

3.052 Results from a global survey of natural gas flaring from the VIIRS instrument: 2012-2014.

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Abstract:

A global survey of natural gas flaring in 2012-2014 is presented using data collected by the National Aeronautics and Space Administration/National Oceanic and Atmospheric Administration NASA/NOAA Visible Infrared Imaging Radiometer Suite (VIIRS). The accuracy of the flared gas volume estimates is rated at +/- 20%. VIIRS is particularly well suited for detecting and measuring the radiant emissions from gas flares through the collection of shortwave and near-infrared data at night, recording the peak radiant emissions from flares. A total of 17314 individual flare sites were identified with that number steadily growing from 11851 to 13610 per year. The total flared gas volume is estimated at 140 +/- 30 billion cubic meters (BCM) per year, corresponding to 3.5% of global production. While the USA has the largest number of flares, Russia leads in terms of flared gas volume. The largest individual gas flares are observed in Venezuela. Ninety percent of the flared gas volume was found in upstream production areas, 8% at refineries and 2% at liquefied natural gas (LNG) terminals. VIIRS data can provide site- or field-specific tracking of natural gas flaring for use in evaluating efforts to reduce and eliminate routine flaring.