DISCUSSION NOTES

MAINE CLIMATE COUNCIL

Science and Technical Subcommittee

(STS)

4th Meeting – January 22, 2020
1 - 4 PM


AGENDA

Welcome and roll-call

MCC Update and Slides Format Preview Comments – Cassy
- Working Groups moving along
- Coast and Marine group in several subgroups and are holding calls outside of their regular meetings. Info on those meetings is online.
- GOPIF is getting final details for next Wednesday’s 1/29 Climate Council meeting
- GOPIF is reviewing the STS slides. Most have sent their slides, and finals are being finished up. In looking over highlights from the phase I reports, those have seemed to work well for the slides. In a few places, there may be some suggestions to remove text, tighten up, and focus on Maine, but otherwise are looking very good. Please expect follow up on those comments in next few days.
- Reminder that STS will be speaking from 10:30-12:30, with approx. 12-15 mins for subgroup presentations, followed by 10-minute Q&A after two groups. Cassy will have timecards and will have a hard stop at 15 mins.
  - (from 1/16 email from Cassy to STS) Basic flow, ~10:15am-12:30pm =:
    - Phase I Report Introduction from Bob and Ivan (5 minutes)
    - Climate presentation, Sean Birkel (12-15 minutes)
    - Marine presentation, Andy Pershing (12-15 minutes)
    - 10 minutes Q&A
    - Forests presentation, Adam Daigneault (12-15 minutes)
    - Agriculture and food systems presentation, Glen Koehler (12-15 minutes)
    - 10 minutes Q&A
    - Human health presentation, Rebecca Lincoln (12-15 minutes)
    - Maine’s economy presentation, Jonathan Rubin (12-15 minutes)
    - 10 minutes Q&A
The goal for the presentations is to present to the Council on these initial findings, and that is the primary audience. And it will also be the first opportunity for Council members to hear from and weigh in on the STS work. So, in terms of anticipating and responding to questions, they will be most likely be directed to whomever the speaker/presenter is; however, STS members should feel comfortable with deferring to other experts on their team or within the STS who may be more appropriate to respond to the question. And for example, a general question might be best directed to Director Pingree as co-chair of Council.

GOPIF has also secured facilitation support from Consensus Building Institute (CBI), and they will be supporting the Council and its working groups going forward, including facilitating the Council meeting next week. This includes the Q&A portion of the presentations. Q&A will be from the Council and not from general public in order to keep to agenda timing.

GOPIF has received proposals to the RFP that closed earlier this month. Those are being reviewed and it is anticipated that selections will be announced at next weeks Council meeting.

There will be two 45-minute break outs in the afternoon and will include facilitated discussions.

- Break outs will be across 6 sub-groups, and STS members are encouraged to stay the entire day and go to the break outs and are welcome to contribute to the discussions.

- In general, how should questions be fielded that come in to members; specifically, those outside of the formal meetings? Those can be directed to GOPIF.

General Comments – Bob and Ivan

- Bob and Ivan want to thank everyone for the depth and amount of work that has gone into these initial reports and these reports will work very well to inform the council and working groups, as well as to dive deeper into in phase II. This was also a great process to observe, partake in, and see how the group came together. Moreover, it was all done over a very short timeline.

- We are continuing to receive inquiries from other working groups, by way of the co-chairs primarily, and we can continue as members of the STS to respond to those inquires via email and through attending working group meetings, etc.

- The co-chairs will take the summary highlights sections of each subgroup and assemble them together, along with an image for each topic, and create an executive summary type document. Once assembled it will be circulated to the full STS for their review and edits. This will become a public document. It will then be posted on the climate council webpage. Overall it will be considered a final, but still a ‘working document’.

- Ivan and Bob will take what is on the site now and use that to form the report. Following creation of this integrated document by the co-chairs by end of this week, they will send for members the document to review starting on Monday. Following that there will be a week to 10 days of review by members and we will finalize ASAP for delivery to the WGs and posting on the MCC website.

- This can then be used more readily by the working groups, and by STS members to share with them.

- Following the phase I report, the richer content will be put together in their full form by topic for a phase II report.

- If there is still information to add, it will need to be added to the Phase II report, although new information can be delivered directly to the WGs in the interim, with a draft of the Phase II report tentatively ready in June. We can make notes in the report about how there will be continual needs to update the information.

- For the Phase II we can also think more about a consistent format for all the subgroups to go from in terms of document structure as well as font type, size, citation style, etc.

