GLM Lightning and Fire-Weather Applications
What are the low hanging fruit and how do we move forward?

Topics via discussions with Heffernan and Ochoa (NIFC), Bothwell (SPC), Roohr (NWS):

- Possible needs: better definition of Ignition points/probability, improve "dry" lightning nowcast, upstream use for downstream forecast, radar t-storm gap filler over terrain

1. Lightning starts: Can we establish the value added by GLM?
   a) Satellite nowcast; What product types and what might they look like? –
      i. Ignition point detection; Cell(area)-tracking and extrapolation over terrain (fill gaps in radar coverage)? CG probability? Model assimilation as an integrator?
   b) Physics: In association with (a), can we identify flash characteristics that reliably point to the presence of continuing current (all else being equal [fuels etc.] Latham studies suggest current duration is an issue for fire starts).
      i. Could we combine this information with existing imager-based algorithms for "hot-spot" detection- reduce false alarms?
   c) "Dry" lightning thunderstorms: This is a big concern in the West and with NIFC folks. What could GLM products offer to improve this forecast/nowcast?

2. Field work
   a) Does it make sense to deploy an LMA network out west to test some ideas? (especially for "Dry" lightning- a major issue for NIFC).

3. What is the best funding/teaming mechanism for doing this work?