

## PEER REVIEWED PUBLICATIONS

### Summary (August 2008):

- Books edited: 1
- Book chapters: 11
- Peer reviewed journal papers: 25 (+ several in prep or submitted)
- Peer reviewed proceedings papers: 12
- Non-refereed conference proceedings: 6+
- Technical reports: 50+
- Academic conference presentations: 100+
- Workshops and public consultations: 20+

### Books:

**Hopkinson, C.,** Pietroniro, A. and Pomeroy, J. (eds), 2008. *HYDROSCAN: Airborne laser mapping of hydrological features and resources*. Canadian Water Resources Association, Saskatoon. 376PP.

### Book Chapters:

**Hopkinson, C.,** “An overview of airborne laser scanning technology” *Hydroscan*, CWRA.CH 1

**Hopkinson C.** and Pietroniro, A., “Hydrological applications of airborne laser scanning technology” *Hydroscan*, CWRA.CH 2

Goulden T. and **Hopkinson C.,** “The forward propagation of system related errors within lidar data” *Hydroscan*, CWRA.CH 3

Stiff, D., **Hopkinson, C.,** and Webster, T., “Preparing lidar data for river flood impact assessment in a GIS environment: a practical approach” *Hydroscan*, CWRA.CH 6

Garroway, K., **Hopkinson, C.,** Jamieson, R., and Gordon, R., “Mapping soil surface saturation using lidar intensity data and a DEM topographic wetness index in an agricultural watershed” *Hydroscan*, CWRA.CH 7

Millard, K., **Hopkinson, C.,** Redden, A., Webster, T., and Stewart, H., “Mapping Vegetation Friction Indicators in a Tidal Salt Marsh Environment” *Hydroscan*, CWRA.CH 8

Goodale, R., **Hopkinson, C.,** Colville, D., and Amirault, D., “Coastal habitat mapping using airborne lidar” *Hydroscan*, CWRA.CH 9

**Hopkinson, C.** and Demuth, M., “Using airborne lidar to assess the influence of glacier downwasting to water resources in the Canadian Rocky Mountains” *Hydroscan*, CWRA.CH 10

**Hopkinson, C.,** Chasmer, L., Munro, D.S. and Demuth, M., “Terrain resolution bias in GIS energy balance model estimates of glacial melt” *Hydroscan*, CWRA.CH 11

**Hopkinson, C.,** Sitar, M., Chasmer, L., and Treitz, P., “Mapping snowpack depth beneath forest canopies using airborne lidar” *Hydroscan*, CWRA.CH 12

Chasmer, L. and **Hopkinson, C.,** “Evaluating the use of airborne lidar for quantifying high and medium-resolution terrestrial ecosystem structure and landscape heterogeneity” *Hydroscan*, CWRA.CH 13

