The Board of Directors recommends this resolution be sent to a Committee of the General Synod.

RESPONSIBLE STEWARDSHIP OF THE OUTER SPACE ENVIRONMENT

Submitted by the Central Association of the Massachusetts Conference of the United Church of Christ
A Resolution of Witness

SUMMARY

This resolution calls upon the United Church of Christ to become the first religious body to promote a sustainable outer space environment through education and advocacy.

Orbital space is a valuable natural resource, serving as home to the International Space Station, the Fermi space telescope, and to nearly one thousand satellites owned by fifty nations that are essential to communications, managing disasters, forecasting weather, monitoring climate change, and fostering sustainable development.

The expanded utilization of space for scientific, social, economic, and military purposes has created major challenges for the international community in its stewardship of space. Key orbits have become congested with debris, or space junk.

The U.S. Space Surveillance Network tracks roughly 23,000 pieces of debris that are ten centimeters in diameter or larger. An additional 500,000 objects larger than a centimeter also orbit Earth and there are millions of even smaller fragments.

Larger objects include defunct satellites and rocket bodies. Smaller objects include stray nuts and bolts, discarded camera lens caps, and paint flecks.

Given the speed of orbital objects, a piece of metal debris the size of a marble can destroy or disable a spacecraft. Even a paint fleck traveling at 17,500 miles per hour can be fatal to a space-walking astronaut.

To date, eight satellites have been destroyed or disabled by debris. International Space Station crews have jumped into escape capsules on three occasions when debris orbited too close for comfort. And NASA’s $690 million dollar Fermi space telescope was nearly hit by a dead Russian spy satellite in 2012.

A report from the National Research Council (NRC) says the debris problem has reached a tipping point in low Earth orbit (LEO) where earth observing satellites and the International Space Station reside. The density of debris is so great that collisions generate additional pieces of debris faster than atmospheric drag removes them from orbit. Additional debris particles increase the frequency of collisions and the risk of spacecraft failure. According to Donald Kessler, who led the NRC study, we’ve lost control of the space environment. 1
The immediate challenge before the international community is to stabilize the LEO environment. The NRC calls for research into how to remove large existing objects from orbits where collisions are most likely to occur. This would reduce the volume of material from which new debris can be created. Also needed are international agreements to limit the creation of debris, including a ban on anti-satellite weapons testing.

For now, there is no solution for removing debris from orbit that is technologically feasible or economically viable. Moreover, there are serious obstacles to diplomatic progress on potential agreements such as the Draft International Code of Conduct for Outer Space Activities that would encourage responsible behavior in space.ii

The biggest challenge now, according to some scientists and policy makers, is educating the general public to understand that space debris is a serious problem that should be addressed with a sense of urgency. U.S. State Department official, Frank Rose, warns: “Unless we take action soon, if there are a number of other collisions, we could be in a situation ten or fifteen years from now where low Earth orbit is just too difficult to maneuver, which would have a dramatic impact on people’s daily lives.” iii

**BIBLICAL, THEOLOGICAL, AND HISTORICAL GROUNDING**

Human beings are part of a cosmic story that began with the Big Bang and led over billions of years to the emergence of galaxies, stars, atoms, molecules, and life. The landmark United Church of Christ pastoral letter on faith and science incorporates this perspective: “When we behold the depths of space, we hear the words of Genesis and of a God who creates by speaking the universe into existence. Stunning images of deep space are like new windows on creation.” iv

Brian Thomas Swimme and Mary Evelyn Tucker believe the story of the universe has the power to awaken us more deeply to who we are. Because the elements of our bodies emerged from stellar explosions called supernovae, we can affirm we are the descendants of stars. We exist because of the creative, self-organizing dynamism of matter through which molten rocks transformed themselves into monarch butterflies and the music of Mozart. We are the universe in the form of human beings, Swimme and Tucker say. We are the universe reflecting upon itself. v

