Alan D Howard

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

141
papers10,287
citations54
h-index99
g-index149
ext. papers11,429
ext. citations8.2
avg, IF6.36
L-index

#	Paper	IF	Citations
141	A detachment-limited model of drainage basin evolution. Water Resources Research, 1994 , 30, 2261-228	B 5 5.4	820
140	Channel changes in badlands. Bulletin of the Geological Society of America, 1983, 94, 739	3.9	572
139	Modeling fluvial erosion on regional to continental scales. <i>Journal of Geophysical Research</i> , 1994 , 99, 13971-13986		540
138	The case for rainfall on a warm, wet early Mars. <i>Journal of Geophysical Research</i> , 2002 , 107, 21-1-21-36		414
137	The Pluto system: Initial results from its exploration by New Horizons. <i>Science</i> , 2015 , 350, aad1815	33.3	295
136	An intense terminal epoch of widespread fluvial activity on early Mars: 2. Increased runoff and paleolake development. <i>Journal of Geophysical Research</i> , 2005 , 110,		280
135	An intense terminal epoch of widespread fluvial activity on early Mars: 1. Valley network incision and associated deposits. <i>Journal of Geophysical Research</i> , 2005 , 110,		235
134	Geomorphology of the Colorado River in the Grand Canyon. <i>Journal of Geology</i> , 1981 , 89, 269-298	2	193
133	The geology of Pluto and Charon through the eyes of New Horizons. <i>Science</i> , 2016 , 351, 1284-93	33.3	180
132	Sufficient conditions for river meandering: A simulation approach. <i>Water Resources Research</i> , 1984 , 20, 1659-1667	5.4	177
131	The atmosphere of Pluto as observed by New Horizons. <i>Science</i> , 2016 , 351, aad8866	33.3	164
130	Erosion of cohesionless sediment by groundwater seepage. Water Resources Research, 1988, 24, 1659-1	657.4	159
129	Large alluvial fans on Mars. Journal of Geophysical Research, 2005, 110,		155
128	A large paleolake basin at the head of Ma'adim Vallis, Mars. Science, 2002, 296, 2209-12	33.3	152
127	Badland Morphology and Evolution: Interpretation Using a Simulation Model. <i>Earth Surface Processes and Landforms</i> , 1997 , 22, 211-227	3.7	151
126	Crater morphometry and modification in the Sinus Sabaeus and Margaritifer Sinus regions of Mars. Journal of Geophysical Research, 1997 , 102, 13321-13340		150
125	Martian Layered Fluvial Deposits: Implications for Noachian Climate Scenarios. <i>Geophysical Research Letters</i> , 2003 , 30,	4.9	147

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124	The Role of Eolian Processes in Forming Surface Features of the Martian Polar Layered Deposits. <i>Icarus</i> , 2000 , 144, 267-288	3.8	137
123	Sand transport model of barchan dune equilibrium. <i>Sedimentology</i> , 1978 , 25, 307-338	3.3	130
122	Can springs cut canyons into rock?. Journal of Geophysical Research, 2006, 111,		124
121	Pervasive aqueous paleoflow features in the Aeolis/Zephyria Plana region, Mars. <i>Icarus</i> , 2009 , 200, 52-7	'6 3.8	121
120	Interior channels in Martian valley networks: Discharge and runoff production. <i>Geology</i> , 2005 , 33, 489	5	121
119	Theoretical model of optimal drainage networks. Water Resources Research, 1990, 26, 2107-2117	5.4	119
118	Geomorphology of Ma'adim Vallis, Mars, and associated paleolake basins. <i>Journal of Geophysical Research</i> , 2004 , 109,		111
117	Stratigraphic relationships within Martian polar cap deposits. <i>Icarus</i> , 1982 , 50, 161-215	3.8	111
116	Simulating the development of Martian highland landscapes through the interaction of impact cratering, fluvial erosion, and variable hydrologic forcing. <i>Geomorphology</i> , 2007 , 91, 332-363	4.3	109
115	Crater degradation in the Martian highlands: Morphometric analysis of the Sinus Sabaeus region and simulation modeling suggest fluvial processes. <i>Journal of Geophysical Research</i> , 2004 , 109,		106
114	Early development of karst systems: 1. Preferential flow path enlargement under laminar flow. Water Resources Research, 1994 , 30, 2837-2846	5.4	105
113	Equilibrium and time scales in geomorphology: Application to sand-bed alluvial streams. <i>Earth Surface Processes and Landforms</i> , 1982 , 7, 303-325	3.7	105
112	Structural control of the rapids and pools of the colorado river in the grand canyon. <i>Science</i> , 1978 , 202, 629-31	33.3	104
111	Formation of amphitheater-headed valleys by waterfall erosion after large-scale slumping on Hawai'i. <i>Bulletin of the Geological Society of America</i> , 2007 , 119, 805-822	3.9	103
110	Origin of the stepped topography of the Martian poles. <i>Icarus</i> , 1978 , 34, 581-599	3.8	102
109	Simulation of Stream Networks by Headword Growth and Branching*. <i>Geographical Analysis</i> , 2010 , 3, 29-50	2.9	95
108	Topological and Geometrical Properties of Braided Streams. Water Resources Research, 1970, 6, 1674-1	6 § &	95
107	Geomorphic and stratigraphic analysis of Crater Terby and layered deposits north of Hellas basin, Mars. <i>Journal of Geophysical Research</i> , 2007 , 112,		91

