

CURRICULUM VITAE: JAIA SYVITSKI

Last update Apr 1, 2023



Title: Professor Emerita (University of Colorado)
Address: 4001 Discovery Drive,
University of Colorado-Boulder,
Boulder, CO, 80309, USA
Email: syvitski@colorado.edu
Web: <http://instaar.colorado.edu/people/jaia-syvitski/>

Citizenship: United States & Canada

Professional Interests: *Oceanography, Geological Sciences, Hydrology, Numerical Modeling, Geophysics.*

Research Interests: *Fjords, Rivers, Deltas, Estuaries, Particle Dynamics, Sediment Transport, Continental Margins, Animal-Sediment Interactions, and Human-Landscape Interactions*

Non-professional Interests: *Guitar; Meditation; Tai Chi; Gardening; Literature*

Summary

- *Expertise: Earth system science, sediment transport, land-ocean interactions, Earth-surface dynamics*
- *Education: Quantitative Oceanography & Geosciences,*
- *High performance computing clusters.*
- *Employment: Industry, academia, government, environmental consultancy.*
- *Participant: World scientific bodies & Academies on issues of global and environmental change.*
- *Supervisor: Students, post-graduate fellows, technicians, software engineers, faculty, finance & IT staff.*
- *Head, Sediment Dynamics (Geological Survey of Canada - Atlantic): tidal power, iceberg scouring of the seafloor, cable routing, and slope stability problems.*
- *Director, INSTAAR, a CU Research Institute that specializes in Earth and environmental system science, (300 employees & affiliates, 94 are at the Ph.D. level, faculty from 7 academic departments).*
- *Executive Director, CSDMS — Community Surface Dynamics Modeling System, coordinated scientists from 500+ institutions in 68 countries, to develop, support, and disseminate integrated software modules to the Geoscience community.*
- *SC Chair of the International Geosphere Biosphere Programme (IGBP), with 10,000+ scientists to provide essential scientific leadership and knowledge of the Earth system and help guide society onto a sustainable pathway during rapid global change.*

PROFESSIONAL APPOINTMENTS

Industry:	Position Title	Organization or Employer
1973, 1975	<i>Geophysicist, Geologist</i>	<i>Falconbridge Nickel Mines</i>
University:		
1978–81	<i>Assistant Professor (Geology & Geophysics)</i>	<i>University of Calgary</i>
1989–95	<i>Adjunct Professor (Geology)</i>	<i>Laval University</i>
1989–95	<i>Adjunct Professor (Oceanography)</i>	<i>INRS-Oceanologie</i>
1992–95	<i>Adjunct Professor (Ocean Sciences)</i>	<i>Memorial University of Nfld</i>
1993–97	<i>Adjunct Professor (Earth Sciences)</i>	<i>Dalhousie University</i>
1995–07	<i>Director (INSTAAR)</i>	<i>University of Colorado at Boulder</i>
1995–19	<i>Fellow (INSTAAR)</i>	<i>University of Colorado at Boulder</i>
1995–18	<i>Professor (Geological Sciences)</i>	<i>University of Colorado at Boulder</i>
1997–18	<i>Professor (Geophysics)</i>	<i>University of Colorado at Boulder</i>
2007–18	<i>Professor (Oceanography)</i>	<i>University of Colorado at Boulder</i>
2007–17	<i>Executive Director (CSDMS)</i>	<i>University of Colorado at Boulder</i>
2009–18	<i>Professor (Applied Math)</i>	<i>University of Colorado at Boulder</i>
Government:		
1974	<i>Geochemist</i>	<i>Ontario Department of Environment</i>
1976	<i>Research Scientist</i>	<i>Geological Survey of Canada-Pacific</i>
1981–95	<i>Senior Research Scientist</i>	<i>Geological Survey of Canada-Atlantic</i>
1982–85	<i>Head: Sediment Dynamics Section</i>	<i>Bedford Institute of Oceanography</i>
Consulting		
1980–81	<i>Consultant</i>	<i>Canadian Marine Geotechnical Engineering</i>
1992–93	<i>Consultant</i>	<i>Department of Justice (U.S.)</i>
2006–07	<i>Consultant</i>	<i>Earth Tech (U.S.)</i>
2010	<i>Educational Consultant</i>	<i>ExxonMobil (Spain)</i>
2012	<i>Review Team member</i>	<i>DELTAIRES (Netherlands)</i>
2013–15	<i>Advisory Council</i>	<i>Dept of Oceanography, Xiamen U (China)</i>
2011–16	<i>Chair, IGBP</i>	<i>International Council for Science</i>
2013–17	<i>International Development Advisor</i>	<i>IDRC (Canada), DFID (UK)</i>
Journal Editorships		
<i>Editor:</i>	<i>Arctic, Antarctic & Alpine Research</i>	
<i>Guest Editor:</i>	<i>Sedimentary Geology; Marine Geology (2); Computers & Geoscience (4); Global & Planetary Change; Geochemistry, Geophysics, Geosystems; Oceanography (2)</i>	
<i>Assoc. Editor:</i>	<i>J Sedimentary Petrology; Oceanography; Chinese J Oceanology & Limnology</i>	
<i>Editorial Bd:</i>	<i>Arctic & Alpine Research, Marine Geology; Computers & Geoscience;</i>	
Professional Memberships		
<i>IAS: International Association of Sedimentologists</i>	<i>SEPM: Society of Sedimentary Geology</i>	
<i>TOS: The Oceanographic Society</i>	<i>AGU: American Geophysical Union</i>	
<i>IMAG: International Assoc. of Mathematical Geology</i>		

EDUCATION & ACADEMIA

BSc	Lakehead University	1974	Mathematics, Geology	First Class Standing
HBSc	Lakehead University	1975	Geology	First Class Standing
PhD	U. British Columbia	1978	Oceanography & Geological Sciences	

Theses:

HBSc Water-Sediment Interactions in a Fresh Water Environment: Western Thunder Bay

Thesis Advisor: JD Mothersill, Dean of Science, Lakehead U, Canada, 1974-75

PhD Sedimentological Advances Concerning the Flocculation and Zooplankton Pelletization of Suspended Sediment in Howe Sound, British Columbia: A Fjord Receiving Glacial Meltwater

Thesis Advisor: Professor JW Murray, U British Columbia, Canada, 1975-78

University Courses Taught:

U Calgary: 1) *Geology for Engineers* (2nd y), 2) *Sedimentary Petrology* (3rd y), 3) *Geo Field School* (3rd y), 4) *Sedimentary Environments* (4th y), 5) *Advanced Geomathematics* (grad), 6) *Clastic Sedimentology* (grad)

U Colorado: 1) *Intro to Oceanography* (3rd y), 2) *Quantitative Dynamic Stratigraphy* (grad), 3) *High Latitude Glacimarine Processes* (grad), 4) *Oceanography* (4th y & grad)

Other Courses Taught: 11 off-site courses provided to graduates and professionals at other campuses: Delft U Technology, U Barcelona, U Tromsø, CNRS/IGM-Bologna, GNS-Wellington, Kangwon Natl U. (Korea), NCED/CCED Minneapolis, RCEM-Santa Fe (Argentina), and Christian-Albrechts U (Kiel). Topics: Modeling Continental Margins; Polar Environments, Earth-Surface Dynamics Models, & Delta-Dynamics.

Graduate Student – Supervisor (16)

1979–80	Grant Lowey	MSc	2001–07	Eric Hutton	PhD	2010–12	Christina Sneddon	MSc
1995–99	Mark Morehead	PhD	2003–04	David Pyles	PhD	2010–14	Stephanie Higgins	PhD
1996–01	Damian O’Grady	Ph.D.	2004–07	Alex Sinclair	MSc	2010–14	Ben Hudson	PhD
1999–02	David Mixon	MSc	2004–07	Albert Kettner	PhD	2010–15	Fei Xing	PhD
1999–03	David Kinner	PhD	2007–11	Mark Hannon	MSc			
2000–05	Gita Dunhill	PhD	2008–09	Scott Bachman	PhD			

Graduate Student Examiner or Committee Member of 26 other students. A list of students, degree, years, and the university awarding the degree, is available upon request

Post-graduate Supervision (20)

1987–89	Jay Stravers	2001–03	J. Scott Stewart	2010–12	Sagy Cohen
1993–95	Azetsu Scott	2002–04	Irina Overeem	2013–17	Mark Piper
1994–95	Thierry Mulder	2002–05	Yu’suke Kubo	2014–16	Stephanie Higgins
1995–96	Hee Jun Lee	2008–09	Eric Hutton	2014–17	Kimberly Rogers
1996–98	David Bahr	2007–10	Albert Kettner	2015–16	Elchin Jafarov
1999–00	Scott Peckham	2009–11	Beichuan Yan	2015–17	Mariela Perignon
2001–02	Damian O’Grady	2010–11	Maureen Berlin		

Selected CU Service

Institute Director, INSTAAR: 1995–2007

Director, Env. Comp & Imaging Facility: 1995–2017

Environmental Program Advisory Committee

Institute Directors Committee

Graduate School Budget Committee

East Campus Research Association

Academic Affairs Budget Advisory Committee

CU Research Cabinet

Interdisciplinary Computational Science & Eng.

Dean’s Small Grants Committee

Accounting Streamlining Project

Chair, Summer School Task Force

Geological Sciences Executive Committee

Boulder Campus Cyberinfrastructure Board

RESEARCH PROFESSION

Principal Investigator (\$24.9M)

Period	\$Can	Agency	Research Site	Project
1978-79	\$20K	NSERC	U of Calgary	Sedimentation in Lakes
1979-80	\$50K	NSERC	U of Calgary	Particle Floation
1981-89	\$820K	EMR	GSC	Sedimentology of Arctic Fjords Experiment
1982-89	\$190K	EMR	GSC	Suspended Particulate Matter In Situ
1986-95	\$1.1M	EMR	GSC	Transfer of Sediment from Land to Sea
1987-93	\$2.2M	multiple	GSC	ADFEX: Arctic Delta Failure Experiment
1992-95	\$700K	NRCan	GSC	Marine Proxy Climatic Record & Models
1995	\$130K	ONR	GSC	STRATAFORM: Formation of strata on Margins

Period	\$US	Agency	Research Site	Project
1996-99	\$110K	ONR	INSTAAR	Coupling of discharge & sedimentation models
1995-02	\$702K	ONR	INSTAAR	STRATAFORM
1997-98	\$91K	ONR	INSTAAR	Particle Dynamic Laser and Camera System
1997-99	\$360K	Mobil	INSTAAR	Data Base Development and Models for Stratigraphy
1998-99	\$135K	Raytheon	INSTAAR	Satellite Data Model Fusion: Littoral Sed. Transport
2000-01	\$1.1M	ONR-Sun	INSTAAR	Environmental Computation & Imaging (ECI) Facility
2000-04	\$650K	ONR	INSTAAR	Geoclutter: Buried Channels on Continental Shelves
2001-04	\$200K	ONR	INSTAAR	Sediment Flux to the Coast: Prediction for the Navy
2001-04	\$143K	NSF	INSTAAR	MARGINS: Experimental and Theoretical Studies
2001-04	\$437K	ExxonMobil	INSTAAR	2D and 3D-SedFlux
2001-04	\$343K	ONR	INSTAAR	Seabed variability: Influence on acoustic prediction
2002-03	\$440K	ONR	INSTAAR	EuroSTRATAFORM: Modeling Sedimentation
2001-02	\$50K	NSF	INSTAAR	Community Sediment Model
2004-06	\$189K	NASA	INSTAAR	Changing C & N & Water Cycles in the Earth System
2004-06	\$24K	NSF	INSTAAR	Sediment production in the Waipaoa R, NZ
2005-09	\$540K	ONR	INSTAAR	Sediment dynamics of World deltas & Estuaries
2006-11	\$4.6M	NSF	CSDMS	Community Surface Dynamics Modeling System 1.0
2007-12	\$313K	NASA	CSDMS	Analysis of inland and coastal water fluxes
2007-11	\$320K	ConocoP	CSDMS	Sedimentary Environments
2008-09	\$30K	ExxonM	CSDMS	Community Surface Dynamics Modeling System
2009-11	\$150K	Statoil	CSDMS	Community Surface Dynamics Modeling System
2008-09	\$450K	CU-USGS	CSDMS	CSDMS High Performance Computing Cluster
2009-13	\$2.2M	NSF-CDI	CSDMS	Commodity governance in Earth science modeling
2011-14	\$221K	BOEM	CSDMS	Application of Numerical Models for Extreme Events
2012-15	\$432K	NASA	CSDMS	Global Assessment of Threatened River-Delta Systems
2012-16	\$780K	NSF-FESD	CSDMS	Delta Dynamics Collaboratory
2012-17	\$4.84M	NSF	CSDMS	Community Surface Dynamics Modeling System 2.0

Funded Research Projects as Co-Investigator (\$10M)

Period	\$US	Agency	Research Site	Project
1996-99	\$325K	NSF-ATM	INSTAAR	Paleoclimate of W/NW Iceland (PALE)
1996-97	\$50K	NSF-ANS	INSTAAR	Greenland Margin - Denmark Strait Paleoceanography
1998-00	\$450K	NSF	INSTAAR	Experimental Study of Basin Stratigraphy
1999-01	\$366K	NSF	INSTAAR	IMAGES: High Resolution Holocene Paleoclimate
2001-05	\$2.2M	NSF	INSTAAR	HARC: Coastal Erosion in Barrow Alaska
2008-11	\$4.0M	NSF&CU	U. Colorado	High Performance Front Range Supercomputer
2010-12	\$358K	NSF	CSDMS	River Plumes from Greenland Ice Sheet Melt
2012-16	\$173K	NASA	CSDMS	Quantifying Change in Arctic Ocean River Discharge
2015-18	\$2.1M	NSF	U. Colorado	High Performance Front Range Supercomputer

HONORS & AWARDS

Canada

- 1976: NRC Graduate Fellowship, UBC, Vancouver Canada
- 2009: Royal Society of Canada, Huntsman Medal for Outstanding Achievements in Marine Science
- 2012: 50th Anniversary BIO Crystal Award: "Geology of the Continental Margin of Eastern Canada"

USA

- 2010: Fellow, American Geophysical Union
- 2018: "Syvitski Student Modeler Award" now awarded at CSDMS Annual Meetings
- 2019: NSF-CSDMS Lifetime Achievement Award
- 2023: G. K. Gilbert award for excellence in geomorphological research, Assoc. of American Geomorphologists

UK

- 2016: Honorary, Doctor of Science, Newcastle U. (UK) --- "for significant contribution to Earth-system science and ... how science provides a physical basis for ... humankind to achieve sustainability".

Spain

- 2023: Foreign Fellow, Royal Spanish Academy of Sciences [La Real Academia de Ciencias Exactas, Fisicasy Naturales de España]

International

- 2016: SEPM (Society for Sedimentary Geology) Francis P Shepard Medal, for outstanding contribution to Marine Geology

Invited Keynote Plenary Presentations

- 1994: Antarctic Acoustic Workshop, Siena, Italy
- 1998: International Workshop on Fjords, Tromso, Norway
- 1998: SEPM-IAS STRATCON Workshop, Sicily, Italy
- 1998: LOICZ Open Science Congress, Noordwijkerhout, Netherlands
- 2001: SEPM Diamond Jubilee, Denver, USA
- 2006: International Sedimentological Congress, Fukuoka Japan
- 2007: NSF MARGINS Source to Sink Workshop, San Francisco & Eureka, USA
- 2008: IAHS Sediment Dynamics in Changing Environments, Christchurch, NZ
- 2009: Rivers Coastal Estuary Morphodynamics Conference, Santa Fe, Argentina
- 2010: Storm Surges Congress, Hamburg, Germany
- 2010: British Geological Society: Landscapes into Rock, London, UK
- 2011: 9th Intl Symposium on Geochemistry of the Earth's Surface, Boulder, USA
- 2011: Chapman Conference on Source to Sink Systems, Oxnard, USA
- 2011: LOICZ Open Science Congress, Yantai, China
- 2011: 11th International Coastal Symposium, Szczecin, Poland
- 2011: Deltas Under Climate Change: Challenges of Adaptation, Ha Noi, Vietnam
- 2012: 2nd GEOSS Science and Technology Stakeholder Workshop, Bonn, Germany
- 2012: 3rd IGCP588 Conference Preparing for Coastal Change, Kiel, Germany
- 2013: PAGES Open Science Meeting, Goa, India
- 2013: 14th Swiss Global Change Day, Bern, Switzerland
- 2013: GWSP Water in the Anthropocene: Challenges for Science & Governance, Bonn, Germany
- 2013: 10th Int'l Conference on Fluvial Sedimentology, Leeds, UK
- 2013: ASLO Aquatic Sciences Meeting, New Orleans, USA
- 2014: CCMP Chesapeake Modeling Symposium, Annapolis, USA
- 2014: International Environmental Modeling and Software Symposium, San Diego, USA
- 2014: WCRP/GEWEX Open Sciences Meeting, The Hague, Netherlands
- 2014: Anthropocene WG Forum, Haus der Kulturen der Welt, Berlin, Germany
- 2014: Southeastern University Research Association, Washington, DC, USA
- 2015: 2nd Xiamen Symposium on Marine Environmental Sciences, Xiamen, China
- 2015: 3rd & 4th GEOSS Science and Technology Stakeholder Workshop, Norfolk VA, USA
- 2015: 36th IAHR World Congress, The Hague, The Netherlands
- 2015: XIX INQUA Congress, Nagoya, Japan
- 2015: RCEM Congress, Iquitos, Peru

2016: 2nd Conference on Forward Modelling of Sedimentary Systems, EAGE Trondheim Norway
2016: International Society for Ecological Modeling, Baltimore USA
2016: 2nd Intl Workshop on Coastal Subsidence, Venice Italy
2016: 24th AMQUA Biennial Meeting, Santa Fe NM
2016: International Society for the Systems Sciences, ISSS2016, Boulder CO
2016: Sustainable Development Goals in Deltas, ESPA Deltas, London UK
2018: 20th International Sedimentological Congress, Quebec City, Canada
2021: 7th International Conference on Estuaries and Coasts
2023: Coastal Sediments 2023 conference, New Orleans LA.

