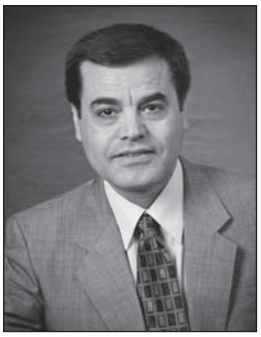

Good News: Earth Science is most popular with the Public

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How popular is Earth Science? How important is Earth Science education? How important is Earth Science itself? There are various ways to assess the place of Earth Science in our education and society. In 2013, the American Geoscience Institute collected data on high school science graduation requirements for all states in the USA. The survey found that while 22 states accepted an Earth and Space Science course for graduation, only two states required a year-long Earth/Environmental Science course whereas the number of states for required Life Science and Physical Science courses for graduation were 50 and 30, respectively.[1] Overall, earth science education is underrated in our middle and high schools. As practicing geologists, we hope that earth science becomes an integral part of secondary (K12) education in the country. There are many reasons for this. According to a joint position statement by the National Earth Science Teachers Association (NESTA) and the National Association of Geoscience Teachers (NAGT), teaching Earth Science "offers experience in a diverse range of interrelated scientific disciplines; it is closely related to the student's natural surroundings and offers students subject matter which has direct application to their lives and the world around them."[2]

The good news is that the public has an enormous interest in Earth Science. This is evident from the coverage of science news by the mass media. For example, the popular science magazine *Discover* publishes, in its January-February issue each year, the "100 Top Stories" of the previous year. I usually read these issues. Recently, I tabulated the *Discover's* "100 top stories" for the past six years (2012-2018) under nine categories (Table 1): (1) Mathematics and Physical Sciences, (2) Space Science and Astronomy, (3) Earth, Environment and Energy, (4) Archeology and Paleontology, (5) Medicine and Life Sciences, (6) Neuroscience and Behavioral Sciences, (7) Technology as related to Culture and Entertainment, (8) Policy issues, and (9) Other. Of these, "Earth, Environment, and Energy" category as well as "Archeology and Paleontology"

Table 1. "100 Best Discoveries of Science" reported by the *Discover m*agazine (January-February issues, 2013-2019)

Disciplines	2012	2013	2014	2015	2016	2017	2018
Math & Physical Sciences	5	9	11	8	7	10	8
Space & Astronomy	18	15	15	17	16	14	17
Earth, Environment & Energy	11	13	14	11	9	13	22
Archeology & Paleontology	11	8	11	19	17	19	15
Medicine & Life Sciences	33	23	19	23	24	24	19
Neuroscience/Behavior	6	13	11	10	13	8	6
Technology & Society	14	9	13	5	7	8	5
Policy	1	4	6	3	8	4	9
Other	1	6	0	4	1	0	0

1. Education in the Earth and Space Sciences in U.S. Secondary Schools: Key Indicators and Trends. Center for Geoscience Education and Public Understanding, the American Geoscience Institute, 2013.
https://www.americangeosciences.org/sites/default/files/education-reports-SecondaryES_Report.pdf.
2. The Importance of Dual and Concurrent Enrollment Earth Science Courses. National Earth Science Teachers Association (NESTA) and National Association of Geoscience Teachers (NAGT) Joint Position Statement, April 2015
http://www.nestanet.org/cms/content/policy/nestaposition#imp.

category belong to the Earth Science in a broad sense. Note that most of the discoveries related to "Archeology" were concerned with the evolution of humans (human paleontology or physical anthropology), and hence should be included in "Earth Science." Thus, the Earth Science category topped the list for the years 2014, 2015, 2016, 2017 and 2018; it was second only to "Medicine and Life Sciences" for the years 2012, 2013 (see Figure 1). Although there is some subjectivity in choosing the "best" science discoveries for a given year, it is reasonable to assume that the editors of the Discover consider the importance of the discoveries as well as public (readers') interest in them. All this is good news to Earth Scientists. The challenge is how to utilize this resource in our education (both formal and public), research projects, policy debates, and contributions to our culture as a whole. And let me end this brief article with a testimony from NASA. In November 2016, the space agency, given concerns that the Trump administration may reduce its budget, emphasized: "NASA's work on Earth Science is making a difference in people's lives all around the world. Earth Science helps save lives. It also helps grow companies and creates an awareness of environmental challenges that affect our lives today and tomorrow."[3]

