BENJAMIN HOLT
Curriculum Vitae

Affiliation: Oceans-Ice Group in Climate, Ocean, Solid Earth Science Section
Jet Propulsion Laboratory, Mail Stop 300-323 Ph (818) 354-5473
4800 Oak Grove Drive Fx (818) 393-6720
Pasadena CA 91109 Benjamin.M.Holt@jpl.nasa.gov

Education
M.S., Physical Oceanography, Dept. of Geology, University of Southern California, 1988.
B.A., Human Biology and Anthropology, Stanford University, 1972.

Professional Experience

JPL, Physical Oceanography DAAC, Project Science Staff	2008-present
JPL, Alaska SAR Facility Development Project, Project Scientist	1995 - 2002
JPL, Alaska SAR Facility, Deputy Task Scientist	1986 - 1995
JPL, Shuttle Imaging Radar Project, Ocean Science Experiment Rep.	1983 - 1995
JPL, Research Scientist, Oceanography Group	1982 - present
JPL, Member Technical Staff	1978 - 1982

Research Interests
•The state of polar sea ice using multi-sensor data and new instrument development for microwave measurement of sea ice thickness
•Coastal oceanography circulation and its effects on biological productivity and pollutants using multi-sensor data and new instrumentation development to measure ocean surface currents.

Special Projects
• JPL Research & Technology Development, PI: *Demonstration of Direct Measurements of Ocean Surface Currents: Enabling the Next Generation Oceanographic Satellite Mission*. Radar experiment off central CA to validate concept of using multiple radar beams to derive surface current vectors, 2007-2008
•NASA Instrument Incubator project: *Cryospheric Advanced Sensor: A Spaceborne Microwave Sensor of Sea Ice Thickness and Snow Cover Characteristics*. Responsibilities: Development of science requirements and strategies and experiment planning and analysis. 2003-2006
•Caltech Presidents Fund: *A Radar Sounder for Measuring Sea Ice Thickness -A Feasibility Study*. Co-PI with P. Gogineni, U. Kansas. 2002-2003
•*Southern California Coastal Ocean Observing System*. A consortium of local universities in So. California including JPL to develop a coastal observatory for So. California. Responsibilities: Value-added satellite data sets and task manager of NOAA component. 2006-2009

Professional Activities
NASA DESDynI-R Science Definition Team; Alaska Satellite Facility User Working Group, Outgoing Chairman;; ESA CryoSat Cal/Val Science and Envisat Science Team; JAXA ALOS Science Team; Envisat Category-1 Review Panel; Technical committee for IGARSS'03, '04, '06,'07,'08,'12; Scientific committee for ESA's SeaSAR Symposiums 2006-2008-2010-2012,

and ESA Envisat Symposium 2004, 2007; Member, American Geophysical Union, and IEEE Geoscience and Remote Sensing Society.

Publications

Panzer, B., D. Gomez-Garcia, C. Leuschen, J. Paden, F. Rodriquez-Morales, A. Patel, T. Markus, B. Holt, and P. Gogineni, An ultra-wideband, microwave radar for measuring snow thickness on sea ice and mapping near-surface internal layers in polar firn, *J. Glaciology*, submitted 2012.

McKinney, P., B. Holt, and K. Matsumoto, Small eddies observed in Lake Superior using SAR and sea surface temperature imagery, *J. Great Lakes Res.*, accepted, 2012.

Zheng, Q., B. Holt, X. Li, X. Liu, Q. Zhao, Y. Yuan, and X. Yang, Deep-water seamount wakes on Seasat SAR imagery in the Gulf Stream Region, *Geophysical Research Letters*, accepted, 2012.

Minchew, B., C. Jones, and B. Holt, Polarimetric L-band SAR signatures of oil from the Deepwater Horizon spill, *IEEE Trans. Geoscience Remote Sensing*, 10.1109/TGRS.2012.2185804, 99, 1-19, 2012.

Mortin, J., T. M. Schroder, A. W. Hansen, B. Holt, and K. C. McDonald, Mapping of seasonal freeze-thaw transitions across the pan-Arctic land and sea ice domains with satellite radar, J. *Geophysical Res. Oceans*, 117, C08004, doi:10.1029/2012JC008001, 2012.