**Peer Reviewed Journal Papers:**

- Goulden, T., **Hopkinson, C.**, “The forward propagation of system related errors within LiDAR data.” *Photogrammetric Engineering and Remote Sensing* (accepted pending revisions).
- Hopkinson, C.**, Chasmer, L.E. Munro, D.S. Demuth, M.N. “The influence of glacier DEM resolution on predicted melt.” *Hydrological Processes* (accepted pending revisions).
- Lim, K., **Hopkinson, C.**, Treitz, P. 2008. “Examining the effects of sampling point densities on laser canopy height and density metrics at the forest plot level”. *Forestry Chronicle*. (In Press).
- Lipovsky, P.S., Evans, S.G., Clague J.J., **Hopkinson, C.**, Couture, R., Bobrowsky, P., Ekström, G., Demuth, M.N., Delaney, K.B., Roberts, N.J., Clarke, G., Schaeffer, A. 2008. “The July 2007 rock and ice avalanches at Mount Steele, St. Elias Mountains, Yukon, Canada”. *Landslides*. (In Press DOI 10.1007/s10346-008-0133-4)
- Hopkinson, C.** and Chasmer, L.E., “Testing a lidar intensity based model of canopy fractional cover across multiple forest ecozones.” *Remote Sensing of Environment* (In Press).
- Hopkinson, C.**, Hayashi, M., Peddle, D. “Comparing alpine watershed attributes from LiDAR, Photogrammetric, and Contour-based Digital Elevation Models.” *Hydrological Processes* (In Press).
- Chasmer, L., Barr, A., Black, A., **Hopkinson, C.**, Kljun, N., McCaughey, H., and Treitz, P. Vegetation structural and topographic heterogeneity influences on carbon dioxide uptake and respiration within a mature jack pine forest in Saskatchewan, Canada. *Canadian Journal of Forest Research* (In Press).
- Chasmer, L., McCaughey, H., **Hopkinson, C.**, Treitz, P., Barr, A., Black, A., and Shashkov, A., Using airborne lidar for the assessment of MODIS vegetation indices. *Remote Sensing of Environment* (In Press).
- Chasmer, L., McCaughey, H., Treitz, P., Barr A., Black, A., **Hopkinson, C.**, Shashkov, A. Scaling and assessment of GPP from MODIS using a combination of airborne lidar and eddy covariance measurements over jack pine forests. *Remote Sensing of Environment* (In Press)
- Demuth, M.N., Pinard, V., Pietroniro, A., Luckman, B.H., **Hopkinson, C.**, Dornes, P., Comeau, L. 2008. “Recent and past-century variations in the glacier resources of the Canadian Rocky Mountains – Nelson River system.” *Terra Glacialis* 11 (248): 27-52.
- Hopkinson, C.** Chasmer, L.E., Hall, R.J. 2008. “The uncertainty in conifer plantation growth prediction from multitemporal lidar datasets.” *Remote Sensing of Environment*. Vol. 112, No. 3. pp.
- Goodale, R., **Hopkinson, C.**, Colville, D., Amirault, D. 2007. “Mapping Piping Plover habitat in coastal areas using airborne lidar data”. *Canadian Journal of Remote Sensing*. Vol. 33, No. 6, pp.519-533.
- Hopkinson, C.** and Chasmer, L.E. 2007. “Using discrete laser pulse return intensity to model canopy transmittance.” *Photogrammetric Journal of Finland*. Vol. 20, No. 2, pp. 16-26.
- Hopkinson, C.** 2007. “The influence of flying altitude and beam divergence on canopy penetration and laser pulse return distribution characteristics”. *Canadian Journal of Remote Sensing* Vol. 33, No. 4, pp. 312-324.
- Hopkinson, C.**, Popescu, S., Flood, M., Maher, R. 2007. “A survey on the need for LiDAR training”, *Photogrammetric Engineering and Remote Sensing*, 73 (5). PP 537 – 546.

- Chasmer, L.E., **Hopkinson, C.**, Smith, B., Treitz, P. 2006. "Examining the influence of changing laser pulse repetition frequencies on conifer forest canopy returns". *Photogrammetric Engineering and Remote Sensing*, 72 (12) pp. 1359-1367
- Chasmer, L.E., **Hopkinson, C.**, Treitz, P. 2006. "Investigating Laser Pulse Penetration through a Conifer Canopy by Integrating Airborne and Terrestrial Lidar" *Canadian Journal of Remote Sensing*, 32 (2) pp. 116-125.
- Hopkinson, C.**, Demuth, M.N. 2006. "Using airborne lidar to assess the influence of glacier downwasting to water resources in the Canadian Rocky Mountains", *Canadian Journal of Remote Sensing*, 32 (2) pp. 212-222.
- Hopkinson, C.**, Chasmer, L., Lim, K. Treitz, P., Creed, I. 2006. "Towards a universal LiDAR canopy height indicator", *Canadian Journal of Remote Sensing*, 32 (2) pp. 139-153.
- Hopkinson, C.**, Chasmer, L.E., Zsigovics, G., Creed, I., Sitar, M., Kalbfleisch, W., Treitz, P. 2005. "Vegetation class dependent errors in LiDAR ground elevation and canopy height estimates in a Boreal wetland environment" *Can. Jnl of Remote Sensing*, 31 (2) pp. 191-206
- Hopkinson, C.**, Chasmer, L.E., Young-Pow, C., Treitz, P. 2004. "Assessing Plot-level Forest Metrics with a Ground-based Scanning LiDAR." *Canadian Journal of Forest Research*, 34 pp. 573-583
- Hopkinson, C.**, Sitar, M., Chasmer, L.E., Treitz, P. 2004. "Mapping Snowpack Depth Beneath Forest Canopies Using Airborne LiDAR." *Photogrammetric Engineering and Remote Sensing*, 70 (3) pp. 323-330
- Töyrä, J., Pietroniro, A., **Hopkinson, C.**, Kalbfleisch, W., 2003. "Assessment of Airborne Scanning Laser Altimetry (LiDAR) in a Deltaic Wetland Environment." *Canadian Journal of Remote Sensing*, 29 (6): pp718-729
- Hopkinson, C.** and Young, G.J. 1998. "The Effect of Glacier Wastage on the Flow of the Bow River". *Hydrological Processes*, 12, (10-11), pp1745-1763.
- Hopkinson, C.** and 11 others, 1997, "An Integrated Approach to the Planning and Management of an Urban Wetland." *Canadian Water Resources Journal*. 22 (1) pp45-56.

