NMME Phase-II Data Discussion

1. Archive Status Update

2. Incomplete / Missing Data
   - 3D Variable / Stratospheric Level Inconsistencies
   - Key 2D Fields / PR, TAS
NMME Phase-II Data: Status

June 9, 2016

1. Recent Highlights
   • CESM1 Monthly Data Complete (1980 – 2012)
   • CESM1 Daily Added (1980 – 1999)

2. Upcoming Products
   • CESM1 Daily (2000 - 2011) In progress

3. Archive Use and Metrics
   • 800K Files/300TB of raw data
   • 10 TB Average monthly downloads (14 TB 11/2016)
   • ~100 Organizations using NMME data (past 6 months)

4. Data Access and Documentation
   • Data Archive: https://www.earthsystemgrid.org/search.html?Project=NMME
   • Documentation: https://www.earthsystemcog.org/projects/nmme/
NMME Phase-II Data: Use Feedback

Data users, providers and project staff have identified needs with NMME Phase-II data use and access.

- 3D Variable Vertical Level Consistency
  - <100 hPa vertical levels have scant overlap

- Key 2D Fields Incomplete
  - CESM1: PR
  - GEOS-5: PR
  - CFSv2: PR
  - CCSM4: Partial PR/TAS
**NMME Phase-II Data: Use Feedback**

*Data users, providers and project staff have identified needs with NMME Phase-II data use and access.*

- 3D Variable Vertical Level Consistency
  - Variables: G, TA, UA, UV, HUS
  - Levels: 850, 500, 200, 100, 10 hPa

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<th>Model</th>
<th>850</th>
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NMME Phase-II Data: Use Feedback

Data users, providers and project staff have identified needs with NMME Phase-II data use and access.

- Use Case: Sudden Stratospheric Warming Study
  - Mid-stratosphere levels required (< 100 hPa)
  - Desired: 10, 30, 50, 100, 150 hPa
  - Minimum: 10, 50 hPa

- NMME Stratospheric Levels are Scant (see prev slide)

- Discussion: Can Data Providers Add These Levels?
  - GEOS-5: < 200 hPa not available
  - CFSv2: 100, 50, 10 hPa 6hr can be added
  - CanCM3/4: Add 10 hPa?
  - CESM1: Add 50 hPa?
  - CCSM4: Add 50 hPa?

NMME Phase-II Data: Use Feedback

Data users, providers and project staff have identified needs with NMME Phase-II data use and access.

• Use Case: Hydrological Seasonal Forecast

• Key 2D Daily Fields Incomplete
  • CESM1: PR (TS recently added)
  • GEOS-5: PR
  • CFSv2: PR (6hr)
  • CCSM4: Partial PR/TAS

• Discussion: What is Needed to Add Daily Fields?
  • CESM1: PR data may not be available
  • GEOS-5: PR is available
  • CFSv2: PR (6hr only?)
  • CCSM4: Finalize PR/TAS