106	Drainage basin evolution in Noachian Terra Cimmeria, Mars. <i>Journal of Geophysical Research</i> , 2002 , 107, 10-1		88
105	Long-term precipitation and late-stage valley network formation: Landform simulations of Parana Basin, Mars. <i>Journal of Geophysical Research</i> , 2009 , 114,		86
104	Optimal Angles of Stream Junction: Geometric, Stability to Capture, and Minimum Power Criteria. <i>Water Resources Research</i> , 1971 , 7, 863-873	5.4	86
103	Reorientation of Sputnik Planitia implies a subsurface ocean on Pluto. <i>Nature</i> , 2016 , 540, 94-96	50.4	84
102	The state and future of Mars polar science and exploration. <i>Icarus</i> , 2000 , 144, 210-42	3.8	83
101	Convection in a volatile nitrogen-ice-rich layer drives Pluto's geological vigour. <i>Nature</i> , 2016 , 534, 82-5	50.4	81
100	Initial results from the New Horizons exploration of 2014 MU, a small Kuiper Belt object. <i>Science</i> , 2019 , 364,	33.3	8o
99	Long Profile Development of Bedrock Channels: Interaction of Weathering, Mass Wasting, Bed Erosion, and Sediment Transport. <i>Geophysical Monograph Series</i> , 1998 , 297-319	1.1	77
98	River meandering on Earth and Mars: A comparative study of Aeolis Dorsa meanders, Mars and possible terrestrial analogs of the Usuktuk River, AK, and the Quinn River, NV. <i>Geomorphology</i> , 2015 , 240, 102-120	4.3	70
97	Fluvial features on Titan: Insights from morphology and modeling. <i>Bulletin of the Geological Society of America</i> , 2013 , 125, 299-321	3.9	69
96	Minimum hydrochemical conditions allowing limestone cave development. <i>Water Resources Research</i> , 1994 , 30, 607-615	5.4	68
95	Early Development of Karst Systems: 2. Turbulent Flow. Water Resources Research, 1995, 31, 19-26	5.4	67
94	Sedimentology and climatic environment of alluvial fans in the martian Saheki crater and a comparison with terrestrial fans in the Atacama Desert. <i>Icarus</i> , 2014 , 229, 131-156	3.8	64
93	Multivariate characterization of meandering. <i>Geomorphology</i> , 1991 , 4, 161-186	4.3	63
92	Topography and stratigraphy of Martian polar layered deposits. <i>Icarus</i> , 1982 , 50, 140-160	3.8	63
91	Simulation Model of Stream Capture. Bulletin of the Geological Society of America, 1971, 82, 1355	3.9	63
90	Simulated degradation of lunar impact craters and a new method for age dating farside mare deposits. <i>Journal of Geophysical Research</i> , 2000 , 105, 20387-20401		62
89	Role of debris flows in long-term landscape denudation in the central Appalachians of Virginia. <i>Geology</i> , 2003 , 31, 339	5	59

