

Reading List

Key References (Assigned):

- Barlow, N.G., 2010, What we know about Mars from its impact craters: *GSA Bulletin*, v. 122, no. 5/6, p. 644-657, doi: <https://doi.org/10.1130/B30182.1>.
- Bland, P., 2003, Crater counting: *Astronomy & Geophysics*, v. 44, no. 4, p. 21, doi: <https://doi.org/10.1046/j.1468-4004.2003.44421.x>.
- Bramble, M.S., Mustard, J.F., and Salvatore, M.R., 2017, The geological history of Northeast Syrtis Major, Mars: *Icarus*, v. 293, p. 66-93, doi: <http://dx.doi.org/10.1016/j.icarus.2017.03.030>.
- Carr, M.H., and Head III, J.W., 2010, Geologic history of Mars: *Earth and Planetary Science Letters*, v. 294, p. 185-203, doi: <https://doi.org/10.1016/j.epsl.2009.06.042>.
- Goudge, T.A., Milliken, R.E., Head, J.W., Mustard, J.F., and Fassett, C.I., 2017, Sedimentological evidence for a deltaic origin of the western fan deposit in Jezero crater, Mars and implications for future exploration: *Earth and Planetary Science Letters*, v. 458, p. 357-365, doi: <http://dx.doi.org/10.1016/j.epsl.2016.10.056>.
- Hauber, E., Naß, A., Skinner, J.A., and Huff, A., 2019, Planetary geologic mapping, in H. Hargitai, ed., *Planetary Cartography and GIS, Lecture Notes in Geoinformation and Cartography*, p. 105-145, doi: https://doi.org/10.1007/978-3-319-62849-3_5.
- Horgan, B.H.N., Anderson, R.B., Dromart, G., Amador, E.S., Rice, M.S., 2020, The mineral diversity of Jezero crater: Evidence for possible lacustrine carbonates on Mars: *Icarus*, v. 339, p. 1-34, doi: <https://doi.org/10.1016/j.icarus.2019.113526>.
- Tanaka, K.L., Skinner, J.A., Jr., Dohm, J.M., Irwin, R.P., III, Kolb, E.J., Fortezzo, C.M., Platz, T., Michael, G.G., and Hare, T.M., 2014, Geologic map of Mars: U.S. Geological Survey Scientific Investigations Map 3292, scale 1:20,000,000, pamphlet 43 p., <https://dx.doi.org/10.3133/sim3292>.

Jezero Crater Geology:

- Day, M., and Dorn, T., 2019, Wind in Jezero Crater, Mars: *Geophysical Research Letters*, v. 46, p. 3099-3107, doi: <https://doi.org/10.1029/2019GL082218>.
- Ehlmann, B.L., Mustard, J.F., Fassett, C.I., Schon, S.C., Head III, J.W., Des Marais, D.J., Grant, J.A., and Murchie, S.L., 2008, Clay minerals in delta deposits and organic preservation potential on Mars: *Nature Geoscience*, v. 1, p. 355-358, doi: <https://doi.org/10.1038/ngeo207>.
- Ehlmann, B.L., Mustard, J.F., Swayze, G.A., Clark, R.N., Bishop, J.L., Poulet, F., Des Marais, D.J., Roach, L.H., Milliken, R.E., Wray, J.J., Barmouin-Jha, O., and Murchie, S.L., 2009, Identification of hydrated silicate minerals on Mars using MRO-CRISM: Geologic context near Nili Fossae and implications for aqueous alteration: *Journal of Geophysical Research*, v. 114, E00D08, doi: <https://doi.org/10.1029/2009JE003339>.

- Fassett, C.I., and Goudge, T.A., 2017, Hydrological modeling of the Jezero crater outlet-forming flood: 48th Lunar and Planetary Science Conference, Paper 2037.
- Goudge, T.A., Mohrig, D., Cardenas, B.T., Hughes, C.M., and Fassett, C.I., 2018, Stratigraphy and paleohydrology of delta channel deposits, Jezero crater, Mars: *Icarus*, v. 301, p. 58-75, doi: <https://doi.org/10.1016/j.icarus.2017.09.034>.
- Lapôtre, M.G.A., and Ielpi, A., 2020, The pace of fluvial meanders on Mars and implications for the western delta deposits of Jezero crater: *AGU Advances*, v. 1, e2019AV000141, doi: <https://doi.org/10.1029/2019AV000141>.
- Salvatore, M.R., Goudge, T.A., Bramble, M.S., Edwards, C.S., Bandfield, J.L., Amador, E.S., Mustard, J.R., and Christensen, P.R., 2018, Bulk mineralogy of the NE Syrtis and Jezero crater regions of Mars derived through thermal infrared spectral analyses: *Icarus*, v. 301, p. 76-96, doi: <https://doi.org/10.1016/j.icarus.2017.09.019>.
- Schone, S.C., Head, J.W., and Fassett, C.I., 2012, An overfilled lacustrine system and progradational delta in Jezero crater, Mars: Implications for Noachian climate: *Planetary and Space Science*, v. 67, p. 28-45, doi: <https://doi.org/10.1016/j.pss.2012.02.003>.
- Shahrazad, S., Kinch, K.M., Goudge, T.A., Fassett, C.I., Needham, D.H., Quantin-Nataf, C., and Knudsen, C.P., 2019, Crater statistics on the dark-toned, mafic floor unit in Jezero crater, Mars: *Geophysical Research Letters*, v. 46, p. 2408-2416, doi: <https://doi.org/10.1029/2018GL081402>.
- Tarnas, J.D., Mustard, J.F., Lin, H., Goudge, T.A., Amador, E.S., Bramble, M.S., Kremer, C.H., Zhang, X., Itoh, Y., and Parente, M., 2019, Orbital identification of hydrated silica in Jezero crater, Mars: *Geophysical Research Letters*, v. 46, p. 12,771-12,782, doi: <https://doi.org/10.1029/2019GL085584>.

