








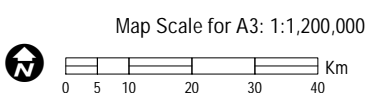
### Fires at the Qayyarah oil field, Nineveh Governorate, between July 18 and October 24, 2016

This map illustrates satellite-detected fires and smoke plumes at oil wells south of Mosul, and also east of Baiji, Iraq. The Mosul fires began with an initial fire at one or two wells on 8 May 2016, lasting less than one day. Subsequently, on several dates in June small-scale fires burned for durations of less than one day. The current fire complex began on 3 July with daily fire detections occurring until about 12 July, when the fires greatly increased in number, continuing to the present at that scale. The fires east of Baiji have been active since early January 2016. The frequency of smoke plumes (in days) is symbolized in shades of red and yellow, and was calculated using 99 MODIS satellite images collected between July 18 and October 24, 2016. Note that as the plume dissipates then areas of thinner smoke are not detected in this process, and thus this analysis indicates only the areas of dense, relatively heavy smoke. The inset on the top right corner shows the thermal data from a Landsat image collected on October 20, indicating the Mosul fires in white. The inset on the top left corner shows the same area in natural color. This is a preliminary analysis and has not yet been validated in the field. Please send ground feedback to UNITAR - UNOSAT.

#### Legend

##### Smoke plume frequency (days)

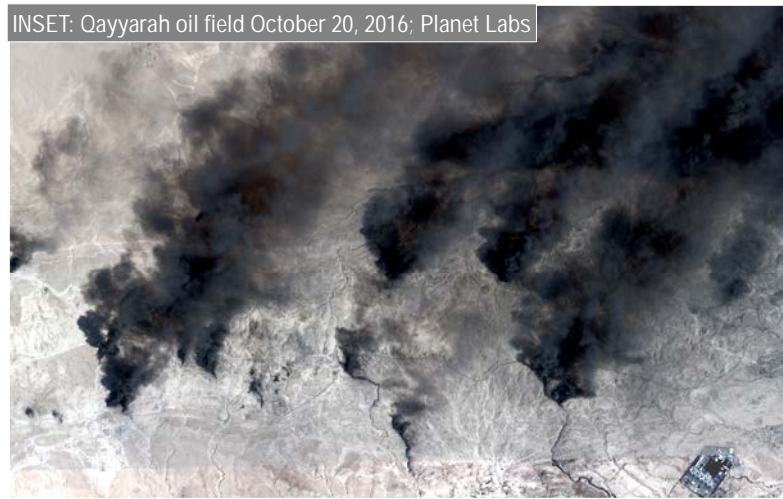
-  High : 88
-  Low : 1
-  Settlements
-  Most affected settlements
-  Highway/Primary road



