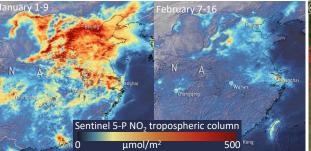


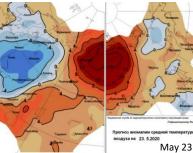
on the map during 2020

TREME EVENTS FRAORDINARY CONDITIONS











January 23

Lockdown

Gradual opening

March 15

week 16 week 19 week 20 week 21 May 29

Arctic

+30°

1000tons

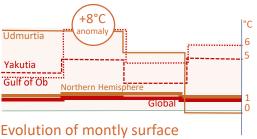
Lockdown in China due to COVID19 results in long period of exceptional air composition.



Evolution of NO₂ concentrations during lockdown over Chinese cities, as % of the 2019 values for the same time.

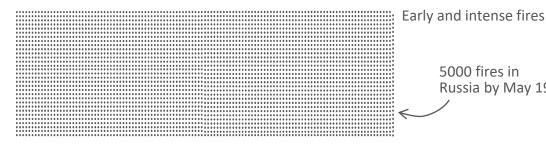
Mild winter followed by heat waves in Arctic and Siberia.

Udmurtia Yamal Yakutia



temperature anomalies January-April.

Warmest winter in record, since 1891



5000 fires in Russia by May 19

Diesel spill from collapsed tank in Norilsk released 21000 tons of fuel. For comparison: 25 big tank trucks=1 1989 Exxon Valdez bigger oil spill=37.

37

21

Sentinel 5-P NO2 tropospheric column, snapshots from https://www.esa.int/Applications/Observing_the_Earth/Copernicus/Sentinel-5P/COVID-19_nitrogen_dioxide_over_China "TROPOMI NO2 observations over Chines cities" https://eo4society.esa.int/2020/05/14/is-the-global-covid-19-related-drop-in-no2-pollution-coming-to-an-end/ Fires on April 22 2020: combines NRT+SP for all products, as delivered by FIRMS https://firms.modaps.eosdis.nasa.gov/map/#t:adv;d:2020-04-22;l:noaa20-viirs,viirs,modis a;@86.5,53.8,6z Heat wave alert issued on May 22 from Roshydromet weather forecast https://meteoinfo.ru/novosti/17135-na-zapade-yakutii-nastupaet-leto

Arctic circle oil spill from https://www.esa.int/About_Us/Week_in_images/Week_in_images_1-5_June_2020 Snapshot form original gif and image croped @contains modified Copernicus Sentinel data (2020), processed by ESA, CC BY-SA 3.0 IGO

Surface temperature anomalies for land+ocean from "Climate at a glance" https://www.ncdc.noaa.gov/cag/global/time-series/ Other dates and values: Wikipedia and press.