Isabella Velicogna

List of Publications by Year
in descending order

85 papers	13,564 citations	57758 44 h-index	54911 84 g-index
99 all docs	99 docs citations	99 times ranked	10827 citing authors

#	Article	IF	Citations
1	Satellite-based estimates of groundwater depletion in India. Nature, 2009, 460, 999-1002.	27.8	2,107
2	A Reconciled Estimate of Ice-Sheet Mass Balance. Science, 2012, 338, 1183-1189.	12.6	1,246
3	Acceleration of the contribution of the Greenland and Antarctic ice sheets to sea level rise. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	870
4	Partitioning Recent Greenland Mass Loss. Science, 2009, 326, 984-986.	12.6	755
5	Time-variable gravity from GRACE: First results. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	628
6	Increasing rates of ice mass loss from the Greenland and Antarctic ice sheets revealed by GRACE. Geophysical Research Letters, 2009, 36, .	4.0	582
7	Contributions of GRACE to understanding climate change. Nature Climate Change, 2019, 9, 358-369.	18.8	536
8	Measurements of Time-Variable Gravity Show Mass Loss in Antarctica. Science, 2006, 311, 1754-1756.	12.6	486
9	Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling, and modern observations that 2 Â°C global warming could be dangerous. Atmospheric Chemistry and Physics, 2016, 16, 3761-3812.	4.9	421
10	Revisiting the Earth's sea-level and energy budgets from 1961 to 2008. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	415
11	Accuracy of GRACE mass estimates. Geophysical Research Letters, 2006, 33, .	4.0	369
12	A review of global ocean temperature observations: Implications for ocean heat content estimates and climate change. Reviews of Geophysics, 2013, 51, 450-483.	23.0	367
13	Rapid submarine melting of the calving faces of West Greenland glaciers. Nature Geoscience, 2010, 3, 187-191.	12.9	338
14	Acceleration of Greenland ice mass loss in spring 2004. Nature, 2006, 443, 329-331.	27.8	326
15	Regional acceleration in ice mass loss from Greenland and Antarctica using GRACE timeâ€variable gravity data. Geophysical Research Letters, 2014, 41, 8130-8137.	4.0	268
16	The Paris Climate Agreement and future sea-level rise from Antarctica. Nature, 2021, 593, 83-89.	27.8	219
17	Timing and origin of recent regional ice-mass loss in Greenland. Earth and Planetary Science Letters, 2012, 333-334, 293-303.	4.4	179
18	Spread of ice mass loss into northwest Greenland observed by GRACE and GPS. Geophysical Research Letters, 2010, 37, .	4.0	168

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19	Timeâ€variable gravity observations of ice sheet mass balance: Precision and limitations of the GRACE satellite data. Geophysical Research Letters, 2013, 40, 3055-3063.	4.0	166
20	Continuity of Ice Sheet Mass Loss in Greenland and Antarctica From the GRACE and GRACE Followâ€On Missions. Geophysical Research Letters, 2020, 47, e2020GL087291.	4.0	155
21	A Global Gridded Dataset of GRACE Drought Severity Index for 2002â€"14: Comparison with PDSI and SPEI and a Case Study of the Australia Millennium Drought. Journal of Hydrometeorology, 2017, 18, 2117-2129.	1.9	133
22	The International Bathymetric Chart of the Arctic Ocean Version 4.0. Scientific Data, 2020, 7, 176.	5.3	129
23	Greenland mass balance from GRACE. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	125
24	Validation of GRACE based groundwater storage anomaly using in-situ groundwater level measurements in India. Journal of Hydrology, 2016, 543, 729-738.	5.4	121
25	Ecological restoration impact on total terrestrial water storage. Nature Sustainability, 2021, 4, 56-62.	23.7	121
26	Precipitation climatology over India: validation with observations and reanalysis datasets and spatial trends. Climate Dynamics, 2016, 46, 541-556.	3.8	117
27	Historical and Projected Surface Temperature over India during the 20th and 21st century. Scientific Reports, 2017, 7, 2987.	3.3	116
28	Groundwater rejuvenation in parts of India influenced by water-policy change implementation. Scientific Reports, 2017, 7, 7453.	3.3	109
29	On the recovery of effective elastic thickness using spectral methods: Examples from synthetic data and from the Fennoscandian Shield. Journal of Geophysical Research, 2004, 109, .	3.3	101
30	Satellite Observations of Regional Drought Severity in the Continental United States Using GRACE-Based Terrestrial Water Storage Changes. Journal of Climate, 2017, 30, 6297-6308.	3.2	101
31	Satellites provide the big picture. Science, 2015, 349, 684-685.	12.6	94
32	Mass loss of the Amundsen Sea Embayment of West Antarctica from four independent techniques. Geophysical Research Letters, 2014, 41, 8421-8428.	4.0	91
33	Continuity of the Mass Loss of the World's Glaciers and Ice Caps From the GRACE and GRACE Followâ€On Missions. Geophysical Research Letters, 2020, 47, e2019GL086926.	4.0	88
34	Ocean forcing drives glacier retreat in Greenland. Science Advances, 2021, 7, .	10.3	86
35	Understanding of Contemporary Regional Seaâ€Level Change and the Implications for the Future. Reviews of Geophysics, 2020, 58, e2019RG000672.	23.0	74
36	Impact of selfâ€attraction and loading on the annual cycle in sea level. Journal of Geophysical Research, 2010, 115, .	3.3	69

