

## Comprehensive monitoring of the atmosphere at Fonovaya Observatory, West Siberia



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To date, it is evident that for better understanding the current and future state of the climate system, it is necessary to establish as many observation stations as possible all around the world especially in areas currently sparsely covered (Kulmala, 2018). Taking into account possible climate feedback loops involving not only greenhouse gases (GHG) but a number of other trace gas species and atmospheric constituents, observations should be comprehensive (Kulmala, et al., 2014). Russia occupies a significant part of the land surface of the Northern Hemisphere, but its observational infrastructure is still weak.

Taking into account the importance of the existing problem and the absence of background observation stations in West Siberia operating in continuous measurement regime, the IAO SB RAS decided to establish its background monitoring station at the Fonovaya Observatory that is situated on the east bank of the River Ob, 60 km west of Tomsk (56°25'07" N, 84°04'27" E; Figure 1). At the moment, its observational facilities allow the following parameters to be measured: concentration of atmospheric CO<sub>2</sub>, CH<sub>4</sub>, NO, NO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub>; GHG fluxes from soil using static chambers; aerosol size distribution; black carbon (BC) and basic meteorological variables. Near real-time (NRT) visualization is available at <http://lop.iao.ru/EN/fon/gas>.



**Figure 1.** *Fonovaya Observatory (indicated by arrow)/*

### References

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