#### **Peer Reviewed Conference Proceedings:**

- Lipovsky, P.S., Evans, S.G., Clague J.J., **Hopkinson, C.**, Couture, R., Bobrowsky, P., Ekström, G., Demuth, M.N., Delaney, K.B., Roberts, N.J., Clarke, G., Schaeffer, A. "Reconnaissance observations of the July 2007 rock and ice avalanche at Mount Steele, St Elias Mountains, Yukon, Canada." *Proceedings of the Geohazards Conference*, Quebec City, May 2008.
- Hopkinson, C.** and Chasmer, L.E. 2007. "Using discrete laser pulse return intensity to model canopy gap fraction." *ISPRS Silvilaser workshop proceedings in ESPOO, Finland*
- Chasmer, L., Barr, A., Black, A., **Hopkinson, C.**, Kljun, N., McCaughey, H., and Treitz, P. 2007. "Using airborne lidar for the assessment of canopy structure influences on CO<sup>2</sup> fluxes." *ISPRS Silvilaser workshop proceedings in ESPOO, Finland*
- Hopkinson, C.**, K. Lim, L. E. Chasmer, P. Treitz, I. F. Creed, C. Gynan. 2004, *Wetland grass to plantation forest - estimating vegetation height from the standard deviation of lidar frequency distributions*. Proceedings of the ISPRS working group VIII/2, 'Laser-Scanners for Forest and Landscape Assessment' Freiburg, Germany 03-06 October 2004 ISPRS 36, 8/W2
- Hopkinson, C.**, L. E. Chasmer, Gabor Zsigovics, I. F. Creed, Michael Sitar, P. Treitz and Robert, V. Maher. 2004, *Errors in LiDAR ground elevation and wetland vegetation height estimates*.

Proceedings of the ISPRS working group VIII/2,'Laser-Scanners for Forest and Landscape Assessment' Freiburg, Germany 03-06 October 2004 ISPRS 36, PART 8/W2

Chasmer, L.E., **Hopkinson, C.**, Treitz, P., 2004, *Assessing the 3D-Frequency Distribution of Airborne and Ground-Based LIDAR Data for Red Pine and Mixed Deciduous Forest Plots*. Proceedings of the ISPRS working group VIII/2,'Laser-Scanners for Forest and Landscape Assessment' Freiburg, Germany 03-06 October 2004 ISPRS 36, PART 8/W2

**Hopkinson, C.** and English, M.C. 2001. Spatio-temporal Variations of  $\delta^{18}\text{O}$  Isotope Signatures of Hydrological Components within a Glacierised Mountainous Basin. *Proceedings of the 58<sup>th</sup> Eastern Snow Conference*. Ottawa, Ontario, Canada. May 14 – 18, 2001.

**Hopkinson, C.**, Lowe, A., Zawadzki, A., English, M., 2001. Using Oxygen Isotope Tracers to Evaluate and Optimize Flow Components Generated by the UBC Watershed Model in a Mountainous Basin. *Proceedings of the 58<sup>th</sup> Eastern Snow Conference*. Ottawa, Ontario, Canada. May 14 – 18, 2001.

**Hopkinson, C.**, and 10 others. 2001. Mapping the spatial distribution of snowpack depth beneath a variable forest canopy using airborne laser altimetry. *Proceedings of the Eastern Snow Conference*, Ottawa, May 14-18.

Chasmer, L. and **Hopkinson, C.** 2001. Using airborne Laser Altimetry and GIS to assess scale induced radiation-loading errors in a glacierised basin. *Proceedings of the 58<sup>th</sup> Eastern Snow Conference*.

**Hopkinson, C.** 1997, "The Net Volumetric Loss of Glacier Cover within the Bow Valley above Banff, Alberta, 1951 - 1993" *Joint ESC/WSC proceedings of the Banff meeting, May 1997*.

**Hopkinson, C.** and Young, G.J. 1997. "The Impact of Glacier Recession to the Bow River above Banff, Alberta, 1951 - 1993" *Joint ESC/WSC proceedings of the Banff meeting, May 1997*.