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37	Increasing subsurface water storage in discontinuous permafrost areas of the Lena River basin, Eurasia, detected from GRACE. Geophysical Research Letters, 2012, 39, .	4.0	68
38	Satellite observations of terrestrial water storage provide early warning information about drought and fire season severity in the Amazon. Journal of Geophysical Research G: Biogeosciences, 2013, 118, 495-504.	3.0	66
39	Global (50Â°Sâ€“50Â°N) distribution of water vapor observed by COSMIC GPS RO: Comparison with GPS radiosonde, NCEP, ERA-Interim, and JRA-25 reanalysis data sets. Journal of Atmospheric and Solar-Terrestrial Physics, 2011, 73, 1849-1860.	1.6	65
40	Can surface pressure be used to remove atmospheric contributions from GRACE data with sufficient accuracy to recover hydrological signals?. Journal of Geophysical Research, 2001, 106, 16415-16434.	3.3	59
41	Rapid submarine ice melting in the grounding zones of ice shelves in West Antarctica. Nature Communications, 2016, 7, 13243.	12.8	58
42	Detection of Glacier Calving Margins with Convolutional Neural Networks: A Case Study. Remote Sensing, 2019, 11, 74.	4.0	56
43	Assessment of CMIP6 Cloud Fraction and Comparison with Satellite Observations. Earth and Space Science, 2020, 7, e2019EA000975.	2.6	55
44	Bathymetry data reveal glaciers vulnerable to iceâ€ocean interaction in Uummannaq and Vaigat glacial fjords, west Greenland. Geophysical Research Letters, 2016, 43, 2667-2674.	4.0	52
45	Attribution of divergent northern vegetation growth responses to lengthening non-frozen seasons using satellite optical-NIR and microwave remote sensing. International Journal of Remote Sensing, 2014, 35, 3700-3721.	2.9	46
46	Detection of sea level fingerprints derived from GRACE gravity data. Geophysical Research Letters, 2017, 44, 8953-8961.	4.0	43
47	Calving Front Machine (CALFIN): glacial termini dataset and automated deep learning extraction method for Greenland, 1972â€“2019. Cryosphere, 2021, 15, 1663-1675.	3.9	38
48	Impact of changes in GRACE derived terrestrial water storage on vegetation growth in Eurasia. Environmental Research Letters, 2015, 10, 124024.	5.2	33
49	A method for separating Antarctic postglacial rebound and ice mass balance using future ICESat Geoscience Laser Altimeter System, Gravity Recovery and Climate Experiment, and GPS satellite data. Journal of Geophysical Research, 2002, 107, ETG 20-1-ETG 20-11.	3.3	30
50	Satellite-observed changes in vegetation sensitivities to surface soil moisture and total water storage variations since the 2011 Texas drought. Environmental Research Letters, 2017, 12, 054006.	5.2	30
51	Postglacial rebound and Earth's viscosity structure from GRACE. Journal of Geophysical Research, 2002, 107, ETG 17-1-ETG 17-12.	3.3	29
52	Short term mass variability in Greenland, from GRACE. Geophysical Research Letters, 2005, 32, .	4.0	29
53	Mass Loss of Totten and Moscow University Glaciers, East Antarctica, Using Regionally Optimized GRACE Mascons. Geophysical Research Letters, 2018, 45, 7010-7018.	4.0	27
54	Atmospheric summer teleconnections and Greenland Ice Sheet surface mass variations: insights from MERRA-2. Environmental Research Letters, 2016, 11, 024002.	5.2	26