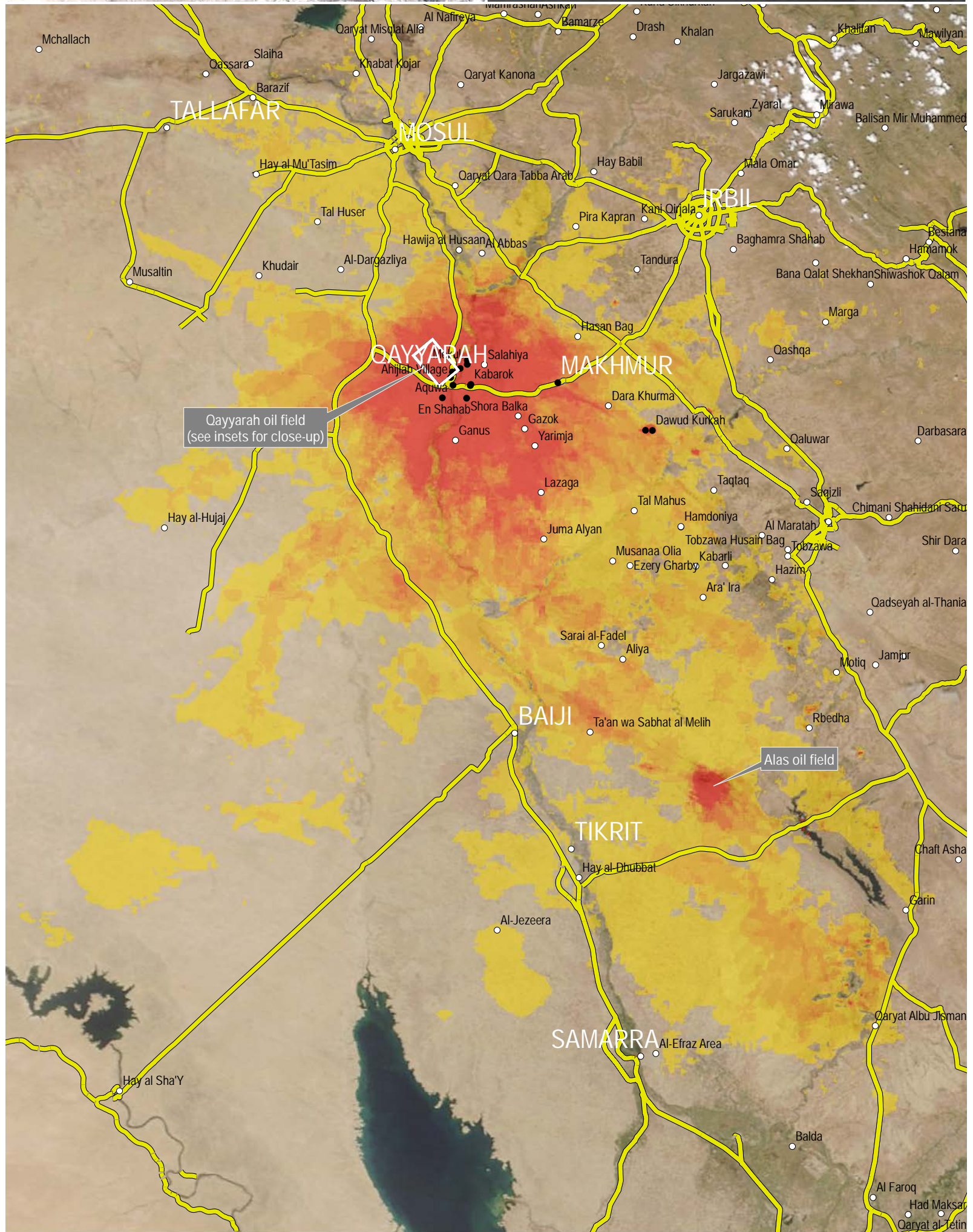
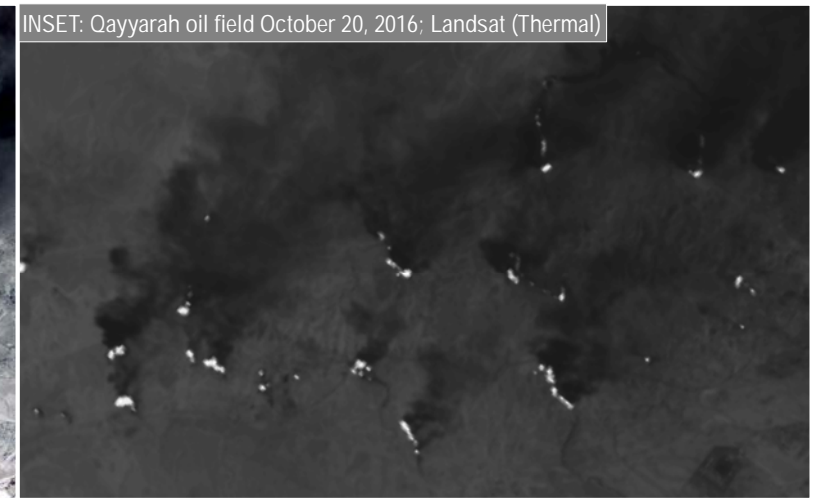
Analysis conducted with ArcGIS v10.3

Coordinate System: WGS 1984 UTM Zone 38N  
Projection: Transverse Mercator  
Datum: WGS 1984  
Units: Meter

INSET: Qayyarah oil field October 20, 2016; Planet Labs



INSET: Qayyarah oil field October 20, 2016; Landsat (Thermal)



Satellite Data (1): MODIS  
Imagery Dates: July 18 to October 24, 2016  
Resolution: 250 m  
Copyright: NASA  
Source: NASA

Road Data : OpenStreetMap  
Other Data: USGS, UNCS, NASA, NGA  
Analysis : UNITAR - UNOSAT  
Production: UNITAR - UNOSAT

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