Discussion of Phase I Reports and Presentations(*)

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Opportunity to raise any questions about presentations and reports – slides, other info needed, organization to reporting/sorting of info and work by subgroups that is desired for phase II report

Progress Reports - Lead Writers or Designee

Sean Birkel* - Climate/Meteorology/Hydrology
- Have come to a good point so far with key content, and a few points where they are looking for info
- Overall covers temp/precip (historic, projection), extreme weather, drought, hydrology (links with snowmelt, groundwater levels), and water quality
- Would like to add onto extreme weather (historical heat waves/cold waves, and increased frequency in past few decades), and paragraph to winter season (done more thoroughly).
- Brad can contribute on heat waves portion
- Hydrology is looking good and don’t see any major changes.
- Not sure if water quality status is enough.
- Will variability be covered in addition to incremental changes? Yes, to some extent is already included on seasonality, etc. – but, would like to expand more. Glen can connect on this.
- Presentation is in good shape and should be all set. Have approx. 15 slides.

Andy Pershing* - Gulf of Maine Warming
- Sea level rise, ocean temp, coastal and ocean acidification, and ecosystems.
- The SLR group has a good structure that may be helpful for other groups to look at and possibly replicate.
- All of the chapters so far have some time series graphs (historic and then scenarios forward); however, is this replicable for the other changes (e.g. ocean acidification – to some extent have some data on past concentrations and predicted future, but is not as mature as some others, latest IPCC does have some info, but it is global and not as specific to Maine; however, will help frame and be more consistent with other reporting)
- Could be helpful for STS to present data using both past 30 years (climate normal) and then the variability within. To extent where we can go deeper and present additional known trends, analysis, etc.

Steve Dickson – Sea Level Rise
- Have near final version on info but want to incorporate a few more comments and are looking for some guidance on how to do this.
- Were able to close out all the 2019-year data and include
- More information that needs to be dug into on storms and relation to sea level rise, and will do so more in phase II
- Also want to look a little more into impacts on natural systems
- Should we include in our report a recommendation on the sea level rise rates and amounts at this time, and how do we do this as a full STS? How should we present for the January 29 meeting? At this time, it is important to retain the science that we know and include it, specifically so that the working groups can start to use that in their discussions now. In terms of the actual recommendation as it pertains to this, the STS should spend some more targeted time discussing this before making a more formal recommendation. That discussion could potentially happen as early as the next meeting of the STS.

Susie Arnold – Ocean Acidification
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- Can switch their info from paragraph from into bullets for the highlights section. Co-chairs have started to take paragraphs and make initial go at breaking up into bullets and will connect with OA group on the changes.
- Where OA is a newer science in some cases compared to some of the other topics, the group covered on some of the description of the field of work in qualitative form as opposed to the comparable quantitative reporting by some other groups. However, they are adding in qualitative where they can.
- The group has also included for example...
  o examples on what adaptation could look like in marine fisheries sector for COA.
  o some reporting on impacts, and papers covering. Is for specific species, and not comprehensive, but available.
  o research and monitoring needs along with council requests they are receiving.
  o Further resources section for folks to become more aware

Nichole Price - Marine Ecosystems
- Nicole attended coast and marine work group. They were interested in carbon footprint in fisheries and wondering if STS could include into their work. And in the context of GHG gross reductions in various sectors (transportation). They were interested in carbon sequestration into submerged aquatic vegetation as well.
- In phase II, there are areas like this where STS can prioritize – and specifically, in the context of carbon, the carbon budget, and carbon sequestration. There may be a need to create a subgroup for the STS on this. GOPIF/DEP will be creating a report that shows GHGs with renewables included. Also, UMO is working on a fact sheet on the carbon budget. Those could be part of a subgroups work.

Adam Daigneault* - Forests Ecosystems and Biodiversity
- Have covered some impacts in the Northeast, includes a summary of reports and there is mostly consistency across the reports
- Group of researchers at UMaine have been creating a fact sheet on the carbon budget and will include it as a url link to the presentation. Found that if include forest stock accounts for ~50-60% of ME emissions, and if include forest products accounts for about 75% (longer-lived products, e.g. not for fuel). We will also want to consider how warmer temperatures will impact carbon storage potentials but this preliminary estimate from the UMaine group is mostly a stock change estimate with no future scenario inputs.
- May also want to incorporate ocean into this type of analysis. And an open question is for example is how far out do we go from the ME coast when including ocean water for carbon storage? May want to include that roughly 1/3 of carbon emissions is sequestered in the ocean. However, need to consider that Maine does not “own” water in Gulf of Maine, but for example does aquaculture leases. We also, need to consider that we can report on amount sequestered, but does not report on where the carbon came from. Also need to consider message of promoting benefits of carbon sequestration in oceans, and then also reporting on impacts from OA.
- May be helpful for STS to help inform what some of the principals are on how Maine does work on emissions.
- DOT/DEP is working together on updating emission numbers for transportation sector

Amanda Cross – Biodiversity
- Slides are created and forthcoming.
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- Have reported on for example, state specific impacts on species and in habitat types, and includes broader regional information/context, high level trends, impacts and some cases studies for each. Also has adaptation strategies included, as well as appendices on more detailed info on species, habitats, and plants (MNAP reporting). This is included in a 5-page summary.
- Have not covered marine and aquatic organisms in great extent.
- Will plan to flesh out details in many areas but is a comprehensive summary already.