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55	Soil Moisture Variability in India: Relationship of Land Surfaceâ€“Atmosphere Fields Using Maximum Covariance Analysis. Remote Sensing, 2019, 11, 335.	4.0	26
56	Global climatology of planetary boundary layer top obtained from multi-satellite GPS RO observations. Climate Dynamics, 2019, 52, 2385-2398.	3.8	23
57	A Comparison of AMSR-E/Aqua Snow Products with in situ Observations and MODIS Snow Cover Products in the Mackenzie River Basin, Canada. Remote Sensing, 2010, 2, 2313-2322.	4.0	22
58	Potential for Southern Hemisphere climate surprises. Journal of Quaternary Science, 2015, 30, 391-395.	2.1	22
59	Multicomponent Satellite Assessment of Drought Severity in the Contiguous United States From 2002 to 2017 Using AMSRâ€E and AMSR2. Water Resources Research, 2019, 55, 5394-5412.	4.2	22
60	Automatic delineation of glacier grounding lines in differential interferometric synthetic-aperture radar data using deep learning. Scientific Reports, 2021, 11, 4992.	3.3	22
61	What Might GRACE Contribute to Studies of Post Glacial Rebound?. Space Science Reviews, 2003, 108, 319-330.	8.1	20
62	The amount and timing of precipitation control the magnitude, seasonality and sources (¹⁴C) of ecosystem respiration in a polar semi-desert, northwestern Greenland. Biogeosciences, 2014, 11, 4289-4304.	3.3	20
63	Evaluating Greenland glacial isostatic adjustment corrections using GRACE, altimetry and surface mass balance data. Environmental Research Letters, 2014, 9, 014004.	5.2	19
64	Below-surface water mediates the response of African forests to reduced rainfall. Environmental Research Letters, 2020, 15, 034063.	5.2	18
65	Mass Balance of Novaya Zemlya Archipelago, Russian High Arctic, Using Time-Variable Gravity from GRACE and Altimetry Data from ICESat and CryoSat-2. Remote Sensing, 2018, 10, 1817.	4.0	17
66	Vertical and latitudinal variation of the intertropical convergence zone derived using GPS radio occultation measurements. Remote Sensing of Environment, 2015, 163, 262-269.	11.0	15
67	Evaluating CMIP5 models using GPS radio occultation COSMIC temperature in UTLS region during 2006â€“2013: twenty-first century projection and trends. Climate Dynamics, 2016, 47, 3253-3270.	3.8	15
68	Evaluation of Reconstructions of Snow/Ice Melt in Greenland by Regional Atmospheric Climate Models Using Laser Altimetry Data. Geophysical Research Letters, 2018, 45, 8324-8333.	4.0	14
69	Long-term trends observed in the middle atmosphere temperatures using ground based LIDARs and satellite borne measurements. Annales Geophysicae, 2014, 32, 301-317.	1.6	12
70	Bathymetry of Southeast Greenland From Oceans Melting Greenland (OMG) Data. Geophysical Research Letters, 2019, 46, 11197-11205.	4.0	12
71	Two-day wave observations over the middle and high latitudes in the NH and SH using COSMIC GPSRO measurements. Advances in Space Research, 2015, 55, 722-731.	2.6	11
72	Long-term variation of dust episodes over the United Arab Emirates. Journal of Atmospheric and Solar-Terrestrial Physics, 2019, 187, 33-39.	1.6	11

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73	Planetary waves in the upper stratosphere and lower mesosphere during 2009 Arctic major stratospheric warming. Annales Geophysicae, 2012, 30, 1529-1538.	1.6	10
74	Sudden stratospheric warmings observed in the last decade by satellite measurements. Remote Sensing of Environment, 2016, 184, 263-275.	11.0	9
75	Evaluation of Regional Climate Models Using Regionally Optimized GRACE Mascons in the Amery and Getz Ice Shelves Basins, Antarctica. Geophysical Research Letters, 2019, 46, 13883-13891.	4.0	8
76	Anthropogenic influence on the changing risk of heat waves over India. Scientific Reports, 2022, 12, 3337.	3.3	8
77	Improved Estimates of Geocenter Variability from Time-Variable Gravity and Ocean Model Outputs. Remote Sensing, 2019, 11, 2108.	4.0	5
78	Grand Challenges of Hydrologic Modeling for Food-Energy-Water Nexus Security in High Mountain Asia. Frontiers in Water, 2021, 3, .	2.3	5
79	Precipitation variability over India during the 20th and 21st centuries: investigating natural and anthropogenic drivers. Climatic Change, 2022, 172, .	3.6	5
80	Synergistic Satellite Assessment of Global Vegetation Health in Relation to ENSOâ€Induced Droughts and Pluvials. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG006006.	3.0	4
81	Satellite detection of varying seasonal water supply restrictions on grassland productivity in the Missouri basin, USA. Remote Sensing of Environment, 2020, 239, 111623.	11.0	4
82	Global distribution of pauses observed with satellite measurements. Journal of Earth System Science, 2013, 122, 515-529.	1.3	3
83	Selfâ€Consistent Ice Mass Balance and Regional Sea Level From Timeâ€Variable Gravity. Earth and Space Science, 2020, 7, e2019EA000860.	2.6	3
84	Investigation of Kelvin wave periods during Hai-Tang typhoon using Empirical Mode Decomposition. Journal of Atmospheric and Solar-Terrestrial Physics, 2017, 164, 192-202.	1.6	1
85	A case study of mesospheric planetary waves observed over a three-radar network using empirical mode decomposition. Annales Geophysicae, 2018, 36, 925-936.	1.6	0