Other Pertinent Papers- Mars, Remote Sensing, General:

- Baker, V.R., 2014, Terrestrial analogs, planetary geology, and the nature of geological reasoning: *Planetary and Space Science*, v. 95, p. 5-10, doi: <http://dx.doi.org/10.1016/j.pss.2012.10.008>.
- Clark, R.N., King, T.V.V., Klejwa, M., and Swayze, G.A., 1990, High spectral resolution reflectance spectroscopy of minerals: *Journal of Geophysical Research*, v. 95, no. B8, p. 12,653-12,680, doi: <https://doi.org/10.1029/JB095iB08p12653>.
- Edgar, L.A., Fraeman, A.A., Gupta, S., Fedo, C.M., Grotzinger, J.P., Stack, K.M., Bennett, K.A., Sun, V.Z., Banham, S.G., Stein, N.T., Edgett, K.S., Rubin, D.M., and Van Beek, J., 2018, Sedimentology and stratigraphy observed at Vera Rubin Ridge by the Mars Science Laboratory Curiosity Rover: 49th Lunar and Planetary Science Conference.
- Farley, K.A., Malespin, C., Mahaffy, P., Grotzinger, J.P., Vasconcelos, P.M., Milliken, R.E., Malin, M., Edgett, K.S., Pavlov, A.A., Hurowitz, J.A., Grant, J.A., Miller, H.B., Arvidson, R., Beegle, L., Calef, F., Conrad, P.G., Dietrich, W.E., Eigenbrode, J., Gellert, R., Gupta, S., Hamilton, V., Hassler, D.M., Lewis, K.W., McLennan, S.M., Ming, D., Navarro-González, R., Schwenzer, S.P., Steele, A., Stolper, E.M., Sumner, D.Y., Vaniman, D., Vasavada, A., Williford, K., Wimmer-Schweingruber, R.F., and the MSL Science Team, 2014, In situ radiometric and exposure age dating of the Martian surface: *Science*, v. 343, no. 6169, doi: <https://doi.org/10.1126/science.1247166>.

- Fassett, C.I., and Head III, J.W., 2008, The timing of martian valley network activity: Constraints from buffered crater counting: *Icarus*, v. 195, p. 61-89, doi: <https://doi.org/10.1016/j.icarus.2007.12.009>.
- Fraeman, A.A., Arvidson, R.E., Catalano, J.G., Grotzinger, J.P., Morris, R.V., Murchie, S.L., Stack, K.M., Humm, D.C., McGovern, J.A., Seelos, F.P., Seelos, K.D., and Viviano, C.E., 2013, A hematite-bearing layer in Gale Crater, Mars: Mapping and implications for past aqueous conditions: *Geology*, v. 41, no. 10, p. 1103-1106, doi: <https://doi.org/10.1130/G34613.1>.
- Fraeman, A.A., Edgar, L.A., Grotzinger, J.P., Vasavada, A.R., Johnson, J.R., Wellington, D.F., Fox, V.K., Sun, V.Z., Hardgrove, C.J., Horgan, B.N., House, C.H., Johnson, S.S., Stack Morgan, K.M., Rampe, E.B., Thompson, L.M., Wiens, R.C., and Williams, A.J., 2018, Curiosity's investigation at Vera Rubin Ridge: 49th Lunar and Planetary Science Conference.
- Frodeman, R., 1995, Geological reasoning: Geology as an interpretive and historical science: *GSA Bulletin*, v. 107, no. 8, p. 960-968, doi: [https://doi.org/10.1130/0016-7606\(1995\)107<0960:GRGAAI>2.3.CO;2](https://doi.org/10.1130/0016-7606(1995)107<0960:GRGAAI>2.3.CO;2).
- Grotzinger, J., Beaty, D., Dromart, G., Griffes, J., Gupta, S., Harris, P.M., Hurowitz, J., Kocurek, G., McLennan, S., Milliken, R., Ori, G.G., Sumner, D., 2011, The sedimentary record of Mars: *The Sedimentary Record*, v. 9, no. 2, p. 4-8, doi: <https://doi.org/10.2110/sedred.2011.2>.
- Hartmann, W.K., 2005, Martian cratering 8: Isochron refinement and the chronology of Mars: *Icarus*, v. 174, p. 294-320, doi: <https://doi.org/10.1016/j.icarus.2004.11.023>.
- Kruse, F.A., 2012, Mapping surface mineralogy using imaging spectrometry: *Geomorphology*, v. 137, p. 41-56, doi: <https://doi.org/10.1016/j.geomorph.2010.09.032>.
- Mest, S.C., and Crown, D.A., 2014, Geologic map of MTM –30247, –35247, and –40247 quadrangles, Reull Vallis region of Mars: U.S. Geological Survey Scientific Investigations Map 3245, scale 1:1,000,000, pamphlet 20 p., <https://dx.doi.org/10.3133/sim3245>.
- Michael, G.G., 2013, Planetary surface dating from crater size-frequency distribution measurements: Multiple resurfacing episodes and differential isochron fitting: *Icarus*, v. 226, p. 885-890, doi: <http://dx.doi.org/10.1016/j.icarus.2013.07.004>.
- Michael, G.G., and Neukum, G., 2010, Planetary surface dating from crater size–frequency distribution measurements: Partial resurfacing events and statistical age uncertainty: *Earth and Planetary Science Letters*, v. 294, p. 223-229, doi: <https://doi.org/10.1016/j.epsl.2009.12.041>.