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88	Effect of slope on the threshold of motion and its application to orientation of wind ripples. <i>Bulletin of the Geological Society of America</i> , 1977 , 88, 853	3.9	59
87	Role of hypsometry and planform in basin hydrologic response. <i>Hydrological Processes</i> , 1990 , 4, 373-38	35 3.3	54
86	Pluto's interaction with its space environment: Solar wind, energetic particles, and dust. <i>Science</i> , 2016 , 351, aad9045	33.3	52
85	Outflow channels with deltaic deposits in Ismenius Lacus, Mars. <i>Icarus</i> , 2013 , 226, 385-401	3.8	51
84	Paleohydrology of Eberswalde crater, Mars. <i>Geomorphology</i> , 2015 , 240, 83-101	4.3	50
83	Topographic influences on development of Martian valley networks. <i>Journal of Geophysical Research</i> , 2011 , 116,		50
82	Catalogue of large alluvial fans in martian impact craters. <i>Icarus</i> , 2008 , 194, 101-110	3.8	47
81	Simulation modeling and statistical classification of escarpment planforms. <i>Geomorphology</i> , 1995 , 12, 187-214	4.3	47
80	Hydrology of early Mars: Valley network incision. <i>Journal of Geophysical Research E: Planets</i> , 2013 , 118, 1365-1387	4.1	46
79	Chapter 11. Spring sapping and valley network development. <i>Special Paper of the Geological Society of America</i> , 1990 , 235-266		46
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78	of America, 1990, 235-266 The spiral troughs of Mars as cyclic steps. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 1835-1 New Martian valley network volume estimate consistent with ancient ocean and warm and wet	,	45
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78 77 76	of America, 1990, 235-266 The spiral troughs of Mars as cyclic steps. Journal of Geophysical Research E: Planets, 2013, 118, 1835-1 New Martian valley network volume estimate consistent with ancient ocean and warm and wet climate. Nature Communications, 2017, 8, 15766 Geological mapping of Sputnik Planitia on Pluto. Icarus, 2017, 287, 261-286	17.4 3.8	45 44 43
78 77 76 75	The spiral troughs of Mars as cyclic steps. <i>Journal of Geophysical Research E: Planets</i> , 2013 , 118, 1835-1 New Martian valley network volume estimate consistent with ancient ocean and warm and wet climate. <i>Nature Communications</i> , 2017 , 8, 15766 Geological mapping of Sputnik Planitia on Pluto. <i>Icarus</i> , 2017 , 287, 261-286 The geology and geophysics of Kuiper Belt object (486958) Arrokoth. <i>Science</i> , 2020 , 367, Geomorphologic mapping of titan's polar terrains: Constraining surface processes and landscape	17.4 3.8 33.3	45 44 43 43
78 77 76 75 74	The spiral troughs of Mars as cyclic steps. Journal of Geophysical Research E: Planets, 2013, 118, 1835-1 New Martian valley network volume estimate consistent with ancient ocean and warm and wet climate. Nature Communications, 2017, 8, 15766 Geological mapping of Sputnik Planitia on Pluto. Icarus, 2017, 287, 261-286 The geology and geophysics of Kuiper Belt object (486958) Arrokoth. Science, 2020, 367, Geomorphologic mapping of titan's polar terrains: Constraining surface processes and landscape evolution. Icarus, 2017, 282, 214-236 Quaternary deposits and landscape evolution of the central Blue Ridge of Virginia. Geomorphology,	3.8 33·3 3.8	45 44 43 43

70	A cold-wet middle-latitude environment on Mars during the Hesperian-Amazonian transition: Evidence from northern Arabia valleys and paleolakes. <i>Journal of Geophysical Research E: Planets</i> , 2016 , 121, 1667-1694	4.1	39	
69	Present and past glaciation on Pluto. <i>Icarus</i> , 2017 , 287, 287-300	3.8	39	
68	Modeling planform evolution of a mud-dominated meandering river: Quinn River, Nevada, USA. <i>Earth Surface Processes and Landforms</i> , 2014 , 39, 1365-1377	3.7	39	
67	The formation of Charon's red poles from seasonally cold-trapped volatiles. <i>Nature</i> , 2016 , 539, 65-68	50.4	38	
66	Sedimentary resurfacing and fretted terrain development along the crustal dichotomy boundary, Aeolis Mensae, Mars. <i>Journal of Geophysical Research</i> , 2004 , 109,		38	
65	Hydrology of early Mars: Lake basins. <i>Journal of Geophysical Research</i> , 2011 , 116,		37	
64	A spatially explicit model of runoff, evaporation, and lake extent: Application to modern and late Pleistocene lakes in the Great Basin region, western United States. <i>Water Resources Research</i> , 2009 , 45,	5.4	37	
63	Fluvial erosion as a mechanism for crater modification on Titan. <i>Icarus</i> , 2016 , 270, 114-129	3.8	37	
62	Bladed Terrain on Pluto: Possible origins and evolution. <i>Icarus</i> , 2018 , 300, 129-144	3.8	36	
61	Topographic Constraints on the Evolution and Connectivity of Titan's Lacustrine Basins. <i>Geophysical Research Letters</i> , 2017 , 44, 11,745-11,753	4.9	36	
60	Stratigraphy of Aeolis Dorsa, Mars: Stratigraphic context of the great river deposits. <i>Icarus</i> , 2015 , 253, 223-242	3.8	34	
59	How to make a meandering river. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 17245-6	11.5	33	
58	Are the basins of Titan's Hotei Regio and Tui Regio sites of former low latitude seas?. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a	4.9	32	
57	Modeling fluvial erosion and deposition on continental shelves during sea level cycles. <i>Journal of Geophysical Research</i> , 2004 , 109,		32	
56	Modeling glacial flow on and onto Pluto Sputnik Planitia. <i>Icarus</i> , 2017 , 287, 301-319	3.8	31	
55	Photoclinometric determination of the topography of the Martian north polar cap. <i>Icarus</i> , 1982 , 50, 24	5-3,58	31	
54	Badlands 1994 , 213-242		31	
53	Computer simulation of the role of groundwater seepage in forming Martian valley networks. Journal of Geophysical Research, 2008, 113,		29	

