# PENDING & PROPOSED MODEL CHANGES: SESSION RECOMMENDATIONS

- IGS core products & AC modeling
- Troposphere modeling
- Higher-order ionospheric corrections
- Refined orbit modeling
- Other recommendations

# IGS Core Products & AC Modeling 1/2

- **For more robust products:**
  - **recruit new or improved IGU ACs & more IGR clock ACs**
  - **investigate improved near-RT & predicted ERPs**
  - **should IGS start (UT1 + LOD) service ? (à la Senior et al., EGU08)**

- **Reject GGOS UAW actions for:**
  - **SINEX parameter & naming extensions**
  - **piecewise, continuous segment parameterization as SINEX standard**

- **Reject rigidly standardized AC procedures & parameterizations**
  - **would lead to stagnation & end of progress**
  - **would eliminate basis for multi-solution product combinations**
  - ***but ACs must agree on conventional choices & use of modern models***

- **Instead, set up inter-service SINEX & combinations WG**
  - **investigate technique-specific systematic errors**
  - **maintain SINEX format**

# IGS Core Products & AC Modeling 2/2

- **Updated AC summaries are required:**
  - **EMR** **23 Jan 2002**
  - **GFZ** **27 Feb 2003**
  - **JPL** **13 Apr 2004**
  - **SIO** **31 Oct 2005**
  - (USNO 12 Sep 2006)

- **Suggest suspending ACs with no updates by 30 Sep 2008**
  - **if processing summary is older than 2 years**
  - **submissions would be rejected from IGS products after Sep 2008**

- **Rescind AC status if no updates by 31 Dec 2008**
  - **would need to formally rejoin IGS ACs after Dec 2008**

- **Or ask above ACs for *effective* alternative proposal**

# Troposphere Modeling

- **Use at least GPT for *a priori* pressure**
  - **to derive *a priori* hydrostatic zenith delay**
  - **but preferably use local pressure measurements**
  - **or use interpolated values from 6-hr NWM fields**

- **Mapping functions**
  - **use at least GMF dry & GMF wet**
  - **but preferably use VMF1**
  - **or use any others based on data from NWMs**

- **Investigate using direct line-of-sight raytracings**
  - **need high-resolution NWMs**

- **Note correlations between tropo modeling & pressure loads**
  - **VMF1 & NWMs must be used to study load signals in coordinate time series**

# Higher-order Ionospheric Terms

- **Higher-order ionospheric correction terms (I2+) should be incorporated as a standard IGS AC model**

- **The I2+ correction should be applied consistently**
  - **with GNSS products (e.g., satellite orbits & clocks) computed after applying I2+ corrections to GNSS measurements**

- **The I2+ correction should be computed in a simple & accurate way**
  - **the magnetic field should be computed from a more realistic model (such as the IGRM) than a dipolar one**
  - **the slant ionospheric delay (STEC) can be computed from VTEC maps (such as those computed by IGS in IONEX format)**
  - **it can be preferable – esp. for low elevations, low latitude sites, or when no external GIM or TEC source is available (e.g., real-time) – to compute STEC from the carrier-smoothed geometry-free combination of pseudoranges Pi(P4), corrected by the corresponding inter-frequency biases**

# Refined Orbit Modeling