



## CALL FOR PAPERS

### IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing

#### Special Issue on

#### “Ecosystem carbon cycle remote sensing: observation, forward modeling and inversion, and applications”

Accurate assessment of the global ecosystem carbon cycle is the key to estimating future atmospheric CO<sub>2</sub> concentration and predicting climate change. The high spatial-temporal resolution, long-term time series, and accurate observations of key parameters of the carbon cycle are extremely important to reduce the uncertainty of carbon source and sink estimation which play a seminal role in moderating Earth's climate in future. The terrestrial and marine ecosystems together sequester and store about one-half of the carbon released into the atmosphere from natural and anthropogenic processes. Although both terrestrial and oceanic ecosystems have played a significant role in removing excess CO<sub>2</sub> from atmosphere during past decades, our understanding cycling of carbon by these ecosystems still remains limited with significant uncertainties especially in rate and magnitude emission/removal of excess CO<sub>2</sub> from atmosphere in future. Recently, multi-source satellite remote sensing products have been developed and widely used in estimating global carbon cycle. However, compared with the requirements for accurate estimation of the global carbon cycle, long-term time series and high spatial resolution remote sensing products are still limited. This special issue aims to solicit papers that describe the latest progress in the research on high-precision observation, forward modeling and inversion, and long-term time series of remotely sensed observations and derived products that are used either as a proxy for major components of carbon cycle (e.g. NPP, GPP, etc.) and key parameters that are used global carbon cycle and climate models for estimating cycling of carbon in Earth system.

The broad topics include (but are not limited to):

- Remote sensing of key vegetation parameters of terrestrial carbon cycle;
- Remote sensing of key parameters of ocean carbon cycle;
- Remote sensing of terrestrial ecosystem productivity and carbon storage;
- Spatial-temporal characteristics of terrestrial and ocean carbon budget;
- Big data for estimating global carbon sources and sinks.
- Remote sensing soils and peatland and their role in carbon cycle.
- Innovative use of remotely sensed observations and models for estimating major components and/or net carbon exchange between Earth's surface and atmosphere.

#### Schedule

Jan 31, 2021: Submission system opening  
Jun 30, 2021: Submission system closing  
2021: Publication date

#### Format

All submissions will be peer reviewed according to the IEEE Geoscience and Remote Sensing Society guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on <http://mc.manuscriptcentral.com/jstars>, using the Manuscript Central interface and select the “Ecosystem carbon cycle remote sensing” special issue manuscript type. Prospective authors should consult the site <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9082768> for guidelines and information on paper submission. All submissions must be formatted using the IEEE standard format (double column, single spaced). Please visit [http://www.ieee.org/publications\\_standards/publications/authors/author\\_templates.html](http://www.ieee.org/publications_standards/publications/authors/author_templates.html) to download a template for transactions. Please note that as of Jan. 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee \$1,250 per paper.

#### Guest Editors

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