Glen Koehler* - Agriculture and Food Systems
- Much of the mitigation focus will be dug into deeper in phase II, but prelim look shows that deeper mitigation would be found in forests. However, should have a link potentially in phase II on changes in land use if moving from forest to ag land or vice versa.
- Adaptation has been the focus so far for subgroup and is an area that has real potential to grow and do well in Maine under changing climate.
- Also, would like to incorporate aquaculture, but will probably be most appropriate if covered by coastal and marine group and could have linkage with agriculture.
- Has some info included on messaging and some best practices for communicating to ag audiences. This may be something other groups also would want to incorporate if available to them.
- Food security is also included, and how climate change indirectly relates to that
- Ag report will be sent by end of day

Rebecca Lincoln* - Human Health
- Have some further references that they can continue to plug in, but overall are in good shape. A few slides to do a bit more work on. A couple slides that are created and may be added. Cover high priority risks as focus areas – heat, vector-borne disease, and severe weather/storms. Would like to include pollen, vulnerable populations, and other information and overall need to expand on them. But will touch on them in the presentation. Also, are including water quality related issues, harmful algal blooms, and also air quality issues (ozone,...) – and have referred to DEP on these issues.
- Can continue to update with most current references, also some recent publications that relate to extreme weather and public health impacts (e.g. power loss)
- Community Resilience has some interest in public health impacts under severe weather and will tie in well with STS subgroup in phase II effort.
- Further linkages should be established in the review period for phase I to the extent they can
- Who should be covering human in-migration? Important topic to consider it later STS work.

Jonathan Rubin* - Maine’s Economy
- What would take real effort is the climate change impacts in each sector and overall. It can be done, and is modelled in national and sub-national level, but would take considerable effort. Could be a good recommendation from the STS.
- We will need to come up with the same discount rates. It is critical to have the same discount rate across all sectors. And they have made some recommendations on what they should be.
- It is also difficult to model changes over time, because it is also dependent on what actions people take –
- The STS may want to take on some of these issues as a separate subgroup, e.g. life in Maine. Could cover broad changes in the country or beyond that ought to be called out. Many of these are under areas that we don’t know about, are external factors. Examples: winter tourism may do well in near-term because Maine still has snow, also nature-based tourism, lake front homes, etc.
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- Some things still need to be worked out/considered – e.g. definition for petroleum includes 10% ethanol in natural gas and emissions related to it, source EIA. But, not all petroleum in Maine meets this.
- We also need to consider the methods for the emission methods, and system of modelling.
- Want to consider methane emission leaks.
- Ag and Econ groups will link up on making sure their reporting is consistent

January 29 Agenda Review and Planning
- Agenda was sent out to STS members and should/can attend break outs in the afternoon
- Key Dates:
  - Final slides by noon Tuesday 1/28 to Cassy Rose at GOPIF.
  - Co-chairs will assemble the phase I report by Friday to send on Monday, for review by the STS to review in the next 7-10 days, ideally to be final by the Feb 5 STS conference call. During the member review, any further edits or linkages to missing info can be added. Then a final will be created ASAP by co-chairs and GOPIF to post on the website.
  - If possible, the STS can put out just the high-level bullets from the report prior to the Jan 29 meeting, but if not possible will wait till a more final version is produced to share.

February 5 Conference Call Planning
- Draft Agenda Items
  - Plans for meeting legislative responsibilities
    - including science-based sea level projections, maps of areas most vulnerable, and scientific information need.
    - Should this become a subgroup?
  - Potential other subgroups potentially needed
    - Carbon discussion
    - Information needs
  - Meetings with consultants and each of the Council groups
    - May have them on phone call at the meeting
  - Phase II report
    - What is outline for this?
    - How to organize to complete?
- Peer review
  - Is there any need for the STS to think about peer review and provide to the consulting expertise as well as to the working groups? Yes, and in many ways this will likely happen naturally as the work progresses, the STS will be sought out to support.
  - For the STS report, there is likely not a need to have a peer review for this current reporting the STS is mostly summarizing existing literature/knowledge. More discussion should happen with the steering committee and the Council on any review of the final climate action plan.
  - However, if we are developing new research, and want to do some review of that work, it could be important; however, if may still fall short of an official standard for peer review.