PROFESSIONAL SERVICES: A complete list (77) of activities, conferences and sessions, dates, and locations is available upon request. Steering committee: 6; Organizing Committee: 4; Symposia or Conference Chair: 6; Technical Chair: 1; Convener: 10; Session Chair or Moderator: 50 events.

PROGRAM PLANNING: A complete list (147) of national and international science planning meetings, including topics, date, location, with sponsoring organizations: e.g. AWG, ARCUS, GWSP, ESSP, IDRC, DFID, IGBP, LOICZ, NOAA, NASA, NSF, ONR, SCOR, ...

PRESENTATIONS: Symposia, Congresses, Conferences, Workshops: A complete list of more than 600 events is available upon request

INVITED LECTURES: (Universities, Institutes, Learned Societies, Academies): A complete list of more than 100 events is available upon request

PROFESSIONAL INFLUENCE

- Advisor to publishers Elsevier, Springer, Cambridge U Press, Allen Press.
- Consultant to the US Office of Naval Research & NATO Naval Geoscience initiatives (Seafloor acoustics, Mine Burial, Antisubmarine Warfare, Arctic Submarine Operations, Special Operations, Uncertainty)
- ARCUS (Arctic Research Consortium of the US) Board of Directors, representing 30 US universities/institutes (1995-98); Secretary and Executive of the ARCUS Board of Directors (1997-98)
- Chair of ICSU's IGBP (International Geosphere-Biosphere Programme) (2011-16)
- Scientific Advisory Board for the Institute of Arctic & Alpine Research, U Colorado (1992-95).
- Executive Committee on Sedimentology, International Union of Geological Sciences (1985-88)
- Advisor to U.S. Dept. of Justice with respect to marine pollution (1992-93).
- Director, INSTAAR, University of Colorado at Boulder (1995-2007)
- Scientific Advisory Committee for NSF/ONR SCICEX US Nuclear Submarine Science (1996-99).
- Scientific Advisory Committee for NSF RAISE Land-Shelf Interaction Program (1996-00).
- Scientific Steering Committee IGBP Land Ocean Interactions in the Coastal Zone (1998-02)
- Scientific Steering Committee for AOSB Arctic Paleo River Discharge (1998-01).
- Scientific Advisor to IGBP (Global Change) Water Initiative (2000-02)
- Scientific Advisory Committee for NSF Arctic Hydrology Program CHAMPS (2002-03)
- Scientific Advisory Committee for NSF Margins: Source to Sink Program (2001-02)

International Project Leader or Co-leader

- SAFE (1981-88): (Canada, US, UK, Netherlands) 35 scientists
- IUGS Size Characterization (1984-90): (12 countries) 32 scientists
- ADFEX (1986-2002): (Canada, Norway, France, UK, Poland) 22 scientists
- INQUA's COLDSEIS (1990-96): (15 countries) 48 scientists
- SEDFLUX (1988-95): (Canada, US, Iceland, China, Denmark, Germany) 40 scientists
- ONR STRATAFORM (1994-02): (US, Canada) 35 PIs and 45 Co-Is
- EC & ONR EuroSTRATAFORM (2002-08): (US, Canada, Europe) 100 PIs,
- SCOR/LOICZ Sediment Retention in Estuaries Initiative (2006-10): (10 countries)
- GWSP/LOICZ/CSDMS Deltas at Risk Initiative (2007-10): (8 countries)
- CSDMS (2001-17): (68 countries) 2,000+ members

- IGBP (2011–16): (72+ countries) 10,000+ members

Ship-based Research Activities: >30 cruises 1974–93, 12 as Chief Scientist; >2 y at sea;

Ships: *MV Martin Carlson, MV Sea Lion, HMAV Endeavor, MV Active Lass, MV Pandora II, St. Anthony/Pisces, CSS Dawson, CSS Hudson, CSS Louis Lauzier, CSS Baffin, Chinese Ferry Boat*

Locations: *Lake Superior, Fraser River, Georgia Straight, B.C. Fjords, Gulf of St. Lawrence, Saguenay, Baffin Fjords, Lake Melville, South China Sea, Greenland, Iceland*

SCIENTIFIC CREATIVITY

- Redefined paradigms of ice marginal sedimentation using a geophysical mass balance approach.
- Determined the *in-situ* behavior of marine particles.
- Developed numerical models to capture: i) Climate-driven impacts on discharge and sediment load; ii) Isostasy impacts on river delta architecture; iii) Complex transport pathways in sedimentary basins
- Developed concepts on biological-sediment interactions: i) Zooplankton response to the ingestion of sediment; ii) large sea mammal interaction with the benthos of deep arctic environments; iii) Corals move large boulders through current drag; and iv) Benthic community in the proximity of tidewater glaciers.
- Monitored underwater slides and sediment gravity flows.
- Developed standards and methods for the first world inter-instrument, inter-lab calibration experiment of commercial and non-commercial methods of particle size analysis.
- Emplacement of oceanographic moorings in the arctic via helicopter.
- Use of particulate organic carbon to hind-cast sedimentation rates and summer temperatures in arctic environments.
- Developed method for estimating the rating coefficients related to the intra-annual variability of rivers
- First predictions on the daily flux of sediment discharge of global rivers
- New paradigm on delta morphology and subsidence under the influence of human activity.
- Contributions to the development of the Anthropocene concept as a Geological Epoch.
- Demonstrated the effect of river temperature on the sediment transport by global rivers.

CONTRIBUTIONS & INTERVIEWS IN DOCUMENTARY FILMS & TELEVISION

1. The Recent Ice Age, March 1990, Skerrett Communications LTD, 27 min, Toronto, Canada
2. Science is Your World, 1991, No. 217 Submersibles, Shaw Television, 27 min, Halifax NS
3. Science is Your World, 1991, No. 218 Estuaries, Shaw Television, 27 min Halifax NS
4. Floods: Challenging our Future, 2015, Georama TV Productions & NHK. 104 min, France, Japan.

PUBLICATIONS

Peer-reviewed Journal Publications, Books & Book Chapters	280
Peer-reviewed Special Issues, Editor	13
Reviews & Communications in Peer-Reviewed Journals & Books	18
Peer-reviewed Conference Proceedings, Newsletters & Reports	48
Peer-reviewed Government Reports	56
Unpublished & Limited-Distribution Manuscripts	9
Published Conference Abstracts	<u>381</u>
Total	805

Google Scholar Citations: 40,000+; h-index: 94.

Publications by Research Topics: Topics are ordered for their contribution, based on both the number of peer-reviewed publications and their scholarly citations. Each section handles major contributions separately.

Topics	Peer-reviewed Pubs	Citations Total	Citation Average
1. Sediment Delivery by Rivers	31	7488	241
2. Climate Change & Global Environmental Change	24	9049	377
3. The Anthropocene	26	6779	260
4. Particle Dynamics, Hyperpycnal Flows	27	4128	153
5. Deltas and Coastal Environments	34	3489	103
6. Continental Margins: Glaciated & Non-glaciated	40	2664	67
7. Fjord Research	29	2361	81
8. Simulation of Transport, & Sedimentary Environments	45	2241	50
9. Sediment-Animal Interactions & Grain Size Analysis	20	1713	86

1) **SEDIMENT DELIVERY by RIVERS:** 31+ pubs, 7488 citations

A fundamental problem in biogeochemistry is to predict the sediment delivery by Earth's rivers, since so few are monitored. Well-cited papers and special issues, including the classic paper with John Milliman (1), make this research topic the most successful. Methods were developed for predicting fluxes across dynamic and geological time scales, with applications to Quaternary intervals, including the Holocene and the Anthropocene.

Peer-reviewed Publications

1. Milliman JD, Syvitski JPM, 1992, Geomorphic/tectonic control of sediment discharge to the ocean: The importance of small mountainous rivers. *Journal of Geology* 100: 525-544. **Citations: 3960**
2. Milliman JD, Syvitski JPM, 1994, Geomorphic/tectonic control of sediment discharge to the ocean: The importance of small mountainous rivers. In: W Hay (Ed.) *Global Sedimentary Geofluxes*. National Academy of Sciences Press, Washington, Ch 12, p. 74-85. **[Reprint]**
3. Mulder T, Syvitski JPM, 1996, Climatic and morphologic relationships of rivers. Implications of sea level fluctuations on river loads. *Journal of Geology* 104: 509-523. **Citations: 178**
4. Wang Y, Ren M-e, Syvitski JPM, 1998, Sediment transport and terrigenous fluxes. In: KH Brink, AR Robinson (Eds.) *The Sea (V. 10): The Global Coastal Ocean: Processes and Methods*. John Wiley & Sons, New York, p. 253-292. **Citations: 50**
5. Syvitski JPM, Morehead MD, 1999, Estimating river-sediment discharge to the ocean: application to the Eel Margin, northern California. *Marine Geology* 154: 13-28. **Citations: 248**
6. Syvitski JPM, Morehead MD, Bahr D, Mulder T, 2000. Estimating fluvial sediment transport: the rating parameters. *Water Resource Research* 36: 2747-2760. **Citations: 431**
7. Syvitski JPM, Peckham SD, Hilberman RD, Mulder T, 2003. Predicting the terrestrial flux of sediment to the global ocean: A planetary perspective. *Sedimentary Geology* 162: 5-24; Syvitski, JPM 2004. Erratum [Sediment. Geol. 162 (2003) 5–24] *Sedimentary Geology*, 164(3-4), p. 345 **Citations: 500**
8. Morehead MD, Syvitski JPM, Hutton EWH, Peckham SD, 2003, Modeling the temporal variability in the flux of sediment in ungauged river basins. *Global & Planetary Change* 39: 95-110. **Citations: 260**
9. Meybeck M, Laroche L, Darr HH, Syvitski JPM, 2003, Global variability of daily total suspended solids and their fluxes in rivers. *Global & Planetary Change* 39 (1/2): 65-93. **Citations: 383**
10. Syvitski JPM, 2003, Sediment fluxes and rates of sedimentation. In: GV Middleton (Ed.) *Encyclopedia of Sediments and Sedimentary Rocks*. Kluwer Academic Publ., Dordrecht, Netherlands, p. 600-606. **Citations: 38**

11. Restrepo JD, Syvitski JPM, 2006, Assessing the effect of natural controls and land use change on sediment yield in a major Andean river: The Magdalena drainage basin, Colombia. *AMBIO, J Human Environment* 35: 65-74. Citations: 142
12. Syvitski JPM, Kettner A, 2007, On the flux of water and sediment into the Northern Adriatic. *Continental Shelf Research*, 27: 296-308. Citations: 114
13. Kettner AJ, Syvitski JPM, 2008, Predicting discharge and sediment flux of the Po River, Italy since the Late Glacial Maximum. In: PL de Boer, G Postma, CJ van der Zwan, PM Burgess, P Kukla (Eds.) *Analogue and Numerical Forward Modelling of Sedimentary Systems: from Understanding to Prediction*. Spec. Publ. Int. Assoc. Sedimentol. 40: 171–189. Citations: 50
14. Chen Z, Syvitski JPM, Gao S, Overeem I, Kettner AJ, 2012, Socio-economic impacts on flooding: a 4000-year history of the Yellow River, China, *AMBIO, J Human Environment* 41(7): 682-698. Citations: 206
15. Syvitski JPM, Brakenridge GR, 2013, Causation and avoidance of catastrophic flooding along the Indus River, Pakistan. *GSA Today* 23(1): 4-10. Citations: 106
16. Brakenridge GR, Cohen S, Kettner AJ, De Groeve T, Nghiem SV, Syvitski JPM, Fekete BM, 2013, Calibration of satellite measurements of river discharge using a global hydrology model. *J Hydrology* 475: 123-136. Citations: 109
17. Overeem I, Kettner AJ, Syvitski JPM, 2013, Impacts of humans on river fluxes and morphology. In: JF Shroder (Ed.) *Treatise on Geomorphology* v 9: 828-842. San Diego: Academic Press. Citations: 33
18. Cohen S, Kettner AJ, Syvitski JPM, 2014, Global suspended sediment and water discharge dynamics between 1960 and 2010: Continental trends and intra-basin sensitivity. *Global & Planetary Change* 115: 44-58. Citations: 134
19. Vanmaercke M, Kettner AJ, van den Eeckhaut M, Poesen J, Mamaliga A, Verstraeten G, Radoane M, Obreja F, Upton P, Syvitski JPM, Govers G, 2014, Moderate seismic activity affects contemporary sediment yields. *Progress in Physical Geography* 38(2): 145-172. Citations: 30
20. Syvitski JPM, Cohen S, Kettner AJ, Brakenridge GR, 2014, How important and different are tropical rivers? — An overview. *Geomorphology* 227: 5-17. Citations: 121
21. Warrick JA, Milliman JD, Walling DE, Wasson RJ, Syvitski JPM, Aalto RE, 2014, Earth is (mostly) flat: Apportionment of the flux of continental sediment over millennial time scales. *Geology* doi:10.1130/G34846C.1 Citations: 19
22. Chen Y, Overeem I, Kettner AJ, Gao S, Syvitski JPM, 2015, Modeling flood dynamics along the superelevated channel belt of the Yellow River over the last 3000 years. *J Geophysical Research- Earth Surface* 120 (7): 1321–1351. Citations: 34
23. Restrepo JD, Kettner AJ, Syvitski JP, 2015, Recent deforestation causes rapid increase in river sediment load in the Colombian Andes. *Anthropocene* 10: 13-28. Citations: 107
24. Brakenridge GR, JPM Syvitski, E Niebuhr, I Overeem, SA Higgins, AJ Kettner, L Prades, 2017, Design with nature: Causation and avoidance of catastrophic flooding, Myanmar. *Earth-Science Reviews* 165: 81-109. Citations: 65
25. Chen Y, Overeem I, Gao S, Syvitski JP, Kettner J, 2018, Quantifying sediment storage on the floodplains outside levees along the lower Yellow River during the years 1580–1849. *Earth Surface Processes and Landforms* DOI: 10.1002/esp.4519 Citations: 11
26. Cohen S, Wan T, Islam MT, Syvitski JPM, 2018, Global River Slope: A new geospatial dataset and global-scale analysis. *Journal of Hydrology* 563: 1057-1067. Citations: 26
27. Syvitski JP, Cohen S, Miara A, Best J, 2019, River temperature and the thermal-dynamic transport of sediment. *Global & Planetary Change* 178: 168-183. Citations: 26
28. Syvitski JP, Kettner AJ, Overeem I, Brakenridge GR, Cohen S, 2019, Latitudinal controls on siliciclastic

sediment production and transport. In: Fraticelli CM, Martinius AW, Markwick P, Suter JR (Eds.) *Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts*. Society Sed. Geology Spec. Pub. 108: 14-28. Citations: 8

29. Syvitski JPM, 2019, Global sediment fluxes to the Earth's coastal ocean. *Applied Geochemistry* 26, S373-S374. Citations: 24
30. Wu Z, Zhao D, Syvitski JPM, Saito Y, Zhou J, Wang M, 2020, Anthropogenic impacts on the decreasing sediment loads of nine major rivers in China, 1954–2015. *Science of the Total Environment* 739, <https://doi.org/10.1016/j.scitotenv.2020.139653> Citations: 47
31. Cohen S, Syvitski J, Ashely T, Fekete B, Lammers R, Li H-Y, 2022, Spatial trends and drivers of bedload and suspended sediment fluxes in global rivers. *Waters Resources Research*, <http://doi.org/10.1029/2021WR031583> Citations: 4

Proceedings, Newsletters, Reports

32. Chen Y, Overeem I, Syvitski JPM, Gao S, Kettner J, 2011, Controls of levee breaches on the Lower Yellow River during the years 1550–1855. *River, Coastal and Estuarine Morphodynamics RCEM2011*, Tsinghua U Press, Beijing. Citations: 5
33. Syvitski JPM (Ed.) 2003, Supply and flux of sediment along hydrological pathways: Anthropogenic influences at the global scale. *Global & Planetary Change* 39(1/2): 1-199. Citations: 16
34. Syvitski JPM, Hilberman RD, Peckham SD, 2002, Sediment flux to the coastal zone: predictions for the Navy. *Volume 2 – Terra Nostra* 04/2002, *International Association of Mathematical Geologists*, Berlin, p. 437-442. Citations: 1
35. Syvitski JPM, 2001, Supply and flux of sediment along hydrological pathways: anthropogenic influences at the global scale. *LOICZ Newsletter*, No. 20: 4-7.
36. Syvitski JPM, 2003, The influence of climate on the flux of sediment to the coastal ocean. *Proceedings of OCEANS 2003*, San Diego, Holland Publ., p. 496-502. Citations: 7
37. Syvitski JPM, Milliman JD, 2006, Geology, geography and humans battle for dominance over the delivery of sediment to the coastal ocean. *Inprint Newsletter of the IGBP/IHDP Land Ocean Interaction in the Coastal Zone*, 2006/2: 5-6.
38. Brakenridge GR, Kettner AJ, Syvitski JPM, Policelli F, De Groeve T, Nghim SV, 2011, Predicting and managing the effects of extreme floods using orbital remote sensing. *Proceedings of the 2011 IEEE International Geosciences and Remote Sensing Symposium*, Vancouver BC, pg. 81-89.