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52	Alluvial Fan Morphology, distribution and formation on Titan. <i>Icarus</i> , 2016 , 270, 238-247	3.8	28
51	Tidal flow field in a small basin. Journal of Geophysical Research, 2003, 108,		28
50	Fresh shallow valleys in the Martian midlatitudes as features formed by meltwater flow beneath ice. <i>Journal of Geophysical Research E: Planets</i> , 2014 , 119, 128-153	4.1	27
49	Geology before Pluto: Pre-encounter considerations. <i>Icarus</i> , 2015 , 246, 65-81	3.8	24
48	The landscape of Titan as witness to its climate evolution. <i>Journal of Geophysical Research E: Planets</i> , 2014 , 119, 2060-2077	4.1	24
47	Inverted fluvial features in the Aeolis-Zephyria Plana, western Medusae Fossae Formation, Mars: Evidence for post-formation modification. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		24
46	Fluvial Valley Networks on Mars 2008 , 419-451		24
45	Active Channel Geometry and Discharge Relations of U.S. Piedmont and Midwestern Streams: The Variable Exponent Model Revisited. <i>Water Resources Research</i> , 1995 , 31, 2353-2365	5.4	24
44	Application of a boundary-layer model to flow over an eolian dune. <i>Journal of Geophysical Research</i> , 1985 , 90, 10631-10640		23
43	Resolving the era of river-forming climates on Mars using stratigraphic logs of river-deposit dimensions. <i>Earth and Planetary Science Letters</i> , 2015 , 420, 55-65	5.3	22
42	Ice-driven creep on Martian debris slopes. <i>Geophysical Research Letters</i> , 2003 , 30,	4.9	22
41	Pluto: Pits and mantles on uplands north and east of Sputnik Planitia. <i>Icarus</i> , 2017 , 293, 218-230	3.8	21
40	Sublimation-driven erosion on Callisto: A landform simulation model test. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	20
39	Scarp-bounded benches in Gorgonum Chaos, Mars: Formed beneath an ice-covered lake?. <i>Geophysical Research Letters</i> , 2004 , 31,	4.9	20
38	Formation of gravel pavements during fluvial erosion as an explanation for persistence of ancient cratered terrain on Titan and Mars. <i>Icarus</i> , 2016 , 270, 100-113	3.8	19
37	Modeling of ice pinnacle formation on Callisto. <i>Journal of Geophysical Research E: Planets</i> , 2016 , 121, 21-45	4.1	19
36	Rock Slopes 1994 , 123-172		18
35	HiRISE views enigmatic deposits in the Sirenum Fossae region of Mars. <i>Icarus</i> , 2010 , 205, 53-63	3.8	17

