PRIMAVERA

PRocess-based climate sIMulation: AdVances in high-resolution modelling and European climate Risk Assessment

www.primavera-h2020.eu

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Project starts:1st Nov 2015, for 4 years
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Shared integrations/outputs

- Simulations will have emphasis on physical model
  - HighResMIP simulations as simple as possible to aid inter-comparability
- Share information about diagnostics required
  - PRIMAVERA has milestone in month 1 to agree these
- Model output
  - HighResMIP simulations will go on ESGF
  - Some other data will be on JASMIN – shared platform for analysis

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Shared integrations/outputs

- Getting simulations to ESGF
  - Tools will be developed for CMOR-isation
  - Data checking, quality
  - Publication of datasets
    - Data doi's will be sought for HighResMIP/PRIMAVERA core simulations
  - Saving data for regional downscaling? Huge amounts of data

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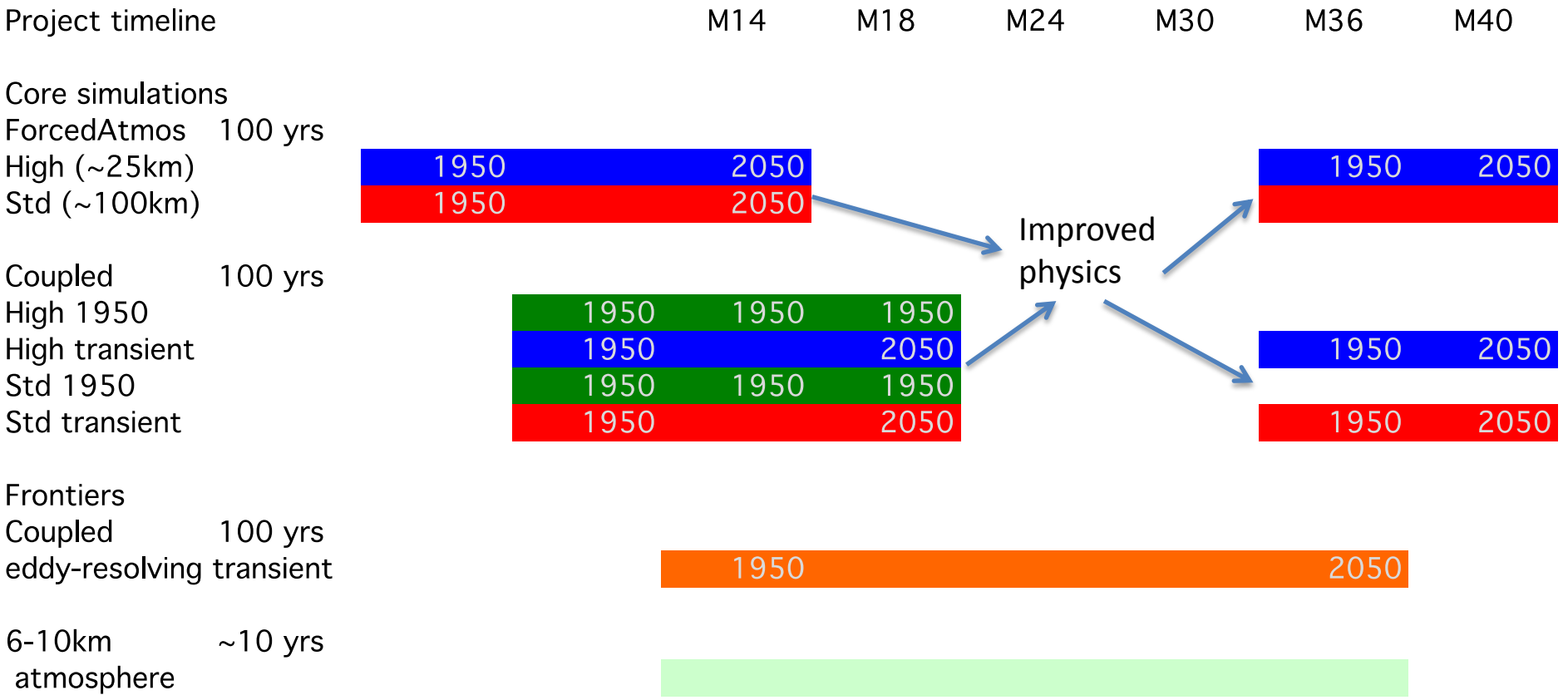
Core and frontier simulations and timeline



In addition

- Simulations to understand scenario and risk uncertainty
- Sensitivity studies for improved model physics
  - Land surface, ocean, sea ice, clouds and aerosols

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Sharing effort/data/tools

- Observational/reanalysis datasets
  - List required to be made by various WPs for metrics and assessment
- Assessment tools
  - Will use national tools initially
    - ESMValTool common to some groups
  - Strongly encourage metric code to be developed in open source, free and sharable languages
    - Made available to community
    - And implementable in packages such as ESMValTool
  - Sharing assessment techniques e.g. impact of model resolution

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Sharing effort/data/tools

- PRIMAVERA will use CEDA JASMIN platform for common development
  - Model data and outputs, tools, web pages, code repositories etc will be here
  - Encourage groups to develop here, rather than attempt to download simulation outputs locally
    - data volumes are big
    - Always want multi-model assessment
    - Training will be provided

