Targeted Observing Periods mid-April-mid July 2022: *How might they be organized?* Version: October 19, 2020.

Discussion points for October 20-21, 2020

- The TOP plan lays out 3-4 TOPs during the three-month period.
- If we go with a TOP encompassing all of Antarctica, then perhaps 1 event will be sampled for each area of interest.
- This approach does have the benefit of enhancing the background state for all of Antarctica.
- However, with a regional approach, then 3-4 events per region will be investigated.
- How would be the regions be defined? Define sensitivity regions for major events using model experiments might be the way to go. Suggestions right now are the greater Ross Sea, the Antarctic Peninsula, and somewhere in East Antarctica. Comments?
- Should the regions be fixed?
- One coordinating committee for each region with representative(s) from adjacent regions? What about TOP oversight?
- Is 5 days lead time for additional radiosondes sufficient to make a major forecast impact a few days into the future? Again, model experiments will help to scope out this. Note the Australian Bureau is asking for 5 days (business?) notice to participate, so this means 5 days before the start plus the event duration, or ~8-9 days ahead. Realistic in view of forecast skill? What happens if the forecast does not evolve as expected and a TOP is cancelled? Can ABM handle participation in more than 1 regional TOP at different dates?
- We suspect that additional radiosonde observations from the Southern Ocean Islands and the southern continents would provide greater forecast skill downstream. How do we encourage participation from these locations? Invercargill NZ, Macquarie Island are included so far. Gough and Marion Is. are possibilities but funding is the obstacle. What about Kerguelen and Amsterdam Island? Falkland Islands? Southern Australia? South America? South Africa?
- Can sources of funding be identified for those nations who are willing to participate but hampered by minimal funds?
- Should just major cyclone events be considered? Atmospheric rivers are tied to the major cyclones.
- What about TOP duration? The Letters to Stakeholders and WMO PRs say 3-4 days. Is this long enough? If we get significant participation from lower latitude sites, should the observations be staggered in time with those from lower latitudes coming before those in Antarctica? Do we emphasize the build-up to the events rather than the entire duration?
- Need to collect information on routine launches during April-July for all sites that will likely be involved.