Leifer, I., B. Lehr, D. Simecek-Beatty, E. Bradley, R. Clark, P. Dennison, Y. Hu, S. Matheson, C. Jones, B. Holt, M. Reif, D. Roberts, J. Svejkovsky, G. Swayze, J. Wozencraft, State of the art satellite and airborne marine oil spill remote sensing: Application to the BP Deepwater Horizon oil spill, *Remote Sensing of the Environment*, 124, 185-209, 2012.

Jones, C. E., B, Minchew, B. Holt, and S. Hensley, Studies of the Deepwater Horizon oil spill with the UAVSAR radar, in Liu, Y., A. MacFadyen, Z.-G. Ji, and R. H. Weisberg (Eds.), *Monitoring and Modeling the Deepwater Horizon Oil Spill*, Geophys. Monogr. Ser., vol. 195, pp. 33-50, AGU, Washington, D. C., 2011.

Kwok, R., B. Panzer, C. Leuschen, S. Pang, T. Markus, B. Holt, and S. Gogineni, Airborne surveys of snow depth over Arctic sea ice, *J. Geophysical Research Oceans*, 116, C11018, doi:10.1029/2011JC007371, 2011.

Freeman' A., V. Zlotnicki, T. Liu, B. Holt, R. Kwok, S. Yueh, J. Vazquez, D.Siegel, and G. Lagerloef, Ocean Measurements from Space in 2025*, Oceanography*, 23(4), 144-161, 2010.

Marmorino, G. O., B. Holt, M. J. Molemaker, P. M. DiGiacomo, M. A. Sletten, Airborne synthetic aperture radar observations of 'spiral eddy' slick patterns in the Southern California Bight, *J. Geophysical Research Oceans*, 115, C05010, doi:10.1029/2009JC005863, 2010.

Holt, B., P. Kanagaratnam, P. Gogineni, V. Ramasami, A. Mahoney, V. Lytle, Sea ice thickness measurements by a wideband surface penetrating radar: First results*, Cold Regions Science and Technology*, 55, 33-46, 2009.

Martin, S., R. Drucker, R. Kwok, and B. Holt, Improvements in the estimates of ice thickness and production in the Chukchi Sea polynyas derived from AMSR-E, *Geophysical Research Letters*, 32, L05505, doi:10.1029/2004GL022013, 2005

Evans, D., W. Alpers, A. Cazenave C. Elachi, T. Farr, D. Glackin, B. Holt, L. Jones, W. T. Liu, W. McCandless, Y. Menard, R. Moore, E. Njoku, Seasat-A 25 Year Legacy of Success, *Remote Sensing of the Environmen*t, 94, 384-404, 2005.

Holt, B., SAR imaging of the ocean surface, in C. R. Jackson and J. R. Apel (eds) *Synthetic Aperture Radar (SAR) Marine User's Manual*, NOAA NESDIS Office of Research and Applications, Washington DC, pp. 25-79, 2004.

Vachon, P. W., F. M. Monaldo, B. Holt, and S. Lehner, Ocean surface waves and spectra, in C. R. Jackson and J. R. Apel (eds) *Synthetic Aperture Radar (SAR) Marine User's Manual*, NOAA NESDIS Office of Research and Applications, Washington DC, pp. 139-169, 2004.

Martin, S., R. Drucker, R. Kwok, and B. Holt, Estimation of the thin ice thickness and heat flux from SSM/I data for the Chukchi Sea Alaskan coast polynya for 1990 – 2001, *J. Geophysical Res*., 109, C10012, doi:10.1029/2004JC002428, 2004.

DiGiacomo, P. M., L. Washburn, B. Holt, and B. H. Jones, Coastal pollution hazards in Southern California observed by SAR imagery: Stormwater plumes, wastewater plumes, and natural hydrocarbon seeps, *Marine Pollution Bulletin*, 49, 1013-1024, 2004.

DiGiacomo, P. M., and B. Holt, Satellite observations of small coastal ocean eddies in the Southern California Bight, *J. Geophys. Res*., 106(C10), 22,521-22,544, 2001.

Holt, B., and S. Martin, The effect of a storm on the 1992 summer sea ice cover of the Beaufort, Chukchi, and East Siberian Seas, *J. Geophys. Res*., 106 (C1), 1017-1032, 2001.