34	Sublimation-driven erosion on Hyperion: Topographic analysis and landform simulation model tests. <i>Icarus</i> , 2012 , 220, 268-276	3.8	16
33	The Global Distribution of Craters With Alluvial Fans and Deltas on Mars. <i>Geophysical Research Letters</i> , 2021 , 48, e2020GL091653	4.9	16
32	Constraints on the Noachian Paleoclimate of the Martian Highlands From Landscape Evolution Modeling. <i>Journal of Geophysical Research E: Planets</i> , 2018 , 123, 2958-2979	4.1	16
31	Drainage network development in the Keanakkolltephra, Klauea Volcano, Hawaill Implications for fluvial erosion and valley network formation on early Mars. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		15
30	Origin and development of theater-headed valleys in the Atacama Desert, northern Chile: Morphological analogs to martian valley networks. <i>Icarus</i> , 2014 , 243, 296-310	3.8	14
29	An implicit finite difference method for drainage basin evolution. <i>Water Resources Research</i> , 2002 , 38, 21-1-21-5	5.4	13
28	Formation of metre-scale bladed roughness on Europall surface by ablation of ice. <i>Nature Geoscience</i> , 2018 , 11, 901-904	18.3	12
27	A progressive black top hat transformation algorithm for estimating valley volumes on Mars. <i>Computers and Geosciences</i> , 2015 , 75, 17-23	4.5	11
26	Great Expectations: Plans and Predictions for New Horizons Encounter With Kuiper Belt Object 2014 MU69 (Dltima Thule) Geophysical Research Letters, 2018, 45, 8111-8120	4.9	11
25	Morphometric analysis of Martian valley network basins using a circularity function. <i>Journal of Geophysical Research</i> , 2005 , 110,		11
24	Processes of limestone cave development. <i>International Journal of Speleology</i> , 1964 , 1, 47-60	2	10
23	Badlands and Gullying 2009 , 265-299		10
22	Rock Slopes 2009 , 189-232		10
21	Rock-Mantled Slopes 1994 , 173-212		9
20	Century scale rainfall in the absolute Atacama Desert: Landscape response and implications for past and future rainfall. <i>Quaternary Science Reviews</i> , 2021 , 254, 106797	3.9	9
19	An Assessment of Regional Variations in Martian Modified Impact Crater Morphology. <i>Journal of Geophysical Research E: Planets</i> , 2018 , 123, 763-779	4.1	7
18	Evidence for a short period of hydrologic activity in Newton crater, Mars, near the Hesperian-Amazonian transition. <i>Journal of Geophysical Research E: Planets</i> , 2013 , 118, 1082-1093	4.1	7
17	Controls on the degree of fluvial incision of continental shelves. <i>Computers and Geosciences</i> , 2008 , 34, 1381-1393	4.5	7

LIST OF PUBLICATIONS

16	Environmental management of the Colorado River within the Grand Canyon. <i>Environmental Management</i> , 1977 , 1, 391-400	3.1	7
15	Evidence for ancient lakes in the Hellas region 2010 , 195-222		7
14	Washboard and fluted terrains on Pluto as evidence for ancient glaciation. <i>Nature Astronomy</i> , 2019 , 3, 62-68	12.1	7
13	Taking the measure of a landscape: Comparing a simulated and natural landscape in the Virginia Coastal Plain. <i>Geomorphology</i> , 2012 , 137, 27-40	4.3	6
12	Introduction to the special issue: Planetary geomorphology. <i>Geomorphology</i> , 2015 , 240, 1-7	4.3	5
11	Rock-Mantled Slopes 2009 , 233-263		5
10	The Nature and Origin of Deposits in Uzboi Vallis on Mars. <i>Journal of Geophysical Research E:</i> Planets, 2018 , 123, 1842-1862	4.1	4
9	Degradation of Endeavour Crater Based on Orbital and Rover-Based Observations in Combination With Landscape Evolution Modeling. <i>Journal of Geophysical Research E: Planets</i> , 2019 , 124, 1472-1494	4.1	3
8	Correction to Are the basins of Titan's Hotei Regio and Tui Regio sites of former low latitude seas? [Geophysical Research Letters, 2011, 38, n/a-n/a	4.9	3
7	GLOBAL DISTRIBUTION OF ALLUVIAL FANS AND DELTAS ON MARS 2018,		3
6	Quasi-periodic climatic changes on Mars and Earth. <i>Eos</i> , 1981 , 62, 755	1.5	2
5	Comment on The volume of water required to carve the Martian valley networks: Improved constraints using updated methods (Icarus, 2020, 336, 113321)	3.8	1
4	Modeling global-scale mass flows on the Lagrangian satellites of Dione and Tethys. <i>Icarus</i> , 2021 , 369, 114612	3.8	1
3	Inverted channel variations identified on a distal portion of a bajada in the central Atacama Desert, Chile. <i>Geomorphology</i> , 2021 , 393, 107925	4.3	1
2	Reply to: Penitente formation is unlikely on Europa. <i>Nature Geoscience</i> , 2020 , 13, 20-21	18.3	0
1	Modeling Planetary Landscapes 2021 ,		