Related Peer-Reviewed Government Reports

39. Binda GG, Day TJ, Syvitski JPM, 1986, Terrestrial sediment transport into the marine environment of Canada: Annotated bibliography and data. *Environment Canada. Sediment Survey Section Report IWD-HQ-WRB-SS-86-1*, 85 pp. Citations: 5

2) CLIMATE CHANGE and GLOBAL ENVIRONMENTAL CHANGE: 24+ pubs, 9049 citations

I became involved in global environmental change science during the birth of the International Geosphere Biosphere Programme in 1986; activities continued through international projects including the Land Ocean Interaction in the Coastal Zone, and the Global Water System Project. This led to papers on the impact of humans on the global environment. Recent studies on delta subsidence and changes in the relative sea levels rise around deltas have pointed to the negative impact of upstream damming and subsurface mining for water, oil and gas.

Peer-reviewed Publications

1. Syvitski JPM, Andrews JT, 1994, Climate change: numerical modeling of sedimentation and coastal processes, eastern Canadian Arctic. *Arctic & Alpine Research* 26(3): 199-212. Citations: 46
2. Sidorchuk AY, Panin AV, Borisova OK, Elias SA, Syvitski JP, 2000, Channel morphology and river flow in the northern Russian Plain in the Late Glacial and Holocene. *International Journal of Earth Science* 89(3): 541-549. Citations: 30
3. Syvitski JPM, 2002, Sediment discharge variability in Arctic rivers: implications for a warmer future. *Polar Research* 21(2): 323-330. Citations: 132
4. Vörösmarty C, Meybeck M, Fekete B, Sharma K, Green P, Syvitski JPM, 2003, Anthropogenic sediment retention: major global impact from registered river impoundments. *Global & Planetary Change* 39 (1/2): 169-190. Citations: 1322
5. Syvitski JPM, Vörösmarty C, Kettner AJ, Green P, 2005, Impact of humans on the flux of terrestrial sediment to the global coastal ocean. *Science* 308: 376-380. Citations: 2739
6. Kuehl SA, Alexander C, Carter L, Gerald L, Gerber T, Harris C, McNinch J, Orpin A, Pratson L, Syvitski JPM, Walsh JPM, 2006, Understanding sediment transfer from land to ocean. *EOS, Transactions, AGU* 87(29): 281-286. Citations: 18
7. Syvitski JPM, Milliman JD, 2007, Geology, geography, and humans battle for dominance over the delivery of sediment to the coastal ocean. *Journal of Geology* 115: 1-19. Citations: 822
8. Mixon DM, Kinner DA, Stallard RF, Syvitski JPM, 2008, Geolocation of man-made reservoirs across terrains of varying complexity using GIS. *Computers & Geosciences* 34: 1184-1197. Citations: 10
9. Overeem I, Syvitski JPM, 2008, Changing sediment supply in Arctic rivers. In: J Schmidt, T Cochrane, C Phillips, S Elliot, T Davies, L Basher, (Eds.) *Sediment Dynamics in Changing Environments*. IAHS Publ. 325: 391-397. Citations: 13
10. Syvitski JPM, Kettner AJ, 2008, Scaling sediment flux across landscapes. In: J Schmidt, T Cochrane, C Phillips, S Elliot, T Davies, L Basher, (Eds.) *Sediment Dynamics in Changing Environments*. IAHS Publ. 325: 149-156. Citations: 18
11. Gomez B, Cui Y, Kettner AJ, Peacock DH, Syvitski JPM, 2009, Simulating changes to the sediment transport regime of the Waipaoa River driven by climate change in the twenty-first century, *Global & Planetary Change* 67: 153-166. Citations: 62
12. Syvitski JPM, Kettner AJ, Hannon MT, Hutton EWH, Overeem I, Brakenridge GR, Day J, Vörösmarty C, Saito Y, Giosan L, Nicholls RJ, 2009, Sinking deltas due to human activities. *Nature Geoscience* 2: 681-689. Citations: 2111
13. Vörösmarty C, Syvitski JPM, Day J, Paola C, Serebin A, 2009, Battling to save the world's river deltas. *Bulletin of the Atomic Scientists* 65(2): 31-43. Citations: 168
14. Overeem I, Syvitski JPM, 2010, Shifting discharge peaks in Arctic Rivers, 1977-2007. *Geografiska Annaler* 92: 285-296. Citations: 101
15. Christoffersen P, Mugford R, Heywood KJ, Joughin I, Dowdeswell JA, Syvitski JPM, Luckman A, Benham TJ, 2011, Warming of waters in an East Greenland fjord prior to glacier retreat: mechanisms and connection

to large-scale atmospheric conditions, *The Cryosphere* 5, 701–714. Citations: 121

16. DeFries R, Ellis E, Stuart Chapin III F, Matson P, Turner II BL, Agrawal A, Crutzen P, Field C, Gleick P, Kareiva P, Lambin E, Liverman D, Ostrom E, Sanchez P, Syvitski JP, 2012, Planetary Opportunities: A Social Contract for Global Change Science to Contribute to a Sustainable Future. *BioScience* 62(6): 603-606. Citations: 239
17. Giosan L, Clift PD, Macklin MG, Fuller DQ, Constantinescu S, Durcan JA, Stevens T, Duller GAT, Tabrez AR, Adhikari R, Gangal K, Alizai A, Filip F, Laningham S, Syvitski JPM, 2012, Fluvial landscapes of the Harappan Civilization. *PNAS* 109(26): E1688-E1694. Citations: 322
18. Giosan L, Syvitski J, Constantinescu S, Day J, 2014, Climate change: Protect the world's deltas, *Nature* 516: 31-33. Citations: 511
19. Hudson B, Overeem I, McGrath D, Syvitski J, Mikkelsen A, Hasholt B, 2014, MODIS observed increase in duration and spatial extent of sediment plumes in Greenland fjords. *The Cryosphere* 8: 1161-1176. Citations: 47
20. Seitzinger SP, Gaffney O, Brasseur G, Broadgate W, Ciais P, Claussen M, Erisman JW, Keifer T, Lancelot C, Monks PS, Smyth K, Syvitski J, Uematsu M, 2015, International Geosphere–Biosphere Programme and Earth system science: Three decades of co-evolution. *Anthropocene* 12: 3-16. Citations: 66
21. Kettner A, Cohen S, Overeem I, Fekete B, Brakenridge GR, Syvitski J, 2018, Estimating change in flooding for the 21st Century under a conservative RCP forcing: A global hydrological modeling assessment. In: *Global Flood Hazard: Applications in Modeling, Mapping, and Forecasting* (AGU) Geophysical Monograph 233: 157-167. Wiley-Blackwell Publ. Citations: 9
22. Li D, Lu XX, Ting Z, Kettner AJ, Overeem I, Syvitski J, Kettner AJ, Bookhagen B, Zhou Y, Zhang T, 2021, Exceptional increases in fluvial sediment fluxes in a warmer and wetter High Mountain Asia. *Science* 374 (656728): 599-603. Citations: 64

2023: G. K. Gilbert Award for Excellence in Geomorphological Research from AAG

23. Syvitski J, Restrepo Angel J, Saito Y, Overeem I, Vörösmarty C, Wang H, Olago D, 2022 Earth's Sediment Cycle during the Anthropocene. *Nature Reviews Earth & Environment*. <https://www.nature.com/articles/s43017-021-00253-w> Citations: 68
24. Wu X, Wang HJ, Saito Y, Syvitski J, Bi N, Yang Z, Xu JP, Guan, W., 2022, Boosting riverine sediment by artificial flood in the Yellow River and the implication for delta restoration. *Marine Geology*. <https://doi.org/10.1016/j.margeo.2022.106816> Citations: 3

Proceedings & Reports

25. Kettner AJ, Gomez B, Syvitski JPM, 2008, Human catalysts or climate change: will have a greater impact on the sediment load of the Waipaoa River in the 21st century? In: J Schmidt, T Cochrane, C Phillips, S Elliot, T Davies, L Basher, (Eds.) *Sediment Dynamics in Changing Environments*. IAHS Publ. 325: 425-431. Citations: 7
26. Syvitski JPM, 2010, Projecting Arctic coastal change. In: DL Forbes (Ed.) *State of the Arctic Coast 2010, Scientific Review and Outlook*. IASC/IPA/LOICZ, Potsdam. pg 89-92
27. Syvitski JPM, 2014. Looking forward. *Nature Climate Change* 4: 856-857.

3) **THE ANTHROPOCENE:** 26+ pubs, 6779 citations

I was an IGBP scientist when Nobel Laureate Paul Crutzen announced his understanding in 2000 that humans had changed Earth System Dynamics. Paul's focus was on greenhouse gases and IGBP asked that I lead experts from 3 international projects (PAGES, LOICZ, BAHC) towards investigating how the earth's water and sediment flux has been altered globally. Later, I joined the ICS-INQUA Anthropocene Working Group to help determine the geological (stratigraphic) implications of these global signals. I then led an IGBP effort along with IHDP experts to examine the Anthropocene concept from a social science perspective.

Peer-reviewed Publications

1. Syvitski JPM, 2003. Supply and flux of sediment along hydrological pathways: Research for the 21st Century. *Global & Planetary Change* 39(1/2): 1-11. **Citations: 316**
2. Syvitski JPM, Harvey N, Wolanski E, Burnett WC, Perillo GME, Gornitz V, 2005, Dynamics of the coastal zone. In: CJ Crossland, HH Kremer, HJ Lindeboom, JI Marshall Crossland, MDA Le Tissier (Eds.) *Coastal Fluxes in the Anthropocene*. Springer, Berlin, pp. 39-94. **Citations: 123**
3. Syvitski JPM, Kettner AJ, 2011, Sediment flux and the Anthropocene. *Phil. Trans. R. Soc. A* 369: 9++17657-975 **Citations 551**
4. Syvitski JPM, 2012, Anthropocene: an epoch of our making. *Global Change* 78(March): 12-15 **Citations: 118**
5. Renaud F, Syvitski JPM, Sebesvari Z, Werners SE, Kremer H, Kueznar C, Ramesh R, Jeuken A, Friedrich J, 2013, Tipping from the Holocene to the Anthropocene: how threatened are major world deltas? *Current Opinion in Environmental Sustainability* 5: 644-654. **Citations: 184**
6. Syvitski, JPM, Kettner AJ, Overeem, I, Giosan, L, Brakenridge, RG, Hannon, M, Bilham, R, 2013, Anthropocene metamorphosis of the Indus delta and lower floodplain. *Anthropocene* 3: 24-35. **Citations: 66**
7. Zalasiewicz J, Waters CN, Williams M, Barnosky AD, Cearreta A, Crutzen P, Ellis E, Ellis MA, Fairchild IJ, Grinevald J, Haff PK, Hajdas I, Leinfelder R, McNeill J, Poirier C, Richter D, Steffen W, Summerhayes C, Syvitski JPM, Vidas D, Wagnreich M, Wing SL, Wolfe AP, Zhisheng A, 2015, When did the Anthropocene begin? A mid-twentieth century boundary level is stratigraphically optimal. *Quaternary International* 383: 196-203 **Citations: 852**
8. Waters CN, Syvitski JPM, Gałuszka A, Hancock GJ, Zalasiewicz J, Cearreta A, Grinevald J, Jeandel C, McNeill JR, Summerhayes C, Barnosky A, 2015, Can nuclear weapons fallout mark the beginning of the Anthropocene Epoch? *Bulletin of Atomic Scientists* 71(3): 46-57. **Citations: 176**
9. Verburg PH, Dearing J, Syvitski J, van der Leeuw S, Seitzinger S, Matrai P, Steffen W, 2016, Methods and approaches to modelling the Anthropocene. *Global Environmental Change* 39: 328-340 **Citations: 331**
10. Zalasiewicz J, Waters CN, Barnosky AD, Cearreta A, Edgeworth M, Ellis EC, Gałuszka A, Gibbard PL, Grinevald J, Hajdas I, Ivar do Sul J, Jeandel C, Leinfelder R, McNeill JR, Poirier C, Revkin A, Richter DB, Steffen W, Summerhayes C, Syvitski JPM, Vidas D, Wagnreich M, Williams M, Wolfe AP, 2015, Colonization of the Americas, 'Little Ice Age' climate, and bomb produced carbon: Their role in defining the Anthropocene, *The Anthropocene Review* 2(2): 117-127. **Citations: 82**
11. Bai X, van der Leeuw S, O'Brien K, Berkhout F, Biermann F, Broadgate W, Brondizio E, Cudennec C, Dearing J, Duraiappah A, Glaser M, Steffen W, Syvitski JP, 2015, Plausible and desirable futures in the Anthropocene, *Global Environmental Change*, 39: 351-362 **Citations: 401**
12. Williams M, Zalasiewicz J, Waters CN, Edgeworth M, Bennett C, Barnosky AD, Ellis EC, Ellis MA, Cearreta A, Haff PK, Ivar do Sul JA, Leinfelder R, McNeill JR, Odada E, Oreskes N, Revkin A, Richter DB, Steffen W, Summerhayes C, Syvitski JP, Vidas D, Wagnreich M, Wing SL, Wolfe AP, Zhisheng A, 2016, The Anthropocene: a conspicuous stratigraphical signal of anthropogenic changes in production and consumption across the biosphere. *Earth's Future* 4(3): 34-53. **Citations: 86**