This science-based story about the emergence of the complex systems of life challenges Christianity and other religious traditions to expand their view of human responsibility. We are to love and give ourselves not only to our human neighbors and enemies, the late theologian Gordon Kaufman wrote, but also to the wider orders of natural life in which we find ourselves. If God is understood as the creativity manifest in the cosmos and we understand ourselves to be embedded in and sustained by the web of life on planet Earth, then we need to shape our attitudes and activities to fit properly into this web of living creativity and contribute to its ongoing development. vi

From pioneering work on environmental racism in the 1980s to General Synod’s resolution urging divestment from fossil fuel companies in 2013, the United Church of Christ has steadily expanded and enriched the concept of environmental justice for its members, for those of other faith communities, and for the general public. The urgent need for humanity to enlarge its
environmental perspective to encompass outer space as well as Earth provides the United Church of Christ with yet another opportunity to exercise its prophetic vocation.

**MUTUAL ACCOUNTABILITY**

The Thirtieth General Synod of the United Church of Christ will request that educational materials developed by Justice and Witness Ministries be presented to the Thirty-First General Synod with suggestions for how the United Church of Christ might undertake various forms of action.

**INSTITUTIONAL CAPACITY**

The Thirtieth General Synod of the United Church of Christ will request that Justice and Witness Ministries prepare educational materials for the churches.

**PROBABILITY OF INFLUENCING SOCIAL CHANGE**

With the adoption of this resolution, the Thirtieth General Synod of the United Church of Christ will register its concern about the degradation of the outer space environment and the United Church of Christ will take steps to educate its members to advocate for a sustainable space environment. The United Church of Christ will extend its influence by sending copies of the resolution to its ecumenical, interfaith and civil society partners and inviting them to join the United Church of Christ in efforts to promote outer space sustainability.

**TEXT OF MOTION**

WHEREAS previous General Synods of the United Church of Christ have acknowledged humanity’s moral obligation to be faithful stewards of God’s creation; and

WHEREAS the United Church of Christ’s pastoral letter on faith and science provides a theological basis for enlarging our ethical perspective on creation to incorporate outer space; and

WHEREAS a sustainable space environment is necessary for many activities essential to human flourishing; and

WHEREAS the long-term sustainability of the space environment is at risk from space debris and irresponsible conduct; and

WHEREAS timely action is required to stabilize the space environment, particularly low Earth orbit…

THEREFORE, BE IT RESOLVED that the Thirtieth General Synod of the United Church of Christ expresses its concern about the degradation of the outer space environment and its dangerous implications for humanity;
BE IT FURTHER RESOLVED that the Thirtieth General Synod of the United Church of Christ requests that Justice and Witness Ministries prepare educational materials for the churches on the subject of outer space sustainability;

BE IT FURTHER RESOLVED that the Thirtieth General Synod of the United Church of Christ requests that educational materials developed by Justice and Witness Ministries be presented to the Thirty-First General Synod with suggestions for how the United Church of Christ might undertake various forms of action;

BE IT FINALLY RESOLVED THAT the Thirtieth General Synod of the United Church of Christ requests that Justice and Witness Ministries send copies of this resolution to its ecumenical, interfaith, and civil society partners and invite them to join the United Church of Christ in its efforts to promote outer space sustainability.

**FUNDING**

Funding for the implementation of this Resolution will be made in accordance with the overall mandates of the affected agencies and the funds available.

**IMPLEMENTATION**

The Officers of the Church, in consultation with appropriate ministries or other entities within the United Church of Christ, will determine the implementing body.

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Gordon D. Kaufman, *In the beginning... Creativity* (Minneapolis, Fortress Press, 2004), 100-106 and 119-127.

To learn more, please visit [www.protectouterspace.com](http://www.protectouterspace.com), a website operated by the Worcester Area Mission Society (WAMS) of the United Church of Christ in Worcester, Massachusetts.