

Last days before deadlines

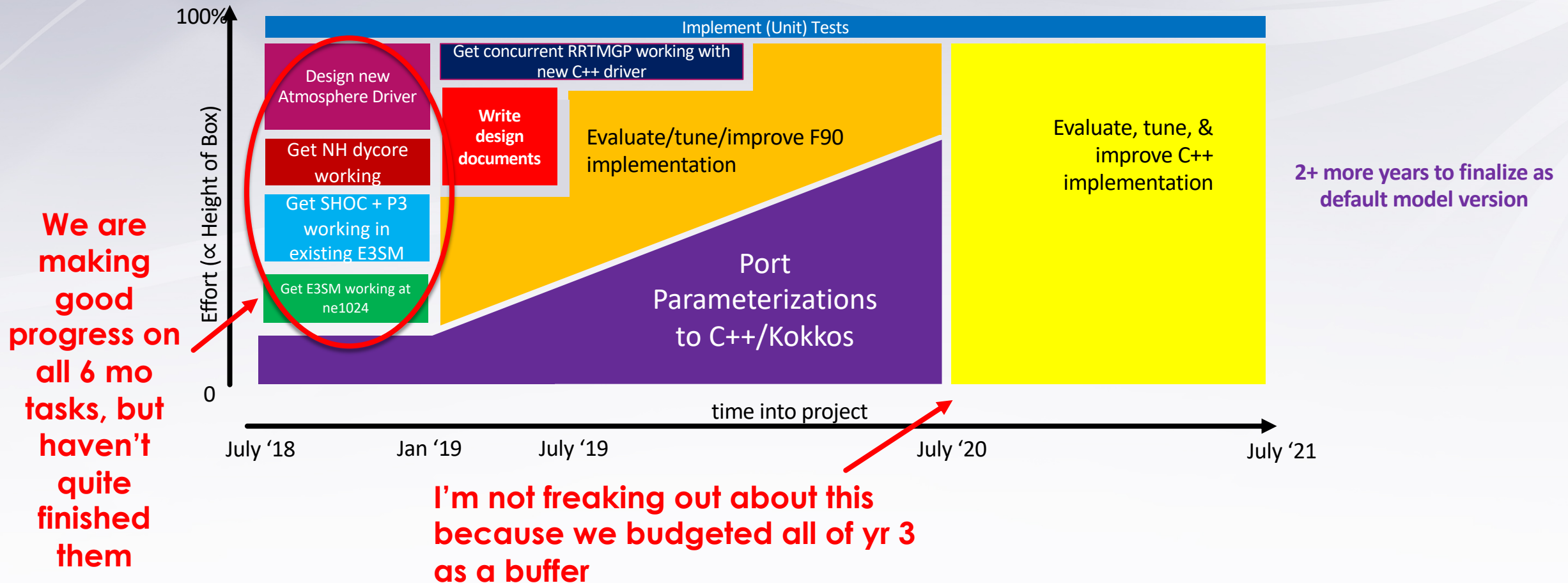


# SCREAM Deliverables, Deadlines, and Opportunities

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# Visual Roadmap From Beginning of Project





# Targets Added since Start of Project

*Originally, the only external deliverable was C++-SCREAM delivered after 3 yrs... We have accreted some more.*

- ▶ Promised by July 1, 2019 to enable aerosol proposal:
  - ▶ F90 version of SCREAM (completely untuned and potentially buggy)
    - ▶ hopefully running at ne1024, otherwise running at ne30
    - ▶ will use MAM4 and will potentially use ZM deep convection at ne30
  - ▶ Ability to easily run on new grids and availability of a high res RRM grid or two
- ▶ Promised by Dec 1, 2019 for Gordon-Bell submission:
  - ▶ C++ version of SCREAM (completely untuned and potentially buggy)
    - ▶ goal here is performance on Summit – climate skill doesn't matter
    - ▶ if making this deadline would wreck our lives, I intend to abandon it

# Year 1 Roadmap (from 1/7/19)

- ▶ P3 fixes (fractional cloudiness, aerosol activation, subgrid condensate) by Apr 1
- ▶ F90-NH dycore ready by... ASAP
- ▶ Finalize driver plans by Apr 1
- ▶ Ability to do untuned ne30 runs with F-90 SCREAM physics package (P3, SHOC, RRTMGP, and F90-NH dycore) by Apr 1
- ▶ Ability to easily create new grids by July 1
- ▶ Ability to run 1 day w/ F90-SCREAM physics at ne1024 by July 1 (stretch goal)
- ▶ Initial evaluation of F90-SCREAM by July 1 (at ne1024 if possible, else at ne30)
- ▶ Initial version of driver ready by July 1
- ▶ Design docs for all schemes by Apr 1
- ▶ Port the rest of P3 to C++ by July 1
- ▶ Complete a SHOC C++ micro app by July 1
- ▶ Be able to do CAPT-like runs by July 1 (but notes this is unrealistic because we have no staff for this)

# Progress on 1/7/19 Roadmap

- ▶ P3 fixes (fractional cloudiness, aerosol activation, ~~subgrid condensate~~) by Apr 1 Almost done
- ▶ F90-NH dycore ready by... ASAP Requires understanding of which pres to use in physics
- ▶ Finalize driver plans by Apr 1 Design doc completed, currently out for external review
- ▶ Ability to do untuned ne30 runs with F-90 SCREAM physics package (P3, SHOC, RRTMGP, and F90-NH dycore) by Apr 1 will be late, but should be on this in ~1 mo
- ▶ Ability to easily create new grids by July 1 will probably finish early
- ▶ Ability to run 1 day w/ F90-SCREAM physics at ne1024 by July 1 (stretch goal) seems on track
- ▶ Initial evaluation of F90-SCREAM by July 1 (at ne1024 if possible, else at ne30) deficient in evaluators
- ▶ Initial version of driver ready by July 1 seem to be ahead of schedule
- ▶ Design docs for all schemes by Apr 1 AD done, SHOC draft done, P3 not started, NH-dycore ???
- ▶ Port the rest of P3 to C++ by July 1 New target is Jan with more effort on SHOC now
- ▶ Complete a SHOC C++ micro app by July 1 Should accomplish more than planned
- ▶ Be able to do CAPT-like runs by July 1 (stretch goal) Lacking staff to do this (as expected)



# Now What?

- ▶ We are slightly lagging our target dates
  - ▶ I think this is natural for devel work and the reason for our yr 3 buffer
    - ▶ Post-proposal deliverables put more pressure on us
    - ▶ Param development lags could roadblock C++ port
- ▶ Y1 targets still seem useful and attainable to me
  - ▶ Do you agree?
  - ▶ Any suggestions for adding/deleting/changing deliverables or shuffling personnel?