13. Waters CN, Zalasiewicz J, Summerhayes C, Barnosky AD, Poirier C, Gałuszka A, Hajdas I, Cearreta A, Edgeworth M, Ellis E, Ellis MA, Jeandel C, Leinfelder R, McNeill JR, Richter DB, Steffen W, Syvitski J, Vidas D, Wagleich M, Williams M, Zhisheng A, Grinevald J, Odada E, Oreskes N, 2016, The Anthropocene is functionally and stratigraphically distinct from the Holocene. *Science* 351(6269) Citations: 2085
14. Steffen W, Leinfelder R, Zalasiewicz J, Waters CN, Williams M, Summerhayes C, Barnosky AD, Cearreta A, Crutzen P, Edgeworth M, Ellis EC, Fairchild IJ, Gałuszka A, Grinevald J, Haywood A, Ivar do Sul J, Jeandel C, McNeill JR, Odada E, Oreskes N, Revkin A, Richter DB, Syvitski J, Vidas D, Wagleich M, Wing SL, Wolfe AP, Schellnhuber HJ, 2016, Stratigraphic and Earth System approaches to defining the Anthropocene. *Earth's Future* 4(8): 324-345. Citations: 236
15. Zalasiewicz J, Waters CN, Summerhayes C, Wolfe AP, Barnosky AD, Cearreta A, Crutzen P, Ellis EC, Fairchild IJ, Gałuszka A, Haff P, Hajdas I, Head MJ, Ivar do Sul J, Jeandel C, Leinfelder R, McNeill JR, Neal C, Odada E, Oreskes N, Steffen W, Syvitski JPM, Wagleich M, Williams M, 2017, The Working Group on the Anthropocene: Summary of evidence and recommendations. *Anthropocene* 19: 55-60. Citations: 397
16. Zalasiewicz J, Waters CN, Wolfe AP, Barnosky AD, Cearreta A, Edgeworth M, Ellis EC, Fairchild IJ, Gradstein FM, Grinevald J, Haff P, Head MJ, Ivar do Sul J, Jeandel C, Leinfelder R, McNeill JR, Oreskes N, Poirier C, Revkin A, Richter DB, Steffen W, Summerhayes C, Syvitski JPM, Vidas D, Wagleich M, Wing S, Williams M, 2017, Making the case for a formal Anthropocene Epoch: an analysis of ongoing critiques. *Newsletters on Stratigraphy*, 50(2), DOI: 10.1127/nos/2017/0385 Citations: 129
17. Waters CN, Zalasiewicz J, Summerhayes C, Fairchild IJ, Rose NL, Fairchild IJ, Loader NJ, Shotyk W, Cearreta A, Head MJ, Syvitski JPM, Williams M, Wagleich M, Barnosky AD, Zhisheng A, Leinfelder R, Jeandel C, Gałuszka A, Ivar Do Sul JA, Gradstein F, Steffen W, McNeill JR, Wing S, Poirier C, Edgeworth M, 2018, Global Boundary Stratotype Section and Point (GSSP) for the Anthropocene Series: Where and how to look for potential candidates. *Earth-Science Reviews* 178: 379-429. Citations: 162
18. Robinson DT, Vittorio AD, Alexander P, Arneth A, Barton CM, Brown DG, Kettner A, Lemmen C, O'Neill BC, Janssen M, Pugh TAM, Rabin SS, Rounsevell M, Syvitski JP, Ullah I, Verburg PH, 2018, Modelling feedbacks between human and natural processes in the land system. *Earth Syst. Dynam.* 9: 895-914. Citations: 77
19. Zalasiewicz J, Waters CN, Summerhayes C, Wolfe AP, Barnosky AD, Cearreta A, Crutzen P, Ellis EC, Fairchild IJ, Gałuszka A, Haff P, Hajdas I, Head MJ, Ivar do Sul J, Jeandel C, Leinfelder R, McNeill JR, Neal C, Odada E, Oreskes N, Steffen W, Syvitski J, Wagleich M, Williams M, 2019, A formal Anthropocene is compatible with but distinct from its diachronous anthropogenic counterparts: a response to WF Ruddiman's "three-flaws in defining a formal Anthropocene". *Progress in Physical Geography* DOI: 10.1177/0309133319832607 Citations: 54
20. Kelly J, Scarpino P, Berry H, Syvitski J, Meybeck M (Eds), 2019, *Rivers of the Anthropocene*. University of California Press, Oakland, 212 pp. Citations: 71
21. Syvitski J, Waters CN, Day J, Milliman JD, Summerhayes C, Steffen W, Zalasiewicz J, Cearreta A, Gałuszka A, Hajdas I, Head MJ, Leinfelder R, McNeill JR, Poirier C, Rose NL, Shotyk W, Wagleich M, Williams M, 2020, Extraordinary human energy consumption and resultant geological impacts beginning around 1950 CE initiated the proposed Anthropocene Epoch. *Communications Earth & Environment* <https://doi.org/10.1038/s43247-020-00029-y> Citations: 134
22. Zalasiewicz J, Waters CN, Ellis EC, Head MJ, Vidas D, Steffen W, Thomas JA, Horn E, Summerhayes CP, Haff P, Leinfelder R, McNeill JR, Gałuszka A, Williams M, Barnosky AD, Richter DdB, Gibbard PL, Syvitski J, Jeandel C, Cearreta A, Cundy AB, Fairchild IJ, Rose NL, Ivar do Sul JA, Shotyk W, Turner S, Wagleich M, Zinke J, 2021, The Anthropocene: comparing its meaning in geology (chronostratigraphy) with conceptual approaches arising in other disciplines. *Earth's Future* 9 e2020EF001896. <https://doi.org/10.1029/2020EF001896> Citations: 77

23. Head MJ, Steffen W, Fagerlind D, Waters CN, Poirier C, Syvitski J, Zalasiewicz JA, Barnosky AD, Cearreta A, Jeandel C, Leinfelder R, McNeill JR, Rose NL, Summerhayes C, Wagleich M, Zinke J, 2021, The Great Acceleration is real and presents a quantitative basis for the proposed Anthropocene Series/Epoch Episodes <https://doi.org/10.18814/epiugs/2021/021031> Citations: 32
24. Head MJ, Zalasiewicz JA, Waters CN, Turner, SD, Williams M, Barnosky AD, Steffen W, Wagleich M, Haff PK, Syvitski J, Leinfelder R, McCarthy, FMG, Rose NL, Wing, SL, An, Z, Cearreta A, Cundy AB, Fairchild IJ, Han, Y, Ivar do Sul, JA, Jeandel, C, McNeill, J.R., Summerhayes, CP, 2022 The Anthropocene is a prospective epoch/series, not a geological event. *Episodes*, <https://doi.org/10.18814/epiugs/2022/022025>. Citations: 6
25. Head MJ, Zalasiewicz JA, Waters CN, Turner, SD, Williams M, Barnosky AD, Steffen W, Wagleich M, Haff PK, Syvitski J, Leinfelder R, McCarthy, FMG, Rose NL, Wing, SL, An, Z, Cearreta A, Cundy AB, Fairchild IJ, Han, Y, Ivar do Sul, JA, Jeandel, C, McNeill, J.R., Summerhayes, CP, 2022. The proposed Anthropocene Epoch/Series is underpinned by an extensive array of mid-20th century stratigraphic event signals. *J. Quaternary Science* 1–7, ISSN 0267-8179. DOI: 10.1002/jqs.3467 Citations: 12
26. Waters CN, M Williams, J Zalasiewicz, SD Turner, AD Barnosky, MJHead, SL Wing, M Wagleich, W Steffen, CP Summerhayes, AB Cundy, J Zinke, B Fiałkiewicz-Kozieł, R Leinfelder, PK Haff, JR McNeill, NL Rose, IHajdas, FMG McCarthy, A Cearreta, A Gałuszka, J Syvitski, Y Han, Z An, IJ Fairchild, JA Ivar do Sul, C Jeandel 2022, Epochs, events and episodes: Marking the geological impact of humans. *Earth-Science Reviews* 234 104171 <https://doi.org/10.1016/j.earscirev.2022.104171> Citations: 8

Reports, Special Issues & Misc. Publications

27. Bauer AM, Ellis EC, Braje TJ, Finney SC, Kaplan JO, Ribot J, Zalasiewicz J, Waters C, Head MJ, Steffen W, Syvitski JP, Vidas D, Summerhayes C, Williams M, 2018, Missing the Mark: On the Matter of Narrative and Social Difference. *Current Anthropology* 59(2): 209-227.
28. Brondizio ES, Syvitski JP (Eds.) 2016, *The Anthropocene Global Environmental Change: Human and Policy Dimensions*, 39: 316-362.
29. Zalasiewicz J, Waters CN, Wolfe AP, Barnosky AD, Cearreta A, Edgeworth M, Ellis EC, Fairchild IJ, Gradstein FM, Grinevald J, Haff P, Head MJ, Jeandel C, Leinfelder R, McNeill JR, Oreskes N, Poirier C, Revkin A, Richter DB, Steffen W, Summerhayes C, Syvitski JPM, Vidas D, Wagleich M, Wing S, Williams M, 2017, Comment: Finney & Edwards Article. *GSA Today* 27(2): e24-25. doi: 10.1130/GSATG309C.1
30. Brondizio ES, Syvitski JP 2016, The Anthropocene, *Global Environmental Change* 39:316-317. Citations: 13
31. Syvitski JP, 2019, Forward. In: JM Kelly, PV Scarpino, H Berry, J Syvitski, M Meybeck (Eds.) *Rivers of the Anthropocene*. University of California Press, Oakland CA. xi-xiii.
32. Syvitski JP, Zalasiewicz J, Summerhayes C, 2019, Changes to Holocene/Anthropocene patterns of sedimentation from terrestrial to marine: In: J Zalasiewicz, C Waters, M Williams, C Summerhayes (Eds.) *The Anthropocene as a Geological Time Unit: A Guide to the Scientific Evidence and Current Debate*. Cambridge U Press, Cambridge, pp. 90-108.
33. Syvitski JPM, 2010, The Fellows Speak: The Anthropocene -- Are we there yet? *AGU Hydrology Section Newsletter* pg. 14-16.
34. Syvitski JPM, Vörösmarty C, Marx S, Bhaduri A, 2012, Changing the history of the Earth: the role of water in the Anthropocene. *Global Water News* 12, 6-7.
35. Syvitski JPM, 2020, Forward – Deltas in the Anthropocene. Eds. RJ Nicholls, WN Adger, CW Hutton, SE Hanson. Publ. Macmillan, Switzerland. ISBN: 978-3-030-23519-2

4) PARTICLE DYNAMICS, HYPERPYCNAL FLOWS: 27+ pubs, 4128 citations

From early graduate times, I have worked to understand how river-borne particles clump together once they reach the marine environment and settle through plumes by flocculation. Later, by determining the *in-situ* behavior of marine suspended particles using underwater photography, settle velocity, floc size, floc concentration and floc density could be measured leading to new theories on marine sedimentation. Work done with Thierry Mulder, Jasim Imran and others has revolutionized our understanding of how rivers discharge sometimes generate currents that transport sediment long distances into the ocean, bypassing the continental shelf environment.

Peer-reviewed Publications

1. Syvitski JPM, Murray JW, 1981, Particle interaction in fjord suspended sediment. *Marine Geology* 39: 215-242. Citations: 142
2. Syvitski JPM, Van Everdingen DA, 1981, A reevaluation of the geologic phenomenon of sand flotation: A field and experimental approach. *Journal of Sedimentary Petrology* 51: 1315-1322. Citations: 13
3. Syvitski JPM, Asprey KW, Clattenburg DA, Hodge GD, 1985, The prodelta environment of a fjord: suspended particle dynamics. *Sedimentology* 32: 40-65. Citations: 117
4. Syvitski JPM, 1991, The changing microfabric of suspended particulate matter—the fluvial to marine transition: flocculation, agglomeration and pelletization. In: RH Bennett, WR Bryant, MH Hulbert (Eds.) *The Microstructure of Fine-grained Sediment - from Muds to Shale*. Frontiers in Sedimentary Geology, Springer-Verlag, New York, 131-137. Citations: 30
5. Syvitski JPM, Asprey KW, Heffler DE, 1991, The floc camera: a three-dimensional imaging system for suspended particulate matter. In: RH Bennett, WR Bryant, MH Hulbert (Eds.) *The Microstructure of Fine-grained Sediment - from Muds to Shale*, Frontiers in Sedimentary Geology, Springer-Verlag, N.Y., p. 281-289. Citations: 11
6. Heffler DE, Syvitski JPM, Asprey KW, 1991, The floc camera assembly. In: JPM Syvitski (Ed.) *Principles, Methods and Application of Particle Size Analysis*. Cambridge University Press, New York. p. 209-221.
7. Domack EW, Foss D, Syvitski JPM, McClennen CE, 1994, Transport of suspended particulate matter in an Antarctic fjord. *Marine Geology* 121: 161-170. Citations: 61
8. Syvitski JPM, Asprey KW, Leblanc KWG, 1995, In-situ characteristics of particles settling within a deep-water estuary. *Deep-Sea Research II* 42(1): 223-256. Citations: 136
9. Mulder T, Syvitski JPM, 1995, Turbidity currents generated at river mouths during exceptional discharge to the world oceans. *Journal of Geology* 103: 285-298. Citations: 1043
10. Syvitski JPM, Hutton EWH, 1996, *In situ* characteristics of suspended particles as determined by the Floc Camera Assembly FCA. *Journal of Sea Research* 36: 1-12. Citations: 24
11. Syvitski JPM, Hutton EWH, 1997, FLOC: Image analysis of marine suspended particles. *Computers and Geosciences* 23(9): 967-974. Citations: 9
12. Mulder T, Savoye B, Syvitski JPM, Parize O, 1997, Des courants de turbidité hyperpycniaux dans la tête du canyon du Var? Observations hydrologiques et données de terrain. *Oceanologica Acta*. 20(4): 607-626. Citations: 47
13. Mulder T., Syvitski JPM, Skene K, 1998, Modeling of erosion and deposition by sediment gravity flows generated at river mouths. *J Sedimentary Research* 67(3): 124-137. Citations: 200
14. Hill P, Syvitski JP, Powell RD, Cowan EA, 1998, In situ observations of floc settling velocities in Glacier Bay, Alaska. *Marine Geology* 145 (1-2): p. 85-94. Citations: 170
15. Azetsu-Scott K, Syvitski JPM, 1999, Influence of melting icebergs on distribution, characteristics and transport of marine particles in an East Greenland fjord. *J Geophysical Research* 104: 5321-5328. Citations: 41

16. Imran J, Syvitski JPM, 2000, Impact of extreme river events on the coastal ocean. *Oceanography* 13(3): 85-92. Citations: 52
17. Parsons JD, Bush J, Syvitski JPM, 2001, Hyperpycnal plume formation from riverine outflows with small sediment concentrations. *Sedimentology* 48: 465-478. Citations: 353
18. Pratson L, Imran J, Hutton E, Parker G, Syvitski JPM, 2001, BANG1D: a one-dimensional, Lagrangian model of turbidity current mechanics. *Computers & Geosciences*, 27(6): 701-716. Citations: 36
19. Lee HJ, Syvitski JPM, Parker G, Orange D, Locat J, Hutton EWH, Imran J, 2002. Distinguishing sediment waves from slope failure deposits: field examples, including the ‘Humboldt slide’, and modelling results. *Marine Geology* 192: 79-104. Citations: 254
20. Mulder T, Syvitski JPM, Migeon S, Faugères J-C, Savoye B, 2003, Marine hyperpycnal flows: initiation, behavior and related deposits: A review. *Marine & Petroleum Geology*. 20 861–882. Citations: 1063
21. Curran KJ, Hill PS, Milligan TG, Cowan EA, Syvitski JPM, Konings SM, 2004, Fine-grained sediment flocculation below the Hubbard Glacier meltwater plume, Disenchantment Bay, Alaska. *Marine Geology* 203: 83-94. Citations: 39
22. Syvitski JPM, 2004, River plume. In: AS Goudie (Ed.) *Encyclopedia of Geomorphology*, pp. 866-867 (volume 2). London: Routledge.
23. Khan SM, Imran J, Bradford JS, Syvitski JPM, 2005, Numerical modeling of hyperpycnal plume. *Marine Geology* 222-223: 193-211. Citations: 55
24. Parsons J, Friedrichs C, Garcia M, Imran J, Mohrig D, Parker G, Pratson L, Puig P, Syvitski, JPM, Traykovski P, 2007, The mechanics of marine sediment gravity flows. In: CA Nittrouer, JA Austin, ME Field, JH Kravitz, JPM Syvitski, PL Wiberg (Eds.) *Continental-Margin Sedimentation: From Sediment Transport to Sequence Stratigraphy*. IAS Spec. Publ. 37: 275-338. Citations: 127
25. Perillo GME, Syvitski JPM (Eds.) 2010. Mechanisms of sediment retention in estuaries. *Estuarine, Coastal and Shelf Science* doi: 10.1016/j.ecss.2009.10.026, Citations: 13
26. Kao SJ, Dai M, Selvaraj K, Zhai W, Cai P, Chen SN, Yang JY, Liu JT, Liu CC, Syvitski JPM, 2010, Cyclone-driven deep sea injection of freshwater and heat by hyperpycnal flow in the subtropics. *Geophysical Research Letters* 37, L21702, DOI:10.1029/2010GL044893 Citations: 68
27. Skei JM, Syvitski JPM, 2013, Natural flocculation of mineral particles in seawater – influence on mine tailings sea disposal and particle dispersal. *Mineralproduksjon* 3: A1-A10. Citations: 13

Misc., Newsletters, Reports

28. Perillo G, Syvitski JPM, 2010, Mechanisms of sediment retention in estuaries. *Inprint Newsletter of the IGBP/IHDP Land Ocean Interaction in the Coastal Zone* 2010/1: 3-5. Citations: 11
29. Perillo GME, Syvitski JPM, Amos CL, Depetris P, Milliman J, Pejrup M, Saito Y, Snoussi M, Wolanski E, Zajaczkowski M, Stallard R, Hutton E, Kettner A, Meade R, Overeem I, Peckham S, 2007, Estuaries and their Sediments: How they Deal with Each Other. *Inprint Newsletter of the IGBP/IHDP Land Ocean Interaction in the Coastal Zone* 2007/3: 3-5.

5) DELTAS and COASTAL ENVIRONMENTS: 34+ pubs, 3489 citations

I grew up living on a delta. This early appreciation led to insights on how deltas evolve from both autocyclic responses and allocyclic forces. River plume behavior plays an important role in sediment dispersal. The number, dimensions and shapes of distributary channels are strongly biased by the impact of humans, leading to a redefining of the ternary diagram of waves, tides, and river power that earlier textbooks had as their paradigm for understanding the morphodynamics of deltas.

