GRACE Science Data System Monthly Report
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Highlights:

- The release of complete mission data to the public is now targeted for May 10th - this was postponed from May 1st as the documentation and archive harmonization between PODAAC and ISDC could not be completed. The portals at ISDC and PODAAC will have been updated with new data usage guidelines and a list of available and updated project documents. All users are strongly urged to read these, even if they are familiar with all data products. Henceforth, the Level-2 products and the accompanying Level-1B products will be made available at the archives within 60 days.

Satellite Science Relevant Events:

- Nominal operation in Science Mode except on
  - April 2 when two consecutive IPU reboots on GRACE-2 resulted in a KBR1B data loss of about 26 minutes
  - April 23 when KBR stopped tracking on GRACE-1 at 7:34 and no GPS tracking data were provided to the AOCS (Attitude and Orbit Control System) starting from 7:55. A IPU (Instrument Processing Unit) reboot at 8:57 cured the problem
- The GRACE-1 Brouwer mean orbital elements on May 01, 2006 00:00:00 are as follows:

  A [m] = 6842706.12

  E [-] = 0.001579

  I [º] = 89.027655

  The satellites separation was 245 km on May 1, 2006 with a rate of 0.4 km/d. Next maintenance maneuver is needed in about 2 months.

Level-0 raw data dump reception statistics at DLR ground stations Weilheim and Neustrelitz:

GRACE-1 Housekeeping:	99.7 %
GRACE-1 Science:	100.0 %
GRACE-2 Housekeeping:	99.8 %
GRACE-2 Science:	100.0 %

Level-1 Data Processing:

- Level-1B Release 01 instrument data have been processed at JPL and archived at GRACE-ISDC and JPL PO.DAAC.
- Notes
    - On 2006-04-02 two consecutive IPU reboots (22:10 22:26) on GRACE-B resulted in a KBR1B data loss of 26 minutes

A) KBR1B product name
B) Total arc length with data (hours)
C) Number of observations used in residual calculation
D) KBR-GPS range residual RMS (cm)
E) minimum KBR-GPS range residual (cm)
F) maximum KBR-GPS range residual (cm)
G) number of continuous segments in the KBR product

A	B	C	D	E	F	G
KBR1B_2006-03-31_X_01.dat	24.0	17280	1.46	-3.8	5.5	1
KBR1B_2006-04-01_X_01.dat	23.7	17047	1.56	-5.8	5.5	4
KBR1B_2006-04-02_X_01.dat	23.6	16965	1.02	-3.3	2.7	2
KBR1B_2006-04-03_X_01.dat	24.0	17253	1.53	-5.0	4.8	2
KBR1B_2006-04-04_X_01.dat	24.0	17280	1.47	-4.4	3.6	1
KBR1B_2006-04-05_X_01.dat	24.0	17250	1.20	-2.9	3.3	3
KBR1B_2006-04-06_X_01.dat	24.0	17254	1.31	-3.7	4.3	2
KBR1B_2006-04-07_X_01.dat	23.7	17055	1.43	-4.1	4.6	4
KBR1B_2006-04-08_X_01.dat	24.0	17280	0.98	-3.1	3.2	1
KBR1B_2006-04-09_X_01.dat	24.0	17280	1.32	-3.8	3.9	1
KBR1B_2006-04-10_X_01.dat	24.0	17266	1.46	-4.6	3.5	2

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KBR1B_2006-04-11_X_01.dat  24.0  17258  1.40    -4.1    4.1  2
KBR1B_2006-04-12_X_01.dat  23.7  17070  1.44    -3.7    4.1  3
KBR1B_2006-04-13_X_01.dat  24.0  17280  1.51    -3.3    4.8  1
KBR1B_2006-04-14_X_01.dat  24.0  17280  1.40    -4.0    3.6  1
KBR1B_2006-04-15_X_01.dat  24.0  17280  1.20    -3.5    2.7  1
KBR1B_2006-04-16_X_01.dat  24.0  17280  1.20    -3.1    3.3  1
KBR1B_2006-04-17_X_01.dat  23.6  17010  1.32    -4.7    3.2  3
KBR1B_2006-04-18_X_01.dat  24.0  17266  1.24    -3.3    3.0  2
KBR1B_2006-04-19_X_01.dat  24.0  17258  1.08    -3.5    4.2  2
KBR1B_2006-04-20_X_01.dat  24.0  17280  1.42    -4.1    4.3  1
KBR1B_2006-04-21_X_01.dat  not yet distributed
…
KBR1B_2006-04-30_X_01.dat  not yet distributed
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- Release 01 Level-1B barotropic sea level products (OCN1B) and de-aliasing products (AOD1B) were calculated by GFZ until April 30, 2006 and archived at GRACE-ISDC.
- Release 03 Level 1B de-aliasing products (AOD1B) based on OMCT (Ocean Model for Circulation and Tides) baroclinic ocean model for March 2006 generated and archived at GRACE-ISDC, processing of April 2006 will be started soon.

Level-2 Data Processing:

- All 3 L2 centers at CSR, JPL and GFZ continued processing of release 01 (CSR), release 02 (JPL) and release 03 (GFZ) products.
- Spurious slopes over land, which are due to the non-mass-conserving OMCT model output in AOD1B RL03 (used in JPL RL02 and GFZ RL03 L2 products), can and have to be corrected by re-adding the GAB product over land. A technical note TN04 was prepared and will be available on May 10, 2006.

GRACE Product Distribution:

- GFZ RL03 L2 products are now available for February 2003 until February 2006. Missing months are June 2003 and January 2004. July 2004 until October 2004 are also available as constrained solutions (*GK2-*). Corresponding background GAA, GAB and GAC products and calibrated errors (GSM*.txt) have also been provided. All these products will become available for the public on May 10, 2006.

- CSR has provided RL01 constrained and unconstrained solutions for February 2006. In total, 42 RL01 unconstrained GSM solutions along with the GAC background model files and calibrated errors (GSM*.txt) are now available for the period August 2002 – February 2006 (only June 2003 is missing due to accelerometer data problems).

Miscellaneous:

- Next GRACE Science Team Meeting will be held in San Francisco on December 8./9., 2006.
- Last GRACE Science Team Meeting (GSTM) proceedings (October 2005) are available online (http://www.csr.utexas.edu/grace/GSTM).
- Science data users are encouraged to submit citations of their own and other works related with GRACE to the bibliography web page implemented at PO.DAAC: http://podaac.jpl.nasa.gov/grace/bibliography.html.