Authors: Eric Taylor, Leslie Boby (co-leaders); Heather D., Corey D., Mark M., Bill H., Dan G., Rachel B.

Activities and impacts: lessons learned, what worked, what didn't work

Audience: Extension people and people doing forestry/Ext/Climate/CAP work

Key results: translating for foresters or for extension use, doing translation

- A story of climate change outreach

- Regional activity on the ground

- Key people on the table

- Communicating about activities (regional): DSS, workshops, factsheets, webinars

Journal of human sciences Extension (6000 words!), SAF newspaper

10. Synthesis DSS paper

- Process of creating DSS
- Regional guidance meaningful at local level
- Who is the audience
- Looking at each decision for what to put into DSS
- Play by play of what was decided and why for DSS
- Multi-disciplinary
- Regionalize (e.g. West Gulf, FL/AL/GA)

11. Look at all our factsheets for commonalities and terms (including education)

- Us as test group for K-12 education
- Language we use, how has the language we use to address foresters changed? From global warming to climate change to climate variability (Martha M., Damian)
- Synthesis on survey papers regarding CC attitudes (Rachel/Puskar/ Mark M.)

12. Data assimilation of the 3-PG model using pine plantation observations.

Authors: Jersild, Thomas (Q), Carlos, Bob, DA, Brooks, Bruce (Tier III)

Data/Input needs:

LAI, biomass, BA, # trees, location, SI, age, year, initial states

Site obs from Idaho climate

ASW

SSURGO soils (texture, %sand, clay)

Authors: Jersild, Thomas (Q), Carlos, Bob, DA, Brooks, Bruce (Tier III)

Outreach: DSS

13. Regional loblolly pine productivity assessment under climate change using 3-PG

Authors: Evan, Randy, (Bob, Carlos, DA – flavors, Carlos Tier I, II data), (Ryan, Heather, Corey – MACA inputs), Quinn (parameter tuning), (Brian, Tom, John Seiler SI Map corrections), Jose Alvarez

Data/Input needs: Validation for productivity variables

Logistics/next steps: Refined SI map (SSURGO)/FR relationship, CO2 fertilization function, parameter tuning/assessment, flavor selection incorporating Carlos' new flavor, regional runs updated for 20 climate models

Outreach: DSS

14. CLM

What details matter when representing forest management in an earth system model?

We used a relationship b/t ANPP and stem:leaf allocated based on Tier I data

Authors: Quinn, Ben

Logistics/next steps: finish outlining paper, a few more simulations

Outreach: DSS

15. Loblolly Pine Growth & Yield Regional Simulations Under Changing Climate Scenarios

Authors: Harold, Evan, Heather/Ryan/Corey?, Charles, Nabin, Randy

Data/Input needs: Tier I, SSURGO, Climate, CO2

Logistics/next steps: Integrate data inputs for simulations, complete simulations, analyze results, prepare paper

Outreach: DSS

16. Carbon-Water Tradeoffs of Southern Forests

Question: how does increased carbon sequestration affect water resources available to people

Authors: Ge, Steve, Carlos, Heather, Eric Ward (CO2 fertilization), JC (CO2/W), Bruce/Bob (Tier III Sites)

Data/Inputs needed: WUE for LP under Co2 fertilization, model validation (NPP), ET (sap flow), MACA

Logistics/next steps: LAI??, NPP MAPs, WUE under increased CO2

Outreach: DSS

17. Ensemble modeling of pine productivity over the 21st Century

Authors: Q. Thomas/R. Wynne/E. Brooks, authors on all individual model papers, Sabine, Wade Ross

Data/inputs needed: final 3-PG variants, same datasets as individual model papers

Logistics/next steps: 20 climate models x 2 scenarios, 1 model for CCSM 4.0, w/ CO2

Outreach: go big on outlet, DSS, messaging