Peer-reviewed Publications

1. Syvitski JPM, Farrow GE, 1983, Structures and processes in bayhead deltas: Knight and Bute Inlet, British Columbia. *Sedimentary Geology*, 36: 217-244. Citations: 90
2. Syvitski JPM, Smith JN, Calabrese EA, Boudreau B, 1988, Basin sedimentation and the growth of prograding deltas. *J. Geophysical Research*, 93: 6895-6908. Citations: 140
3. Morehead MD, Syvitski JPM, 1999, River-plume sedimentation modeling for sequence stratigraphy: Application to the Eel Shelf, California. *Marine Geology* 154:29-41. Citations: 84
4. Overeem I, Syvitski JPM, Hutton EWH, 2005, Three-dimensional numerical modeling of deltas. In: L Giosan, J Bhattacharya (Eds.) *River Deltas — Concepts, Models, and Examples*. SEPM Spec. Publ. 83: 13-30. Citations: 81
5. Syvitski JPM, 2005, The morphodynamics of deltas and their distributary channels. In: G Parker, M Garcia (Eds.) *River, Coastal and Estuarine Morphodynamics*, Taylor and Francis Group, London, pp. 143-160. Citations: 34
6. Syvitski JPM, Kettner AJ, Correggiari A, Nelson BW, 2005, Distributary channels and their impact on sediment dispersal. *Marine Geology* 222-223: 75-94. Citations: 170
7. Trincardi F, Syvitski JPM, 2005, Advances on our understanding of delta/prodelta environments: A focus on southern European margins. *Marine Geology* 222-223: 1-5. Citations: 14
8. Syvitski JPM, Saito Y, 2007, Morphodynamics of deltas under the influence of humans. *Global & Planetary Changes* 57: 261-182. Citations: 705
9. Saito Y, Chaimanee N, Jarupongsakul T, Syvitski JPM, 2007, Shrinking megadeltas in Asia: Sea-level rise and sediment reduction impacts from case study of the Chao Phraya delta. *Inprint Newsletter of the IGBP/IHDP Land Ocean Interaction in the Coastal Zone* 2007/2: 3-9. Citations: 105
10. Syvitski JPM, 2008, Deltas at risk. *Sustainability Science* 3: 23-32. Citations: 326
11. Overeem I, Syvitski JPM, 2009, Dynamics and vulnerability of delta systems, *LOICZ Reports and Studies* 35, GKSS Research Center, Geesthacht, 54 pp. Citations: 116
12. Fofoula-Georgiou E, Syvitski J, Paola C, Hoanh CT, Tuong P, Vörösmarty C, Kremer H, Brondizio E, Saito Y, Twilley R, 2011, International year of deltas 2013: a proposal. *EOS, Transactions of AGU* 92: 340-341. Citations: 39
13. Syvitski JPM, Overeem I, Brakenridge GR, Hannon MD, 2012, Floods, floodplains, delta plains— a satellite imaging approach, *Sedimentary Geology* 267/268: 1-14. Citations: 121
14. Syvitski JPM, Higgins S, 2012, Going under: The world's sinking deltas. *New Scientist* 216(2893): 40-43. Citations: 19
15. Higgins S, Overeem I, Tanaka A, Syvitski JPM, 2013, Land subsidence at aquaculture facilities in the Yellow River delta, China. *Geophysical Research Letters* 40: 3898-3902. Citations: 165
16. Rogers KG, Syvitski JPM, Overeem I, Higgins S, Gilligan J, 2013, Farming practices and anthropogenic delta dynamics, *Proceedings of IAHS-IAPSO-IASPEI Assembly*, Gothenburg, Sweden 358:133-142. Citations: 18
17. Brakenridge GR, Syvitski JPM, Overeem I, Higgins S, Kettner A, Stewart-Moore J, Westerhoff R, 2013,

Global mapping of storm surges and the assessment of coastal vulnerability. *Natural Hazards* 66: 1295-1312. Citations: 77

18. Higgins S, Overeem I, Steckler MS, Syvitski JPM, Akhter SH, 2014, InSAR measurements of compaction and subsidence in the Ganges-Brahmaputra Delta, Bangladesh. *Journal of Geophysical Research – Earth Surface* 119: 1768-1781. Citations: 149
19. Tessler Z, Vörösmarty C, Grossberg M, Gladkova I, Aizenman H, Syvitski J, Foufoula-Georgiou E, 2015, Profiling risk and sustainability in coastal deltas of the world. *Science* 349 (6248): 638-643. Citations: 481
20. Day JW, Agboola J, Chen Z, D’Elia C, Forbes DL, Giosan L, Kemp P, Kuenzer C, Lane RR, Ramachandran R, Syvitski J, Yañez-Arancibia A, 2016, Approaches to defining deltaic sustainability in the 21st Century. *Coastal and Shelf Science* 183B: 275–291. Citations: 118
21. Wang HJ, Wu X, Bi N, Li S, Yuan P, Wang A, Syvitski JPM, Saito Y, Yang Z, Liu S, Nittrouer J, 2017, Impacts of the dam-orientated water-sediment regulation scheme on the lower reaches and delta of the Yellow River (Huanghe): A review. *Global & Planetary Change* 157: 93-113. Citations: 165
22. Allison M, Yuill B, Tørnqvist T, Amelung F, Dixon T, Erkens G, Stuurman R, Milne G, Steckler M, Syvitski J, Teatini P, 2016, Global risks and research priorities for coastal subsidence, *EOS Transactions of AGU* 97: 22-27. Citations: 58
23. Xing F, Syvitski JP, Kettner AJ, Meselhe EA, Atkinson JH, Khadka A, 2017, Morphological responses of the Wax Lake Delta, Louisiana, to Hurricanes Rita. *Elementa Science of the Anthropocene* 5(80) DOI: <https://doi.org/10.1525/elementa.125> Citations: 15
24. Tessler ZD, Vörösmarty CJ, Overeem I, Syvitski JPM, 2018, A model of water and sediment balance as determinants of relative sea level rise in contemporary and future deltas. *Geomorphology* 305: 209-220. Citations: 81
25. Day JW, Ramachandran R, Giosan L, Syvitski J, Kemp GP, 2019, Delta winners and losers in the Anthropocene. In: E Wolanski, J Day, M Elliott, and Ramachandran R (eds) *Coasts and Estuaries* Elsevier 744 pp. Citations: 20
26. Ibáñez C, Alcaraz C, Caiola N, Prado P, Trobajo R, Benito X, Day JW, Reyes E, Syvitski JPM, 2019, Basin-scale land use impacts on world deltas: human vs natural forcings. *Global and Planetary Change* 173: 24-32. Citations: 24
27. Wu X, Bi N, Syvitski J, Saito Y, Xu J, Nittrouer JA, Bianchi TS, Yang Z, Wang H. 2020. Can reservoir regulation along the Yellow River be a sustainable way to save a sinking delta? *Earth’s Future* 8 <https://doi.org/10.1029/2020EF001587> Citations: 26
28. Wright LD, Syvitski JPM, Nichols CR, 2019, Coastal complexity and predictions of change. In: *Tomorrow’s Coasts: Complex and Impermanent*, Springer NY, pp. 3-23. Citations: 4
29. Wright LD, Syvitski JPM, Nichols CR, 2019, Global Change: More Than Climate, In: *Tomorrow’s Coasts: Complex and Impermanent*, Springer, NY pp. 25-46. Citations: 2
30. Wright LD, Syvitski JPM, Nichols CR, 2019, Sea Level Rise: Recent Trends and Future Projections. In: *Tomorrow’s Coasts: Complex and Impermanent*, Springer NY, pp. 47-57. Citations: 26
31. Wright LD, Syvitski JPM, Nichols CR, 2019, Complex Intersections of Seas, Lands, Rivers and People. In *Tomorrow’s Coasts: Complex and Impermanent*, Springer NY, pp. 59-68. Citations: -
32. Wright LD, Syvitski JPM, Nichols CR, Zinnert J, 2019, Coastal Morphodynamics and Ecosystem Dynamics. In: *Tomorrow’s Coasts: Complex and Impermanent*, Springer NY, pp. 69-84. Citations: 3
33. Wright LD, Syvitski JPM, Nichols CR, 2019, Coastal Systems in the Anthropocene. In: *Tomorrow’s Coasts: Complex and Impermanent*, Springer NY, pp. 85-99. Citations: 9
34. Syvitski, JP, Anthony, E, Saito, Y, Zainescu, F, Day, J, Chattacharya, JP, Giosan, L, 2022, Large deltas,

small deltas: Towards a more rigorous understanding of coastal marine deltas. *Global and Planetary Change* 218, 103958. Citations: 4

Misc., Reports, Newsletters

35. Syvitski JP, 2017, Forward. *Mississippi Delta Restoration Pathways to a sustainable future*. Editors: JW Day, JA Erdman. Springer, NY, 260 pp, pg. vii-ix.
36. Syvitski JPM, 2012, Vulnerability of coastlines — How do environmental changes affect coastlines and river deltas? *PAGES news* 20(1): 34-35.
37. Syvitski JPM, Brigham L, Bring A, Douglas T, Lippmann T, Solomon S, Sulisz W, Ziaja W, Zockler C, 2007, Predictions and Assessments. In: G Flöser, H Kremer, V Rachold (Eds.) *Arctic Coasts at Risk*, publ. LOICZ and IASC, Geesthacht, Germany and Stockholm, Sweden, p. 21-24.
38. Syvitski JPM, Saito Y, 2006, Morphodynamics of deltas and the influence of Humans. *Inprint Newsletter of the IGBP/IHDP Land Ocean Interaction in the Coastal Zone* 2006/3: 3-5.

Related Peer-Reviewed Government Reports

39. Syvitski JPM, Farrow GE, Taylor R, Gilbert R, Emery-Moore M, 1984, SAFE: 1983 delta survey report. Chapter 18, 91 pp. HU83-028 Data Report, Vol 2. *Canadian Data Report of Hydrography and Ocean Sciences* 28, (also *Geological Survey of Canada Open File Report* 1122).
40. Taylor RB, Praeg DB, Syvitski JPM, 1987, Coastal morphology and sedimentation, eastern Baffin and Bylot Islands, N.W.T. *Canadian Data Report of Hydrography and Ocean Sciences*, 54, *Geological Survey of Canada Open File Report* 1589, Chapter 3, 60 pp.
41. Syvitski JPM, Schafer CT, 1990, ADFEX: Environmental Impact Statement (EIS). *Geological Survey of Canada Open File Report* 2312, 81 pp.
42. Syvitski JPM, Asprey KW, Blakeney CP, Clattenburg D, Hodge GD, 1983. SAFE: 1982 Delta Report. *Canadian Data Report of Hydrography and Ocean Sciences*, 12; *Geological Survey of Canada Open File Report* 960, Chapter 18, 41 pp.

6) CONTINENTAL MARGINS: GLACIATED & NON-GLACIATED: 40+ pubs, 2664 citations

Andrew Miall in his 1995 “Whither Stratigraphy” (*Sedimentary Geology*) notes three revolutions in sedimentary geological research: (i) plate tectonics, (ii) process-response sedimentary models, and (iii) sequence stratigraphy. Application of my models have been used to understand the formation of continental margins, sediment dispersal patterns on continental slopes, how rare events combine with ambient processes, and to calibrate sea level curves. By characterizing global data on margin morphology with experimental data, new understandings on defining processes have been established. What is the imprint of former ice sheets as they advanced and retreated across world continents? This research redefined paradigms of ice marginal sedimentation through a mass balance approach. An acoustic atlas edited by Davies et al (Chapman & Hall, London) was dedicated to my efforts. An 82-p. review (Ballantyne 2002, QSR) states: “no other aspect of paraglacial geomorphology has advanced so far, so fast or so fruitfully, largely through the compelling advocacy of DL Forbes, JPM Syvitski and their research collaborators.”

Featured Peer-reviewed Publications

1. Gilbert R, Syvitski JPM, Taylor RB, 1985. Reconnaissance study of proglacial Stewart Lakes, Baffin Island, Northwest Territories. *GSC Current Research, Paper 85-1A*: 505-510. Citations: 6
2. Syvitski JPM, Praeg DB, 1989, Quaternary sedimentation in the St. Lawrence Estuary and adjoining areas. An overview based on high-resolution seismo-stratigraphy. *Géographie physique et Quaternaire* 43(3): 291-310. Citations: 154
3. Syvitski JPM, 1991, Towards an understanding of sediment deposition on glaciated continental shelves: sequence stratigraphy. *Continental Shelf Research* 11: 897-937. Citations: 106
4. Stravers JA, Syvitski, JPM, 1991, Land-sea correlations and evolution of the Cambridge Fiord marine basin, during the last deglaciation of northern Baffin Island. *Quaternary Research* 35: 72-90. Citations: 38
5. Syvitski JPM, 1992, Marine geology of Baie des Chaleurs. *Géographie physique et Quaternaire* 46(3): 331-348. Citations: 40
6. Praeg DB, D'Anglejan B, Syvitski JPM, 1992, Seismostratigraphy of the middle St. Lawrence estuary: A Late Quaternary glacial marine to estuarine depositional/erosional record. *Géographie physique et Quaternaire* 46(2): 133-150. Citations: 20
7. Syvitski JPM, 1993, Glaciomarine environments in Canada: An overview. *Canadian J of Earth Sciences* 30: 354-371. Citations: 48
8. Hein FJ, Syvitski JPM, Long B, Dredge L, 1993, Quaternary sedimentation and marine placers along the North Shore, Gulf of St. Lawrence. *Canadian J. of Earth Sciences* 30: 553-574. Citations: 22
9. Ross WC, Halliwell BA, May JA, Watts DE, Syvitski JPM, 1994, Slope readjustment: a new model for the development of submarine fans and aprons. *Geology* 22: 511-514. Citations: 222
10. Forbes D, Syvitski JPM, 1995. Paraglacial Coasts. In: C Woodruffe, RWG Carter (Eds.) *Coastal Evolution*. Cambridge University of Press, Cambridge, UK. Chapter 10: p. 373-424. Citations: 135
11. Williams, K.M., Andrews, J.T., Jennings, A.E., Short, S.K., Mode, W.N. and Syvitski, JPM 1995. The eastern Canadian Arctic at 6 KA. *Géographie physique et Quaternaire* 49: 13-27. Citations: 47
12. Syvitski JPM, Lewis CFM, Piper DJW, 1996, Palaeoceanographic information derived from acoustic surveys of glaciated continental margins: examples from eastern Canada. In: JT Andrews, WEN Austin, H Bergsten, AE Jennings (Eds.) *Late Quaternary Palaeoceanography of the North Atlantic Margins*, Geological Society Spec. Publ. 111, pp. 51-76. Citations: 22
13. Andrews JT, Osterman LE, Jennings AE, Syvitski JPM, Miller GH, Weiner N, 1996, Abrupt changes in marine conditions, Sunneshine Fiord, eastern Baffin Island, NWT during the last deglacial transition: Younger Dryas and H-O events. In: JT Andrews, WEN Austin, H Bergsten, AE Jennings (Eds.) *Late Quaternary Palaeoceanography of the North Atlantic Margins*, Geological Society Spec. Publ. 111: 11-27. Citations: 29

