

Clark R. Wilson

Professional Interests

Geophysics, gravity, space geodesy (time variable gravity, remote sensing, Earth rotation), applied seismology

Administrative Experience

Chairman, Department of Geological Sciences 1990-1994 and 2004-2007

Program Scientist, Geodynamics and Geopotential Fields, NASA Headquarters, 1996-1999

Education

1975 - PhD Earth Sciences, Scripps Institution of Oceanography, UCSD

1973 - MS Earth Sciences, Scripps Institution of Oceanography, UCSD

1970 - BA (Physics, With High Honors), UCSD

Academic Appointments

1976-89 Assistant and Associate Professor, University of Texas Austin

1989 - present Professor & Wallace Pratt Professor of Geophysics since 1992

Professional Society Membership

1971-American Geophysical Union,

1969- Society of Exploration Geophysicists

Honors And Awards

2007 - William T. Pecora Award (Group Award, GRACE Science Team)

1995 - Fellow of the International Association of Geodesy

1994 - Phi Kappa Phi National Honor Society

1994 - Houston Oil and Minerals Faculty Excellence Award

1989 - Outstanding Referee, Journal of Geophysical Research Editor's Citation

1981 - ARCO Outstanding Young Faculty Award

Current Research Funding

2010-2012 Texas Higher Education Coordinating Board: Estimation of Water Storage in the Edwards Aquifer via Superconducting Gravimetry. \$76801. (Co-PI's J. Sharp and B. Scanlon).

2011-2014 Long-Term and Interannual Variability of Antarctic Ice Sheet Mass Balance From Satellite Gravimetry and Other Geodetic measurements. \$600,000. NSF, Co-PI (PI J.Chen)

2011-2012 US Air Force via Omitron, Inc. Time series prediction for satellite ballistic coefficients, \$55000, PI.

2009-2012 NASA: Estimating Regional-Scale Snow Water Equivalent from in-situ measurements, Remote-Sensing, and Land Surface Modeling with Assimilation, Co-PI with Liang Yang PI. \$458391.

2008-2011 National Geospatial Intelligence Agency: Atmospheric and Oceanic Angular Momentum Variability and Forecasts, NURI Program, \$160000. (Co-PI with JL Chen PI).

2008-2013 NASA: Application of GRACE to water management in the High Plains Aquifer, (Co-PI, with B. Scanlon PI, other Co-PI's Niu, Zang, Chen) \$464,000.

2005-2014 NSF via contract with NEES, Inc.: NEES Consortium Operations: Shakers and Associated Instrumentation for Dynamic Field Studies of Geotechnical and Structural Systems (Co-PI with PI K. Stokoe and Co-PI E. Rathje), \$4,104,832

Publications (since 2006)

- J.L. Chen , C.R. Wilson , B.D. Tapley , X.G. Hu, Thermosteric Effects on Interannual and Long-term Global Mean Sea Level Changes, *J. of Geodesy*, 2006 (DOI 10.1007/s00190-006-0055-7)
- Chen JL, Tapley BD, Wilson CR, Alaskan Mountain Glacier Changes from Satellite Gravity, *Earth and Planetary Sciences Letters*, 248,353-363, 2006
- Chen JL, Wilson CR, Seo KW (2006), Optimized smoothing of GRACE time-variable gravity observations, *J. Geophys. Res.* 111, B06408, doi:10.1029/2005JB004064.
- Chen JL, Wilson CR, Blankenship DD, Tapley BD, Antarctic mass rates from GRACE, *Geophys. Res Let*, 33, L11502, doi:10.1029/2006GL026369,2006.
- Zhou YH, Chen JL, Liao XH, Wilson, CR, Oceanic excitations on polar motion: a cross comparison among models, *Geophys J. Int*, 162, 390-398, 2005.
- Chen JL, Wilson CR, Tapley BD, Satellite Gravity Measurements Confirm Accelerated Melting of Greenland Ice Sheet, *Science*, 313, 11 August 2006.
- Rodell, M., J. Chen, H. Kato, J. Famiglietti, J. Nigro, and C. Wilson, Estimating ground water storage changes in the Mississippi River basin (USA) using GRACE, *Hydrogeology Journal*, doi:10.1007/s10040-006-0103-7, 2006
- Chen JL, CR Wilson, JS Famiglietti, M Rodell, Attenuation Effect on Seasonal Basin-Scale Water Storage Changes From GRACE Time-Variable Gravity, *J. of Geodesy*, doi 10.1007/s00190-006-0104-2, 2007
- Chen, J. L., C. R. Wilson, B. D. Tapley, and S. Grand (2007), GRACE detects coseismic and postseismic deformation from the Sumatra-Andaman earthquake, *Geophys. Res. Lett.*, 34, L13302, doi:10.1029/2007GL030356.
- Niu, G., K. Seo, Z. Yang, C. Wilson, H. Su, J. Chen, and M. Rodell (2007), Retrieving snow mass from GRACE terrestrial water storage change with a land surface model, *Geophys. Res. Lett.*, 34, L15704, doi:10.1029/2007GL030413.
- Seo KW, Wilson CR, Han SC, Waliser DE, GRACE Aliasing error from ocean tides, *Journal of Geophysical Research*, doi:10.1029/2006JB004747, 2008.
- Seo KW, Wilson CR, Chen JL, Waliser DE, GRACE's spatial aliasing error, *Geophysical Journal International*, 172,41-48,doi 10.1111/j.1365-246X.2007.03611.x.
- Chen JL, Wilson CR Tapley BD, Blankenship D, Young D, Antarctic Regional Ice Loss Rates From GRACE, *Earth and Planetary Sciences Letters* 266,140-148, 2008
- Chen JL, Wilson CR, Tapley B , Blankenship D, Ivins E, Patagonia Ice Field Melting Observed by GRACE, *Geophysical Res.Leters*, 34 L22501, doi:10.1029/2007GL031871, 2007.
- Chen JL, Wilson CR Low Degree Gravitational Changes from GRACE, Earth Rotation, Geophysical Models, and Satellite Laser Ranging, *J. Geophys Res.*. 113, B06402, doi:10.1029/2007JB005397, 2008.
- Syed, T. H., J. S. Famiglietti, M. Rodell, J. Chen, and C. R. Wilson (2008), Terrestrial water storage changes from GRACE and GLDAS, *Water Res. Res.*, 44, W02433, doi: 10.1029/2006WR005779
- Chen JL, Wilson CR, Seo KW, S2 Ocean Tide Aliasing in GRACE Time-Variable Gravity Solutions, *Journal of Geodesy*, 2008 DOI 10.1007/ s00190-008-0282-1.
- Chen JL and Wilson CR, 2009 Assessment of degree-2 zonal gravitational changes from GRACE, Earth rotation, climate models, and satellite laser range, *Proceedings IAG Symposium GGEO2008*) IAG Symposium Series Springer Verlag (In press)