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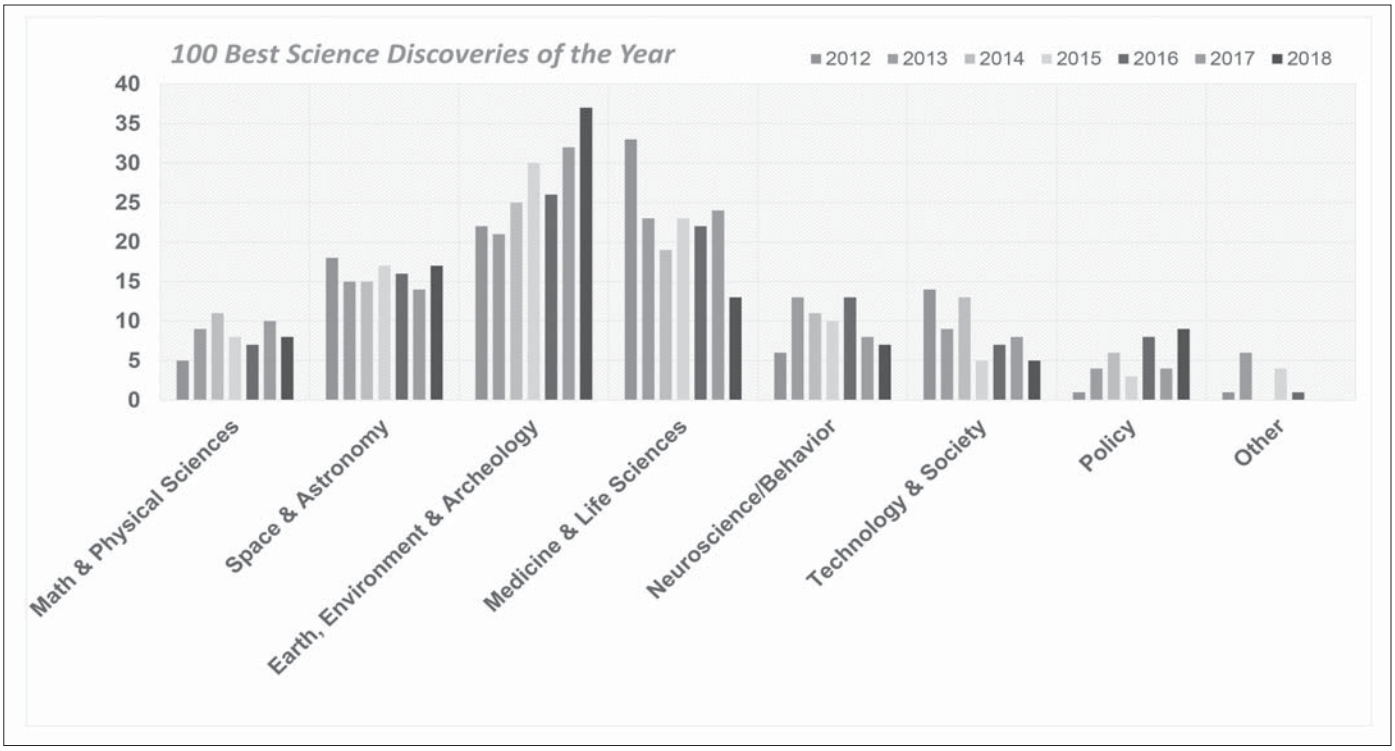

Figure 1 - "100 Best Discoveries of Science" reported by the *Discover* magazine (January - February issues, 2013 - 2019) and categorized by subject

> "The good news is that the public has an enormous interest in Earth Science. This is evident from the coverage of science news by the mass media.

3. NASA emphasizes importance of Earth science given concerns about budget cuts, by Jeff Foust. *SpaceNews*, November 11, 2016 http://spacenews.com/nasa-emphasizes-importance-of-earth-science-given-concerns-about-budget-cuts/.