14. Syvitski JPM, Field M, Alexander C, Orange D, Gardner J, 1996, Continental-slope sedimentation: the view from northern California. *Oceanography* 9(3): 163-167. Citations: 43
15. Mulder T, Savoye B, Syvitski JPM, Cochonat P, 1996, Origine des courants de turbidité enregistrés à l'embouchure du Var en 1971. C.R. Acad. Sci. Paris t.322, série IIa: 301-307. Citations: 14
16. Syvitski JPM, Lee HJ, 1997, Postglacial sequence stratigraphy of Lake Melville, Labrador, during ice-sheet retreat since 10,000 years BP. *Marine Geology* 143:55-80. Citations: 43
17. Syvitski JPM, Stoker M, Cooper AK, 1997, Seismic facies of glacial deposits from marine and lacustrine environments. *Marine Geology* 143: 1-4. Citations: 12
18. Lønne I, Syvitski JPM, 1997, Effects of the readvance of an ice margin on the seismic character of the underlying sediment. *Marine Geology* 143: 81-102. Citations: 32
19. Mulder T, Savoye B, Syvitski JPM, Piper DJW, 1998, The Var submarine sedimentary system: understanding Holocene sediment delivery processes and their importance to the geological record. In: MS Stoker, D Evans, A Cramp (Eds.) *Geological Processes on Continental Margins: Sedimentation, Mass Wasting and Stability*, Geol. Society, Spec. Publ., London, 145-166. Citations: 108
20. Skene K, Piper DJW, Aksu AE, Syvitski JPM, 1998, Evaluation of the global oxygen isotope curve as a proxy for Quaternary sea level by modeling of delta progradation. *J Sedimentary Research* 68: 1077-1092. Citations: 114
21. Syvitski JPM, Jennings A, Andrews JT, 1999, High-resolution seismic evidence for multiple glaciations across the southwest Iceland Shelf. *Arctic, Antarctic and Alpine Research* 31: 50-57. Citations: 79
22. Andrews JT, Hardardottir J, Helgadottir G, Jennings AE, Sveinbjornsdottir A, Geirsdottir A, Schoolfield S, Kristjansdottir GB, Smith LM, Thors K, Syvitski JPM, 2000, The N and W Iceland shelf: insight into Last Glacial Maximum ice extent and deglaciation based on acoustic stratigraphy and basal radiocarbon AMS dates. *Quaternary Science Reviews* 19: 619-631. Citations: 133
23. Jennings AE, Syvitski JPM, Gerson L, Gronvold K, Geisdottir A, Hardardottir J, Andrews JT, Hagen S, 2000, Chronology and paleoenvironments during the late Weichselian deglaciation of the SW Iceland Shelf. *Boreas* 29: 167-183. Citations: 99
24. O'Grady DB, Syvitski JPM, Pratson LF, Sarg JF, 2000, Categorizing the morphologic variability of siliciclastic passive continental margins. *Geology* 28: 207-210. Citations: 147
25. Syvitski JPM, Stein A, Andrews JT, Milliman JD, 2001, Icebergs and the sea floor of the East Greenland (Kangerlussuaq) continental margin. *Arctic, Antarctic and Alpine Research* 33: 52-61. Citations: 62
26. O'Grady DB, Syvitski JPM, 2002, Large-scale morphology of Arctic continental slopes: the influence of sediment delivery on slope form. In: Dowdeswell JA, O Cofaigh C (Eds.) *Glacier-influenced sedimentation on high-latitude continental margins*. Geological Society, Spec. Publ. 203: 11-31. Citations: 36
27. Pratson L, Imran J, Parker G, Syvitski JPM, Hutton EWH, 2000, Debris flows vs. turbidity currents: A modeling comparison of their dynamics and deposits. In: AH Bouma, CG Stone (Eds.) *Fine-Grained Turbidite Systems*, 57-71. AAPG Memoir 72 & SEPM Spec. Publ. 68, Tulsa, Oklahoma. Citations: 95
28. Morehead M, Syvitski JPM, Hutton EWH, 2001, The link between abrupt climate change and basin stratigraphy: A numerical approach. *Global & Planetary Science* 28: 115-135. Citations: 47
29. Bahr DB, Hutton EWH, Syvitski JPM, Pratson L, 2001, Exponential approximations to compacted sediment porosity profiles. *Computers & Geosciences* 27(6): 691-700. Citations: 128
30. Syvitski JPM, Hutton EW, 2003, Failure of marine deposits and their redistribution by sediment gravity flows. In: *Landslide Tsunamis: Recent Findings and Research Directions*. Publ. Birkhäuser, Basel, p. 2053-2069. Citations: 17
31. Syvitski JPM, Weaver PPE, Berné S, Nittrouer CA, Trincardi F, Canals M (Eds.) 2004, Strata formation

- on European Margins: A Tribute to EU-NA Cooperation on Marine Geology. *Oceanography*, 17(4): 14-165. Citations: 11
32. Syvitski JPM, Kettner A, Peckham SD, Kao SJ, 2005, Predicting the flux of sediment to the coastal zone: application to the Lanyang watershed, northern Taiwan. *J. Coastal Res.* 21: 580-587. Citations: 65
 33. Syvitski JPM, Pratson LF, Wiberg PL, Steckler MS, Garcia MH, Geyer WR, Harris CK, Hutton EWH, Imran J, Lee HJ, Morehead MD, Parker G, 2007, Prediction of margin stratigraphy. In: CA Nittrouer, JA Austin, ME Field, JH Kravitz, JPM Syvitski, PL Wiberg (Eds.) *Continental-Margin Sedimentation: From Sediment Transport to Sequence Stratigraphy*. IAS Spec. Publ. 37: 459-530. Citations: 16
 34. Nittrouer CA, Austin Jr JA, Field ME, Kravitz JH, Syvitski JPM, Wiberg PL, 2007, Writing a Rosetta stone: insights into continental-margin sedimentary processes and strata. In: CA Nittrouer, JA Austin, ME Field, JH Kravitz, JPM Syvitski, PL Wiberg (Eds.) *Continental-Margin Sedimentation: From Sediment Transport to Sequence Stratigraphy*. IAS Spec. Publ. 37: 1-48. Citations: 78
 35. Nittrouer CA, Austin JA, Field ME, Kravitz JH, Syvitski JPM, Wiberg PL (Eds.) 2007 *Continental margin sedimentation: From sediment transport to sequence stratigraphy*. IAS Spec. Publ. No. 37: 458pp Citations: 100
 36. Kettner AJ, Gomez B, Hutton EWH, Syvitski JPM, 2008, Late Holocene dispersal and accumulation of terrigenous sediment on Poverty Shelf, New Zealand. *Basin Research* 21(2): 253-267. Citations: 10
 37. Pyles DR, Syvitski JPM, Slatt RM, 2011, Defining the concept of stratigraphic grade and applying it to stratal (reservoir) architecture and evolution of the slope-to-basin profile: An outcrop perspective, *Marine and Petroleum Geology* 28: 675-697. Citations: 67
 38. Maselli V, Hutton EW, Kettner AJ, Syvitski JPM, Trincardi F, 2011, High-frequency sea level and sediment supply fluctuations during Termination I: an integrated sequence-stratigraphy and modeling approach from the Adriatic Sea. *Marine Geology* 287: 54-70. Citations: 80
 39. Overeem I, Hudson BD, Syvitski JPM, Mikkelsen AB, Hasholt B, van den Broeke MR, Noël BPY, Morlighem M, 2017, Substantial export of suspended sediment to the global oceans from glacial erosion in Greenland. *Nature Geoscience* 10, 859–863. Citations: 113
 40. Andrews JT, McCave IN, Syvitski J, 2021, A~ 240 ka record of Ice Sheet and Ocean interactions on the Snorri Drift, SW of Iceland. *Global & Planetary Change* 201: 103498. <https://doi.org/10.1016/j.gloplacha.2021.103498> Citations: 2

Misc. Peer-reviewed Publications

41. Stein AB, Syvitski JPM, 1997, Glaciation-influenced debris flow deposits: East Greenland slope. In: Davies TW, Bell T, Cooper A, Josenhans H, Polyak L, Solheim A, Stoker M, Stravers J, (Eds.) *Glaciated Continental Margins: An Atlas of Acoustical Images*. Chapman & Hall, London, p. 134-135. Citations: 11
42. Syvitski JPM, 1997, Lobate stacked moraines: Lake Melville, Labrador. In: Davies TW, Bell T, Cooper A, Josenhans H, Polyak L, Solheim A, Stoker M, Stravers J, (Eds.) *Glaciated Continental Margins: An Atlas of Acoustical Images*. Chapman & Hall, London, p. 90-91. Citations: 3
43. Syvitski JPM, 1997, Water-escape sea floor depressions. In: Davies TW, Bell T, Cooper A, Josenhans H, Polyak L, Solheim A, Stoker M, Stravers J, (Eds.) *Glaciated Continental Margins: An Atlas of Acoustical Images*. Chapman & Hall, London, p. 160-161. Citations: 5
44. Syvitski JPM, Elverhoi A, Powell R, Andrews JT, Locat J, Long B, Schafer CT, Vilks G, Kravitz J, Hillaire-Marcel C, DeVernal A, Kaczmarek I, Macci B, Steinbeck P, Mudie P, Smith JN, Pocklington R, 1990, Global climatic change as measured through a continuous Late Wisconsinan Quaternary record with special emphasis on the Holocene. *Ocean Drilling Project, Canada Publication* 03: IX-1 to IX-20.

45. Syvitski JPM, Stoker M, Cooper AK (Eds.) 1997, COLDSEIS: Seismic facies of glacial deposits. *Marine Geology*, 143 (1/4): 262 p.

46. Syvitski JPM, Vilks G, 1986, Arctic land-sea interactions. *Geoscience Canada* 13: 255-261. Citations: 5

Related Peer-Reviewed Government Reports

47. Johnston BL, Asprey KW, Syvitski JPM, Schafer CT, Uyesugi M, Chapman CB, Merchant S, Boyce WA, Murphy RJ, LeBlanc KW, Hinds S, Hamblin P, Locat J, 1992, Hudson 91-033 cruise report. *Geological Survey of Canada Open File Report 2468*, 100 p.

48. Praeg DB, Syvitski JPM, Asprey K, Currie R, Hein FJ, Miller A, Sherin A, Standen G, 1987, Report of C.S.S. Dawson Cruise 87-023 in the Gulf of St. Lawrence. *Geological Survey of Canada Open File Report 1678*, 86 pp.

49. Praeg DB, Syvitski JPM, Schafer CT, Johnston BL, Hackett DW, 1987, C.S.S. Dawson 86-016 cruise report. *Geological Survey of Canada Open File Report 1412*, 45 pp.

50. Syvitski JPM, 1988, DAWSON 88-008 Technical Cruise Summary. *Geological Survey of Canada Open File Report 1920*, 60 pp.

51. Vilks G, Syvitski JPM (Eds.) 1985, Arctic Land-Sea Interactions. *Geological Survey of Canada Open File Report 1223*. 237 pp.

7) FJORD RESEARCH: 29+ pubs, 2,361 citations

My first love in environmental research was to explore the dynamics of fjords. Fjords are giant experimental systems from which fundamental theorems can be developed. Research began in 1975, at the University of British Columbia with my doctoral studies. A scholarly text was well received.

Peer-reviewed Publications

1. Syvitski JPM, 1978, Sedimentological advances concerning the flocculation and zooplankton pelletization of suspended sediment in Howe Sound, British Columbia: A fjord receiving glacial meltwater. Ph.D. thesis, Dept. of Geological Sciences and the Institute of Oceanography, Advisor: Professor JW Murray, *U British Columbia*, Canada. 291 pg. Citations: 7
2. Syvitski JPM, 1980, Flocculation, agglomeration, and zooplankton pelletization of suspended sediment in a fjord receiving glacial meltwater. In: HJ Freeland, DM Farmer, CD Levings (Eds.) *Fjord Oceanography*, Plenum Publication: p. 615-623. Citations: 25
3. Syvitski JPM, MacDonald RD, 1982, Sediment character and provenance in a complex fjord; Howe Sound, British Columbia. *Canadian J. Earth Sciences* 19: 1025-1044. Citations: 48
4. Syvitski JPM, Skei JM (Eds.) 1983, Sedimentology of Fjords. *Sedimentary Geology*, 36, 285 pp. Citations: 8
5. Syvitski JPM, Schafer CT, 1985, Sedimentology of arctic fiords experiment (SAFE): Project Introduction. *Arctic* 38: 264-270. Citations: 31
6. Syvitski JPM, 1986, DNAG#2. Estuaries, deltas and fjords of eastern Canada. *Geoscience Canada* 13: 91-100. Citations: 20
7. Syvitski JPM, Burrell DC, Skei JM, 1987, *Fjords: Processes and Products*. Springer-Verlag, N.Y. 379 pp. Citations: 662
8. Syvitski JPM, 1989, On the deposition of sediment within glacier-influenced fjords: Oceanographic controls. *Marine Geology* 85: 301-329. Citations: 324
9. Syvitski JPM, Farrow GE, 1989, Fjord sedimentation as an analogue for small hydrocarbon-bearing submarine fans. In: MKG Whateley, KT Pickering (Eds.) *Deltas: Sites and Traps for Fossil Fuels*. Geological Society London Spec. Publ. 41: 21-43. Citations: 82
10. Schafer CT, Cole FE, Syvitski JPM, 1989, Bio-and lithofacies of modern sediments in Knight and Bute Inlets, B.C. *Palaios* 4: 107-126. Citations: 25
11. Syvitski JPM, Piper DJW, 1990, Baffin Island fiords In: MJ Keen, GL Williams (Eds.) *Geology of the Continental Margin of Eastern Canada, Geology of Canada*, No. 2., p. 563-566. [Geological Society of America, *The Geology of North America*, V. I-1].
12. Syvitski JPM, 1990, Estuaries, deltas, and fjords. In: MJ Keen, GL Williams (Eds.) *Geology of the Continental Margin of Eastern Canada, Geology of Canada*, No. 2: 645-654 [Geological Society of America, *The Geology of North America*, V. I-1].
13. Syvitski JPM, LeBlanc KWG, Cranston RE, 1990, The flux and preservation of organic carbon in Baffin Island fjords. In: JA Dowdeswell, JD Scourse (Eds.) *Glaciomarine Environments: Processes and Sediments*. Geological Society, London, Spec. Publ. 53: 217-239. Citations: 62
14. Stravers JA, Syvitski JPM, Praeg DB, 1991, Application of size sequence data to glacial-paraglacial sediment transport and sediment partitioning. In: JPM Syvitski (Ed.) *Principles, Methods and Application of Particle Size Analysis*. Cambridge University Press, New York 293-310.
15. Syvitski JPM, Hein FJ, 1991, Sedimentology of an arctic basin: Itirbilung Fiord, Baffin Island, Canada. *Geological Survey of Canada Prof. Paper* 91-11, 67 pp. Citations: 66
16. Locat J, Syvitski JPM, 1991. Le fjord du Saguenay et le Golfe du St-Laurent: étalons pour l'évaluation des changements globaux au Québec. *Collection Environment et Géologie, publ. Assoc. Prof. Géol. &*

Géophys. du Québec. Volume 12, Chapter 17: 309-318.

17. Hein FJ, Syvitski JPM, 1992, Sedimentary environments and facies in an arctic basin, Itirbilung Fiord, Baffin Island, Canada. *Sedimentary Geology* 81: 1-29. Citations: 41
18. Syvitski JPM, Lewis AG, 1992, The seasonal distribution of suspended particles, and their iron and manganese loading, in a glacial runoff fjord. *Geoscience Canada* 19(1): 13-20. Citations: 15
19. Winters GV, Syvitski JPM, 1992, Suspended sediment character and distribution in McBeth Fiord, Baffin Island. *Arctic* 45:25-35. Citations: 15
20. Andrews JT, Syvitski JPM, 1994, Sediment fluxes along high-latitude glaciated continental margins: Northeast Canada and Eastern Greenland. In: W. Hay (Ed.) *Global Sedimentary Geofluxes*. National Academy of Sciences Press, Washington, Ch. 7: p. 99-115. Citations: 53
21. Syvitski JPM, Shaw J, 1995, Sedimentology and geomorphology of fjords. In: GME Perillo (Ed.) *Geomorphology and Sedimentology of Estuaries*, Elsevier Publ., p. 113-178. Citations: 148
22. Syvitski JPM, Andrews JT, Dowdeswell JA, 1996, Sediment deposition in an iceberg-dominated glacial marine environment, East Greenland: basin fill implications. *Global and Planetary Change* 12: 251-270. Citations: 157
23. Syvitski JPM, Schafer CT, 1996, Evidence for an earthquake-triggered basin collapse in Saguenay Fjord, Canada. *Sedimentary Geology*, 104: 127-153. Citations: 124
24. Hudson B, Overeem I, Syvitski J, 2016, A novel technique to detect turbid water and mask clouds in Greenland fjords. *International Journal of Remote Sensing* 37(7): 1730-1746. Citations: 1
25. Overeem I, Syvitski JPM, 2010, Experimental exploration of the stratigraphy of fjords fed by glacio-fluvial systems, Howe, J. A., Austin, W. E. N., Forwick, M. & Paetzel, M. (eds) *Fjord Systems and Archives*. Geological Society, London, Special Publications, 344, 127–144. Citations: 7
26. Overeem I, Briner JP, Kettner AJ, Syvitski JPM, 2019, High-latitude valley fills: A case-study of Clyde fjordhead, Baffin Island, Arctic Canada. In: Fraticelli CM, Martinius AW, Markwick P, Suter JR (Eds.) *Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts*. Society for Sedimentary Geology Spec. Publ. 108: 93-106.
27. Bianchi TS, Arndt S, Austin WEN, Benn DI, Bertrand S, Cui X, Faust JC, Koziarowska-Makuch K, Moy C, Savage C, Smeaton C, Smith R, Syvitski J, 2020. Fjords as Aquatic Critical Zones (ACZs). *Earth-Science Reviews* vol 8(8). <https://doi.org/10.1016/j.earscirev.2020.103145> Citations: 94
28. Syvitski J, Andrews, JT, Schafer, CT, Stravers, JA, 2022, Sediment fill of Baffin Island fjords: Architecture and rates. *Quaternary Science Reviews* 284, 107474. Citations: 6
29. Syvitski J, Normandeau, A, 2023, Sediment redistribution processes in Baffin Island fjords. *Marine Geology* 458 107024.

Peer-Reviewed Government Reports (All available as digital copies)

30. Syvitski JPM, 1982, Cruise report: CSS Hudson 82-031. *Geological Survey of Canada Open File Report* 897, 77 pp.
31. Syvitski JPM, Blakeney CP (Eds.) 1983, Sedimentology of Arctic Fjords Experiment: HU82-031 Data Report, Vol. 1. *Canadian Data Report of Hydrography and Ocean Sciences* 12, Dept. Fisheries and Oceans.; *Geological Survey of Canada Open File Report* 960, 935 pp. Citations: 25
 - a. Asprey KW, Bishop P, Blakeney CP, LeBlanc W, Syvitski JPM, Winters G, 1983, SAFE 1982 Suspended Particulate Matter Data. Chapter 5, 30 pp.
 - b. Clattenburg D, Cole F, Kelley B, LeBlanc W, Bishop P, Rashid M, Schafer CT, Syvitski JPM, 1983, SAFE 1982 Bottom Grade Samples. Chapter 8, 94 pp.