- Chen JL, Wilson CR, Tapley BD, Yang ZL, Niu GY, 2005 Drought Event in the Amazon River Basin as Measured by GRACE and Estimated by Climate Models, *J. Geophys. Res.* 114, B05404, doi: 10.1029/2008JB006056, 2009.
- Chen JL, Wilson CR, Blankenship D., Accelerated Antarctic ice loss from satellite gravity measurements, *Nature Geosciences*, 2009, DOI: 10.1038/NGEO694.
- Chen JL, Wilson CR, Multi-Sensor Monitoring of Low-Degree Gravitational Changes, 2009 Hotine Marussi Symposium, Springer IAG Symposium Volume Series (In Press).
- Wilson CR, Wu H, Longuevergne L, Scanlon B, Sharp J, The Superconducting Gravimeter as a Field Instrument applied to hydrology, in *International Association of Geodesy Symposium Volume IAG2009 Springer* (in press).
- Su, H., Z.-L. Yang, R. E. Dickinson, C. R. Wilson, and G. Niu (2010), Multisensor snow data assimilation at the continental scale: The value of Gravity Recovery and Climate Experiment terrestrial water storage information, *J. Geophys. Res.*, 115, D10104, doi: 10.1029/2009JD013035.
- Paine, J, Collins, E, Buckley, S, Wilson, C. Assessing Sinkhole Potential at Wink and Daisetta Using Gravity and Radar Interferometry *SAGEEP 22*, 480 (2009); doi:10.4133/1.3176733
- Longuevergne L., Scanlon B, Wilson C, GRACE Hydrological Estimates for Small Basins: evaluating processing approaches on the High Plains Aquifer, USA, *Water Resources Research*, in press 2010
- Chen, J. L., C. R. Wilson, B. D. Tapley, L. Longuevergne, Z. L. Yang, and B. R. Scanlon Recent La Plata basin drought conditions observed by satellite gravimetry, *J. Geophys. Res.*, doi:10.1029/2010JD014689, in press
- Chen, J. L., C. R. Wilson, and B. D. Tapley (2010), The 2009 exceptional Amazon flood and interannual terrestrial water storage change observed by GRACE, *Water Resour. Res.*, 46, W12526, doi:10.1029/2010WR009383.
- Milly C, Cazenave A, Famiglietti J, Gornitz V, Laval K, Lettenmaier D, Sahagian D, Wahr J, Wilson C, Terrestrial Water-Storage Contributions to Sea-Level Rise and Variability, Chapter 8 of *Understanding Sea Level Rise and Variability*, eds: Church, Woodworth, Aarup, Wilson, Wiley-Blackwell, ISBN 978-1-443-3452-4, 2010.
- Ren D, Fu R, Leslie L, Karoly D, Chen J, Wilson C, (2011) A multi-rheology ice model: Formulation and application to the Greenland Ice Sheet" *Journal of Geophysical Research - Atmospheres*. VOL. 116, D05112, 15 PP., 2011doi:10.1029/2010JD014855
- Ren D, Fu R, Leslie L, Karoly D, Chen J, Wilson C, (2011) The Greenland Icesheet Response to Transient Climate Change, *Journal of Climate*. doi: [10.1175/2011JCLI3708.1](https://doi.org/10.1175/2011JCLI3708.1)
- Wilson, C., Scanlon, B. Sharp, J., Longuevergne, L., Wu, H. 2011. Field Test of the Superconducting Gravimeter as a Hydrologic Sensor. *Ground Water*. doi: 10.1111/j.1745-6584.2011.00864.x