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PRIMAVERA, HighResMIP and HiPRACE

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Components:

- **PRIMAVERA**: the EU-H2020 scientific consortium
- **HighResMIP**: the CMIP6 protocol delivered by PRIMAVERA and subscribed by an international set of institutions larger than the PRIMAVERA consortium
- **HiPRACE**: an IS-ENES2 led proposal to PRACE, to secure:
  - TIER-0 resources to enable HighResMIP (and possibly DCCP): about **1 billion core hours over three years**
  - Coordinated access and exploitation
  - Timely delivery to CMIP6 and publication for IPCC AR6

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Key questions

- Why HiPRACE? What could / should be done on national (TIER-1) facilities and why is 3-year access to TIER-0 required?
  - Ability to work together in a more coordinated and timely fashion
  - Go beyond minimal PRIMAVERA/HighResMIP requirements and ensure robustness of results

- Is the timing right?
  - Unless we start in Spring 2016, we will not meet the CMIP6 deadlines

- How can we match the time lines of WGCM with those of PRIMAVERA and those of PRACE?
  - Example: PRACE-2 only signed in Spring 2016…

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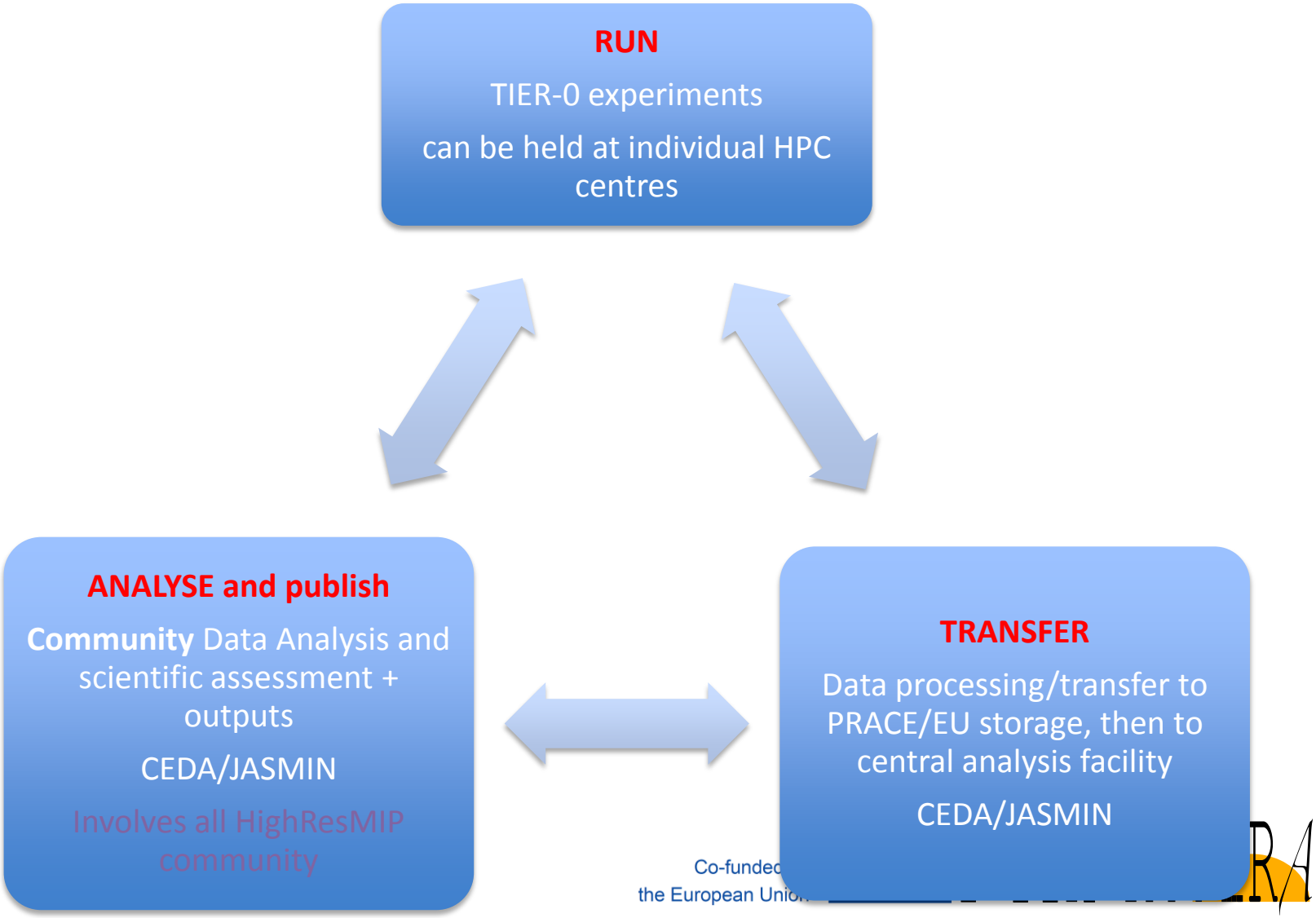
Resources needed to go from HPC to scientific outputs: working together to jointly exploit the PRIMAVERA/HighResMIP ensembles



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Time line:
start with IPCC AR6 and work backwards

Currently collecting information on model performance and turnaround in order to plan start dates and delivery/avalability dates

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