- c. Syvitski JPM, Blakeney CP, Hay AE, 1983, SAFE: HU82-031 Side-scan Sonar and Sounder Profiles. Chapter 16, 49 pp.
32. Syvitski JPM (Ed.) 1984. Sedimentology of Arctic Fjords Experiment: HU83-028 Data Report, Vol 2. *Canadian Data Report of Hydrography and Ocean Sciences* 28, 1130 pp. Dept. Fisheries and Oceans (also *Geological Survey of Canada Open File Report* 1122). Citations: 15
- a. Syvitski JPM, Schafer CT, 1984, Introduction. Chapter 1, 25 pp.
 - b. Winters G, Syvitski JPM, Kelly B, Clattenburg D, 1984, SAFE: 1983 Light Attenuance and suspended particulate matter data. Chapter 4, 28 pp.
 - c. Schafer C, Clattenburg D, Cole FE, LeBlanc W, Syvitski JPM, 1984, SAFE: 1983 Hudson bottom grab samples. Chapter 7, 73 pp.
 - d. Syvitski JPM, Cole FE, Hoskin S, 1984, Observations on some of the piston and Lehigh cores from Itirbilung, McBeth and Cambridge Fjords. Chapter 13, 55 pp.
 - e. Syvitski JPM, 1984, SAFE: 1983 Geophysical Investigations. Chapter 16, 26 pp.
 - f. Syvitski JPM, Hay AE, Schafer CT, Asprey KW, 1984, SAFE: 1983 Bayhead prodelta investigations, Chapter 17, 62 pp.
 - g. Syvitski JPM, Farrow GE, Taylor R, Gilbert R, Emory-Moore M, SAFE: 1983 Delta report, Chapter 18, 91 pp.
 - h. Syvitski JPM, Lamplugh M, Kelly B, 1984, Fjord Morphology. Chapter 20, 27 pp.
33. Syvitski JPM, Schafer CT, Asprey KW, Hein F, Hodge GD, Gilbert R, 1985, Sedimentology of Arctic Fjords Experiment: 85-062 Expedition Report. *Geological Survey of Canada Open File Report* 1234, 80 pp. Citations: 7
34. Hoskin KS, Syvitski JPM, Asprey KW, Connolly P, 1985, Expedition report no. 84-025, Louis M. Lauzier, Centre Champlain des Sciences de la Mer, October 19-21, 1984. *Geological Survey of Canada Open File Report* 1140. 28 p.
35. Syvitski JPM, Praeg DB (Eds.) 1987, Sedimentology of Arctic Fjords Experiment: Data Report, Vol 3. *Canadian Data Report of Hydrography and Ocean Sciences* No. 54, *Geological Survey of Canada Open File Report* 1589, 468p. Department of Fisheries and Oceans. Citations: 14
- a. Syvitski JPM, Praeg DB, 1987, Introduction. Chapter 1, 15 pp.
 - b. Syvitski JPM, Taylor RB, Stravers J, 1987, Suspended sediment loads along the coast of N.E. Baffin and Bylot Islands. Chapter 4, 20 pp.
 - c. Syvitski JPM, 1987, Proximal prodelta investigations at two arctic deltas: Itirbilung and Cambridge Fiords, Baffin Island. Ch. 6, 16 pp.
 - d. Syvitski JPM, 1987, Submersible observations and other analytical results from the third S.A.F.E. cruise. Chapter 7, 11 pp.
 - e. Praeg DB, Syvitski JPM, Clattenburg DC, 1987, Sedimentologic studies of HU82-031 and HU83-028 piston cores. Chapter 8, 129 pp.
 - f. Syvitski JPM, 1987, Airphoto interpretation of changes to the tidewater position of glaciers and deltas along the NE Baffin Coast. Chapter 14, 11 pp.
36. LeBlanc KW, Syvitski JPM, Maillet L, 1988, Examination of the suspended particulate matter within arctic fjords. *Geological Survey of Canada Open File Report* 1733, 302 pp.
37. Asprey KW, Syvitski JPM, Andrews JT, Dowdeswell JA, 1994, CANAM-PONAM cruise HU93-030: West Iceland to East Greenland. *Geological Survey of Canada Open File Report* 2824, 150p. Citations: 16

Published comments on the 1987 Fjord book

- “Well written, logically constructed and clearly presented”* **Sedimentology**
- “Coverage of the subject matter is extensive...commendable”* **Chemical Geology**
- “The breadth of well-presented material on each of these aspects of the fjord environment is impressive...one of the most thorough and well-integrated books on a specific earth science topic”* **J Quaternary Science**
- “Simply outstanding in breadth and depth”* **Science**
- “Of great use to many people, especially environmental scientists, research professionals, and advanced students in the earth sciences, as well as the oceanographic community”* **J Sedimentary Petrology**
- “The authors should be congratulated on a work of such scholarship”* **Earth Science Reviews**
- “A well-structured, clearly written and comprehensive text...it is a pleasure”* **Geological Magazine**
- “Sound and attractive”* **Indian J Earth Sciences**
- “The excellent work fully accomplishes the expectations, and it can be recommended to all scientists interested in this field”* **Internationale Revue der gesamten Hydrobiologie**
- “Beautiful”* **ESRISAT**
- “Ce livre est un ouvrage de reference indispensable non seulement pour des etudiants avances mais encore pour tout chercheur des sciences de la terre et de l’oceanographie se preoccupant de cette interface continent glacie/ocean”* **Annales de la Societe geologique de Belgique**
- “A comprehensive monograph that is carefully thought out and presented...a must for any scientist in fjords...highly recommend”* **Bulletin of Canadian Petroleum Geology**
- “The environmental problems with case histories presented in the implications/applications section have provided an excellent source of teaching examples”* **Journal of Coastal Research**
- “A book for which many scientists have been waiting”* **American Scientist**
- “Welcomed by coastal geomorphologists, oceanographers and Pleistocene climatologists ... superb summary ... a bibliography goldmine”* **Geo journal**

8) SIMULATION of TRANSPORT & SEDIMENTARY ENVIRONMENTS: 45+ pubs, 2241 citations

I have combined an understanding of transport physics with numerical skills to develop a suite of computer models to: (i) predict discharge and sediment flux from rivers, (ii) investigate the impact of climate on river deltas, and (iii) show how multiple transport pathway affect the long-term fill of sedimentary basins. The models have been applied by the U.S. Navy, environmental and energy companies. This effort forms my largest body of literature. The Millennium Review by C Paola (Sedimentology, 2000) noted that these models “would be to sedimentary geology what global climate models are to atmospheric science”.

Peer-reviewed Publications

1. Syvitski JPM, 1989, The process-response model in quantitative dynamic stratigraphy. In: TA Cross (Ed.) *Quantitative Dynamic Stratigraphy*. Prentice-Hall, N.Y., p. 309-334. Citations: 26
2. Syvitski JPM and Alcott JM, 1993. GRAIN2: Predictions of particle size seaward of river mouths. *Computers & Geoscience* 19(3): 399 - 446.
3. Syvitski JPM, Daughney S, 1992, DELTA2: Delta progradation and basin filling. *Computers & Geosciences* 18(7): 839-897. Citations: 62
4. Syvitski JPM, Alcott JM, 1995, RIVER3: Simulation of water and sediment river discharge from climate and drainage basin variables. *Computers & Geosciences* 21(1): 89-151. Citations: 39
5. Steckler MS, Swift D, Syvitski JPM, Goff JA, Niedoroda AW, 1996, Modeling the sedimentology and stratigraphy of continental margins. *Oceanography* 9(3): 183-188. Citations: 16
6. Mulder T, Savoye B, Syvitski JPM, 1997, Numerical modelling of a mid-sized gravity flow: the 1979 Nice turbidity current (dynamics, processes, sediment budget and seafloor impact). *Sedimentology* 44: 305-326. Citations: 192
7. Skene K, Mulder T, Syvitski JPM, 1997, INFLO1: A model predicting the behavior of turbidity currents generated at a river mouth. *Computers & Geosciences* 23(9): 975-991. Citations: 67
8. Syvitski JPM, Morehead M, Nicholson M, 1998, HydroTrend: A climate-driven hydrologic-transport model for predicting discharge and sediment to lakes or oceans. *Computers & Geosciences* 24(1): 51-68. Citations: 92
9. Syvitski JPM, Nicholson M, Skene K, Morehead MD, 1998, PLUME1. 1: Deposition of sediment from a fluvial plume. *Computers & Geosciences* 24(2): 159-171. Citations: 66
10. Syvitski JPM, Pratson L, O’Grady D, 1999, Stratigraphic predictions of continental margins for the US Navy. In: JW Harbaugh, LW Whatney, E Rankay, R Slingerland, R Goldstein, E Franseen (Eds.) *Numerical Experiments in Stratigraphy: Recent Advances in Stratigraphic and Computer Simulations*. SEPM Spec. Publ. 62: 219-236. Citations: 36
11. Paola C, J Mullin, C Ellis, DC Mohrig, JB Swenson, G Parker, T Hickson, PL Heller, L Pratson, JPM Syvitski, B Sheets, N Strong, 2001. Experimental Stratigraphy. *GSA Today*, 11(7): 4-9. Citations: 170
12. Syvitski JPM, Hutton EH, 2001, 2d sedflux 1.0 c: An advanced process-response numerical model for the fill of marine sedimentary basins. *Computers & Geosciences* 27(6): 731-754. Citations: 112
13. Syvitski JPM, Bahr DB, (Eds.) 2001, Numerical models of marine sediment transport and deposition. *Computers and Geosciences* 27(6): 617-753. Citations: 27
14. O’Grady DB, Syvitski JPM, 2001. Predicting profile geometry of continental slopes with a multiprocess sedimentation model. In: DF Merriam, JC Davis (Eds.) *Geological Modeling and Simulation: Sedimentary Systems*. Kluwer Academic/Plenum Publishers, New York, p. 99-117. Citations: 22
15. Morehead MD, Syvitski JPM, Hutton EWH, Peckham SD, 2003, Modeling the temporal variability in the flux of sediment in ungauged river basins. *Global & Planetary Change* 39 (1/2): 95-110. Citations: 260
16. Hutton EWH, Syvitski JPM, 2004, Advances in the numerical modeling of sediment failure during the development of a continental margin. *Marine Geology* 203: 367-380. Citations: 48

17. Pratson L, Swenson J, Kettner A, Fedele J, Postma G, Niedoroda A, Friedrichs C, Syvitski JPM, Paola C, Steckler J, Hutton E, Reed C, Das H, 2004, Modeling continental shelf formation in the Adriatic Sea and elsewhere. *Oceanography* 17(4): 118-131. Citations: 15
18. Kubo Y, Syvitski JPM, Hutton EWH, Paola C, 2005, Advance and application of the stratigraphic simulation model 2D-SedFlux: From tank experiment to geological scale simulation. *Sedimentary Geology* 178: 187-195. Citations: 24
19. Overeem I, Syvitski JPM, Hutton EWH, Kettner AJ, 2005, Stratigraphic variability due to uncertainty in model boundary conditions: A case study of the New Jersey Shelf over the last 40,000 years. *Marine Geology* 224: 23-41. Citations: 21
20. Kubo Y, Syvitski JPM, Hutton EWH, Kettner AJ, 2006, Inverse modeling of post Last Glacial Maximum transgressive sedimentation using 2D-SedFlux: Application to the northern Adriatic Sea. *Marine Geology* 234: 233-243. Citations: 30
21. Kraft BJ, Overeem I, Holland CW, Pratson LF, Syvitski JPM, Mayer LM, 2006, Stratigraphic model predictions of geoacoustic properties. *IEEE Journal of Ocean Engineering* 31(2): 266-283. Citations: 14
22. Kubo Y, Syvitski JPM, Tanabe S, 2006, An application of the hydrologic model HYDROTREND to the paleo-Tonegawa: numerical estimates of sediment discharge for the last 13,000 years. *Jour. Geol. Soc. Japan* 112: 719-729. Citations: 2
23. Kettner AJ, Gomez B, Syvitski JPM, 2007, Modeling suspended sediment discharge from the Waipaoa River system, New Zealand: the last 3000 years. *Water Resources Research* 43, W07411, doi:10.1029/2006WR005570. Citations: 82
24. Pratson LF, Hutton EWH, Kettner AJ, Syvitski JPM, Hill PS, Douglas AG, Milligan TG, 2007, The impact of floods and storms on the acoustic reflectivity of the inner continental shelf: A modeling assessment. *Continental Shelf Research* 27: 542-559. Citations: 13
25. Wollheim WM, Vörösmarty CJ, Peterson BJ, Green PA, Seitzinger S, Harrison J, Bouwman AF, Syvitski JPM, 2008, Global N removal by freshwater aquatic systems: a spatially distributed within basin approach. *Global Biogeochem. Cycles* 22, GB2026, doi:10.1029/2007GB002963. Citations: 191
26. Kettner AJ, Syvitski JPM, 2008, Predicting discharge and sediment flux of the Po River, Italy since the LGM. In: *Analogue and Numerical Forward Modeling of Sedimentary Systems from Understanding to Predictions*, 37-44, Utrecht Univ. Publ. Citations: 50
27. Hutton EWH, Syvitski JPM, 2008, Sedflux 2.0: An advanced process-response model that generates three-dimensional stratigraphy. *Computers & Geosciences* 34: 1319-1337. Citations: 85
28. Jouet G, Hutton EWH, Syvitski JPM, Rabineau M, Berné S, 2008, Response of the Rhône deltaic margin to loading and subsidence during the last climatic cycle. *Computers & Geosciences* 34: 1338-1357. Citations: 17
29. Kettner AJ, Syvitski JPM, 2008, HydroTrend v.3.0: A climate-driven hydrological transport model that simulates discharge and sediment load leaving a river system. *Computers & Geosciences* 34: 1170-1183. Citations: 91
30. Kettner AJ, Syvitski JPM, 2009, Fluvial responses to environmental perturbations in the Northern Mediterranean since the Last Glacial Maximum. *Quaternary Science Reviews* 28: 2386-2397. Citations: 35
31. Kettner AJ, Restrepo JD, Syvitski JPM, 2010, A spatial simulation experiment to replicate the fluvial sediment fluxes within the Magdalena River Basin, Colombia. *J Geology* 118: 363-379. Citations: 60
32. Voinov A, DeLuca C, Hood R, Peckham S, Sherwood C, Syvitski JPM, 2010, A community approach to Earth systems modeling. *EOS Transactions AGU* 91(13): 117-124. Citations: 47
33. Syvitski JPM, Slingerland RL, Burgess P, Meiburg E, Murray AB, Wiberg P, Tucker G, Voinov AA, 2010, Morphodynamic models: an overview. In: Vionnet et al. (eds) *River, Coastal and Estuarine Morphodynamics: RCEM 2009*, Taylor & Francis Group, London, ISBN 978-0-415-55426-8 CRC Press,

p. 3-20. Citations: 33

34. Hutton EWH, Syvitski JPM, Peckham SD, 2010, Producing CSDMS-compliant morphodynamic code to share with the RCEM community. In: Vionnet et al. (Eds.) *River, Coastal and Estuarine Morphodynamics* RCEM 2009, Taylor & Francis Group, London, ISBN 978-0-415-55426-CRC Press, p. 959-962. Citations: 4
35. Syvitski JPM, Hutton EWH, Peckham SD, Slingerland RL, 2011. CSDMS– A modeling system to aid sedimentary research. *The Sedimentary Record* 9, 1-9. Citations: 16
36. Syvitski JPM, Peckham SP, David O, Goodall JL, Delucca C, Theurich G, 2013, Cyberinfrastructure and Community Environmental Modeling. In: HJS Fernando (Ed.) *Handbook in Environmental Fluid Dynamics*, CRC Press/Taylor & Francis Group, LLC. ISBN: 978-1-4665-5601-0. Chapter 28: 399-410. Citations: 6
37. Cohen S, Kettner AJ, Syvitski JPM, Fekete BM, 2013, WBMsed, a distributed global-scale daily riverine sediment flux model - model description and validation. *Computers & Geosciences* 53: 80-93. Citations: 99
38. Hutton EWH, Syvitski JPM, Watts AB, 2013, Isostatic flexure of a finite slope due to sea-level rise and fall. *Computers & Geosciences* 53: 58-68. Citations: 12
39. Overeem I, Berlin MM, Syvitski JPM, 2013. Strategies for integrated modeling: The Community Surface Dynamics Modeling System example. *Environmental Modelling & Software* 39: 314-321. Citations: 37
40. Slingerland R, Syvitski JPM, 2013, A community approach to modeling earth and seascapes. In: JF Shroder (Ed.) *Treatise on Geomorphology* v 2: 44-49. San Diego: Academic Press. Citations: 3
41. Syvitski JPM, Hutton EWH, Piper MD, Overeem I, Kettner AJ, Peckham SD, 2014, Plug and Play Component Modeling — The CSDMS2.0 Approach. In: DP Ames, NWT Quinn, AE Rizzoli (Eds.) *iEMSs 7th Intl. Congress on Env. Modelling and Software*, San Diego, CA, USA, <http://www.iemss.org/society/index.php/iemss-2014-proceedings> Citations: 10
42. Hutton EWH, Piper MD, Peckham SD, Overeem I, Kettner AJ, Syvitski JPM, 2015, Building sustainable software - The CSDMS approach. *WSSSPE2 arXiv:1407.4106v2* Citations: 8
43. Harris CK, Syvitski JPM, Arango HG, Meiburg EH, Jenkins CJ, Auad G, Hutton EWH, Cohen S, Kniskern TA, Birchler JJ, Radhakrishnan), 2020, Data-driven, multi-model workflow suggests strong influence from hurricanes on the generation of turbidity currents in the Gulf of Mexico. *J Marine Science & Engineering*. <https://doi.org/10.3390/jmse8080586> Citations: 11
44. Tucker, G. E., Hutton, E. W., Piper, M. D., Campforts, B., Gan, T., Barnhart, K. R., ... & Syvitski, J. (2021). CSDMS: A community platform for numerical modeling of Earth-surface processes. *Geoscientific Model Development* 15,1413-1439, <https://doi.org/10.5194/gmd-15-1413-2022> . Citations: 5
45. Tucker, G. E., Slingerland, R. & Syvitski, J. 2021. A community approach to modeling earthscapes. In Reference module in Earth Systems and Environmental Sciences (Elsevier, Amsterdam, 2021). <https://doi.org/10.1016/B978-0-12-818234-5.00106-1> Citations: 3

Misc. Reports & Publications

46. Syvitski JPM, 1989, Modelling the fill of sedimentary basins. In: FP Agterberg, G Bonham-Carter (Eds.) *Statistical Applications in the Earth Sciences*. Geological Survey of Canada, Paper 89-9: 505-515.
47. Syvitski JPM, Alcott JM, 1993, Numerical simulation of basin sedimentation affected by slope failure and debris flow runoff. In: Proceedings of the Pierre Beghin International Workshop on *Rapid Gravitational Mass Movements*, Grenoble, France, Dec. 6-10, 1993, 180-195. Citations: 12
48. Perlmutter MA, DeBoer PL, Syvitski JPM, 1999, Geological observations and parameterizations. In: JW Harbaugh, LW Whatney, E Rankay, R Slingerland, R Goldstein, E Franseen (Eds.) *Numerical Experiments in Stratigraphy: Recent Advances in Stratigraphic and Computer Simulations*. SEPM

Special Publication, 62, 25-28.

49. Nummedal D, Slingerland R, Lowe D, Flemmings P, Swift D, Heller P, Syvitski JPM, Simo T, Paola C, Ashley G, Montanez I, 2000. Sedimentary systems in space and time - High Priority National Science Foundation Research Initiatives in Sedimentary Geology. *GSA Today*, July 2000, 12-15.
50. Slingerland R, Syvitski JPM, Paola C, 2002, Sediment modeling system enhances education and research. *EOS, Transaction of AGU*, 83: 578-579.
51. Syvitski JPM, Paola C, Slingerland R, 2002, Workshop on development of a Community Sediment Model, *MARGINS Newsletter* 8: 8-9.
52. Anderson RS, Dietrich WE, Furbish D, Hanes D, Howard A, Paola C, Pelletier J, Slingerland R, Stallard R, Syvitski JPM, Vörösmarty C, Wiberg P, 2004, Community Surface Dynamics Modeling System (CSDMS) Science Plan. *Report to the National Science Foundation*, NCED, Univ. Minnesota, Minneapolis, 47 p.
53. Abers G, et al., 2008, *Margins 2009 Review*. Margins Office, LDEO, NY, 184 pp.
54. Syvitski JPM (Ed.) 2008, Predictive modeling in sediment transport and stratigraphy. *Computers & Geosciences* 34, Elsevier, 326 pp.
55. Syvitski JPM, 2008, Guest editorial: Predictive modeling in sediment transport and stratigraphy. *Computers & Geosciences* 34: 1167-1169.
56. Kettner AJ, Syvitski JPM (Eds.) 2013, Modeling for environmental change, *Computers & Geosciences*, 53: 163pp
57. Kettner AJ, Syvitski JPM, 2013, Modeling for environmental change, *Computers & Geoscience* 53: 1-2.
58. Kettner AJ, Syvitski JP (Eds.) 2016, Uncertainty and Sensitivity in Surface Dynamics Modeling, *Computers & Geosciences*, 90 part B: 171pp.
59. Kettner AJ, Syvitski JP, 2016, Guest editorial: Uncertainty and sensitivity in surface dynamics modeling, *Computers & Geosciences*, 90: 1-5.

Related Peer-Reviewed Government Reports

60. Calabrese EA, Syvitski JPM, 1987, Modeling the growth of a prograding delta: numerics, sensitivity, program code and users guide. *Geological Survey of Canada Open File Report 1624*, 61 pp.
61. Syvitski JPM, Peckham S, Wiberg P, Howard A, Driscoll N, 2001, Predicting the distribution and properties of buried submarine topography on continental shelves. In: *Geoclutter and Boundary Characterization 2001: Acoustic Interaction with the Seabed*, Eds. PC Hines, NC Makris, CW Holland. Defence Research Establishment Atlantic, Technical Memorandum DREA TM-2001-185, p. 67-71.
62. Syvitski JPM, Paola C, Slingerland R, Furbish D, Wiberg P, Tucker G, 2004, Building a Community Surface Dynamics Modeling System Rational and Strategy. *Report to the National Science Foundation*, Penn State University, State College, 41 p.
63. Syvitski JPM, Tucker G, Seber D, Peckham S, Seitzinger S, Pfeffer WT, Voinov A, Slingerland R, Goran W, 2004, Community Surface Dynamics Modeling System Implementation Plan. *Report to the National Science Foundation*, INSTAAR, Univ. Colorado, Boulder, 61 p.
64. Syvitski JPM, & the CSDMS Community, 2008, *CSDMS: Community Surface Dynamics Modeling System*, Five-Year Strategic Plan, University of Colorado Press, Boulder CO, 48 pp.

9) SEDIMENT-ANIMAL INTERACTIONS & GRAIN SIZE ANALYSIS: 20+ pubs, 1,713 citations

Two topics in this grouping. Firstly, I am fascinated on the interactions between biology and geology. This interest has led to research on the impact and response of zooplankton to the ingestion of suspended sediment, how large sea mammals resuspend seafloor sediment in deep arctic environments, the role corals play in moving large boulders through their current drag, and how benthos adapt to turbid river mouths and tidewater glaciers. Secondly, an assignment from the International Union of Geological Sciences led to the standardization of analytical techniques in sediment laboratories. The effort was built on my experience in running arguably the world's largest and most advanced sediment lab while at the Geological Survey of Canada.

Peer-reviewed Publications

1. Syvitski JPM, Murray JW, 1977, Grain-size distribution using log-probability plots: discussion. *Canadian Society of Petroleum Geology Bulletin* 25: 683-694. Citations: 12
2. Syvitski JPM, Lewis AG, 1980, Sediment ingestion by *Tigriopus californicus* and other zooplankton: Mineral transformation and sedimentological considerations. *J. Sedimentary Petrology* 50:869-880. Citations: 60
3. Syvitski JPM, Bayliss P, 1980, Clay mineral X-ray diffraction analysis: Ag filter-pipette methods. *Journal of Sedimentary Petrology* 50: 624-626. Citations: 4
4. Syvitski JPM, Swinbanks DD, 1980, VSA: A new fast size analysis technique for low sample weight based on Stokes' settling velocity. *Canadian Geotechnical Journal* 17: 304-312. Citations: 1
5. Bayliss P, Syvitski JPM, 1982, Clay diagenesis in recent marine fecal pellets. *Geo-Marine Letters* 2: 83-88. Citations: 20
6. Smith ND, Syvitski JPM, 1982, Sedimentation in a glacier-fed lake: The role of pelletization on deposition of fine-grained suspensates. *J. Sedimentary Petrology* 52: 503-513. Citations: 38
7. Syvitski JPM, Fader GB, Josenhans HW, MacLean B, Piper DJW, 1983, Seabed investigations of the Canadian east coast and arctic using PISCES IV. *Geoscience Canada* 10: 59-68. Citations: 19
8. Lewis AG, Syvitski JPM, 1983, Interaction of plankton and suspended sediment in fjords. *Sedimentary Geology* 36: 81-92. Citations: 43
9. Tunnicliffe V, Syvitski JPM, 1983, Corals move boulders: an unusual mechanism of sediment transport. *Limnology and Oceanography* 28: 564-568. Citations: 23
10. Farrow GE, Syvitski JPM, Tunnicliffe V, 1983. Suspended particulate loading on the macrobenthos in a highly turbid fjord; Knight Inlet, British Columbia. *C. J. Fisheries & Aquatic Sciences* 40: 100-116. Citations: 124
11. Syvitski JPM, Silverberg N, Ouellet G, Asprey KW, 1983, First observations of benthos and seston from a submersible in the lower St. Lawrence Estuary. *Géographie Physique et Quaternaire*, 37: 227-240. Citations: 41
12. Syvitski JPM, Farrow GE, Atkinson RJA, Moore PG, Andrews JT, 1989. Baffin Island fjord macrobenthos: bottom communities and environmental significance. *Arctic* 42: 232-247. Citations: 140
13. Hein FJ, Syvitski JPM, 1989, Sea floor gouges and pits in deep fjords, Baffin Island: possible mammalian feeding traces. *Geo-Marine Letters* 9: 91-94. Citations: 9
14. Syvitski JPM (Ed.) 1991, *Principles, Methods and Application of Particle Size Analysis*. Cambridge University Press. New York. 368 p.; now in its 3rd Edition (2007); Citations: 464
15. Syvitski JPM, 1991, Factor analysis of size frequency distributions: significance of factor solutions based on simulation experiments. In: JPM Syvitski (Ed.) *Principles, Methods and Application of Particle Size Analysis*. Cambridge University Press, N.Y., 249-263. Citations: 44
16. Coakley JPM, Syvitski JPM, 1991, SediGraph technique. In: JPM Syvitski (Ed.) *Principles, Methods and Application of Particle Size Analysis*. Cambridge University Press, N. Y. p. 129-142. Citations: 183

17. McCave IN, Syvitski JPM, 1991, Principles and methods of geological particle size analysis. In: JPM Syvitski (Ed.) *Principles, Methods and Application of Particle Size Analysis*. Cambridge University Press, New York. p. 3-21. Citations: 320
18. Syvitski JPM, Asprey KW, Clattenburg DA, 1991, Principles, design and calibration of settling tubes. In: JPM Syvitski (ed.) *Principles, Methods and Application of Particle Size Analysis*. Cambridge University Press. New York. p. 45-63. Citations: 62
19. Syvitski JPM, Leblanc KWG, Asprey KW, 1991, Interlaboratory, interinstrument calibration experiment. In: JPM Syvitski (Ed.) *Principles, Methods and Application of Particle Size Analysis*. Cambridge University Press. New York. p. 174-193. Citations: 99
20. Syvitski JPM (Ed.) 2000, Geological perturbations and consequences of extreme and unexpected phenomena in the ocean. *Oceanography* 13(3): 83-117.

Peer-Reviewed Government Reports

21. Asprey KW, Syvitski JPM, 1990, Computer programs and code used in the operation of the automated granulometric instruments within the Atlantic Geoscience Centre soft sediment laboratory. *Geological Surveys of Canada Open File Report 2292*, 234 pp.
22. Hackett DW, Syvitski JPM, Prime W, Sherin AG, 1986, Sediment size analysis system user guide. *Geological Society of Canada Open File Report 1240*, 25 pp.
23. Syvitski JPM, 1983, Q-mode Factor Analysis of Grain-Size Distributions. *Geological Survey of Canada Open File Report 965*, 45 pp. Citations: 7
24. Schafer, CT, Syvitski J, 2021 The GSCA's submersible love story. Voicepipe, Newsletter of the BIO-Oceans Association. 87, April 2021, pp 6-10.

Published comments on the 1991 Grain Size book (now in its 3rd Edition/printing)

"The volume is a must for every worker or institution spending time with particle-size analysis" – AAPG Bulletin

"The book provides fundamental and detailed practical information to any scientist, who wants to apply sediment particle characterization ... we now have a comprehensive and balanced synthesis of this broad theme" – Earth Science Reviews

"This book is a must to own for all who are involved in the field" – Basin Research

Book Reviews

1. Syvitski, JPM 1980. Polar Oceans - a review. *Bulletin of Canadian Petroleum Geology* 28: 619.
2. Syvitski, JPM 1982. The Alaskan Shelf: Hydrographic, Sedimentary and Geochemical Environment - a review. *Geoscience Canada* 9: 168.
3. Syvitski, JPM 1988. Marine Minerals. *The Canadian Mineralogist*: 357.
4. Syvitski, JPM, 1999. Review of Earth Surface Processes by P.A. Allen, Blackwell Science. *Sedimentary Geology* 117: 245-250.
5. Syvitski, JPM 2000. Computerized modeling of sedimentary systems—a book review. *Marine Geology* 170: 251-252.
6. Syvitski, JPM 2001. The Freshwater Budget of the Arctic Ocean — a book review. *EOS, Transactions of the American Geophysical Union* 82(20): 228.
7. Syvitski, JPM 2001. Let Heroes Speak: Antarctic Explorers 1772-1922 — a book review. *Arctic, Antarctic and Alpine Research* 33(2): 244.
8. Syvitski, JPM 2001. Dangerous Crossings: The First Modern Polar Expedition, 1925 — a book review. *Arctic, Antarctic and Alpine Research* 33(2): 245.
9. Syvitski, JPM 2002. Deadly Winter: The Life of Sir John Franklin — a book review. *Antarctic and Alpine Research*, 34(3): 358-359.
10. Syvitski, JPM 2003. The Arctic Voyages of Martin Frobisher: An Elizabethan Adventure—a book review. *Arctic, Antarctic and Alpine Research*, 35(1): 124.
11. Syvitski, JPM 2007. Extremes: Oceanography's Adventures at the Poles— a book review. *Oceanography*, 20(3): 85-86.
12. Syvitski, JPM 2009, Strait through the Ice — a movie review. *Oceanography* 22(2): 159.

Peer-reviewed Geological Survey of Canada Open File Maps: 10 map-series (158 sheets)

1. Praeg DB, Syvitski JPM, 1991, Marine Geology of Saguenay Fjord. *Geological Survey of Canada Open File Report* 2395, 14 sheets.
2. Syvitski JPM, Hinds S, Burns JA, 1993, Marine Geology of Goose Bay (Labrador). *Geological Survey of Canada Open File Report* 2760, 17 sheets.
3. Syvitski JPM, Hinds S, Burns JA, 1993, Marine Geology of Lake Melville (Labrador). *Geological Survey of Canada Open File Report* 2759, 34 sheets.
4. Andrews JT, Syvitski JPM, Williams KM, Jennings AE, Short SK, Mode WN, Kravitz J, 1994, Marine Geology of Sunneshine Fiord (Baffin Island). *Geological Survey of Canada Open File Report* 3004, 2 sheets.
5. Syvitski JPM, Andrews JT, 1994, Marine Geology of Maktak Fiord, Baffin Island. *Geological Survey of Canada Open File Report* 2987, 2 sheets.
6. Syvitski JPM, Hinds S, Burns JA, 1994, Marine Geology of Tshenuemiu-Shipu Delta (Labrador). *Geological Survey of Canada Open File Report* 2836, 37 sheets.
7. Syvitski JPM, Beattie D, Praeg DB, Schafer CT, 1986, Marine geology of Baie des Chaleurs. *Geological Survey of Canada Open File Report* 1375, 5 sheets.
8. Syvitski JPM, Praeg DB, 1990, Quaternary seismo-stratigraphy of the Lower St. Lawrence Estuary (1:250,000 SEDFLUX Map Series). *Geological Survey of Canada Open File Report* 2230, 10 sheets.
9. Syvitski JPM, Praeg DB, 1990, Quaternary seismo-stratigraphy of the Lower St. Lawrence Estuary (1:250,000) GSC/EMG Open File Map Series. *Geological Survey of Canada Open File Report* 2231, 18 sheets.
10. Syvitski JPM, Hinds S, Josenhans H, 1992, Marine Geology of the North West Gulf of St. Lawrence. *Geological Survey of Canada Open File Report* 2485, 19 sheets.

Limited-distribution or Confidential Manuscripts: a list is available upon request

Conference Abstracts: A list of 370+ published abstracts is available upon request.