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FIRMS WEB TRENDS STATISTICS OVER THE PERIOD 2007-2018
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1. Web measurement basics

The current analysis of the FIRMS Web site is based on the Web traffic analysis generated by Google Analytics. Google Analytics is a free service provided by Google, it is browser based (a JavaScript counting events in a browser), and helps to analyse the way people access and use web sites. The following definitions have been extracted from Google Analytics help pages.

1.1 Page Views

The definition of page view is:

A page view is counted with the successful loading of any document containing content that was requested by a web site visitor, regardless of the mechanism of delivery or the number and frequency with which said content is requested.

Page views are the measurement of a visitor's interest in a site and they provide an easy way to convey the popularity of a page.

1.2 Sessions

A session is the period time a user is actively engaged with a web site, app, etc.

It is used for measuring the amount of traffic a web site gets. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session. By default, a Google Analytics session lasts 30 minutes.

The notion of Session evolved from the concept of Visit which was counted when a unique visitor created activity on a web site, measured using sequential page views, regardless of the duration of this activity as long as the period of inactivity between page views does not extend beyond 60 minutes.

1.3. Bounce rate

The percentage of single-page sessions in which there was no interaction with the page.

A bounce is a single-page session on your site. In Analytics, a bounce is calculated specifically as a session that triggers only a single request to the Analytics server, such as when a user opens a single page on your site and then exits without triggering any other requests to the Analytics server during that session.

Bounce rate is single-page sessions divided by all sessions, or the percentage of all sessions on your site in which users viewed only a single page and triggered only a single request to the Analytics server.

These single-page sessions have a session duration of 0 seconds since there are no subsequent hits after the first one that would let Analytics calculate the length of the session.

1.4 Geographic location

How it is calculated and how reliable is it?

The country of origin of the access is calculated from IP address the user's computer is assigned when it connects to the internet - which may be fixed or dynamic. This is the IP address that is seen in the web server logs. Each IP address block is assigned by one of the regional internet registries to a particular country.
Google Analytics reports the country or territory from which visits originated, based on IP address of the visitor, which is mapped to a geographic region.
However, few conclusions can be drawn if the data says "US", "EU" or "unknown". If other countries are near the top then this can be considered interesting data. The data can be considered 95% accurate for other countries apart from the three mentioned above.

2. FIRMS Web trends (2007 - 2018)

2.1 Analysis of general trends

The analysis below is based on web traffic data provided by Google Analytics. This software was used to calculate various indicators from January 2007 to December 2018.
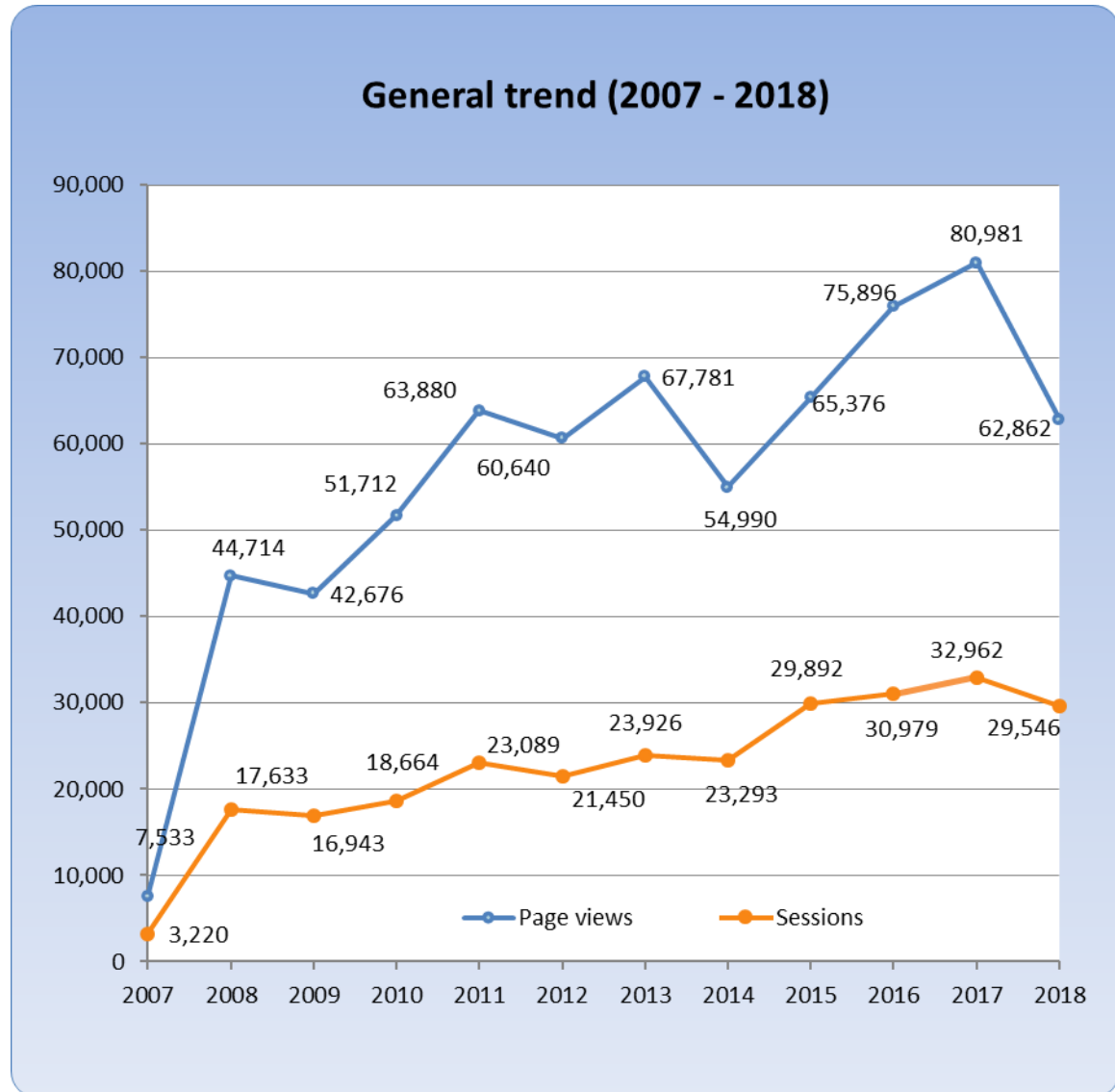

Fig. 2.1 FIRMS general trend (2007 - 2018)

Table 1 FIRMS general trend (2007 - 2018)

Year	No. Sessions	No. Page views	No. Pages/Months	Pages/Session
2018	29546	62862	5239	2.13
2017	32962	80981	6748	2.46
2016	30979	75896	6325	2.45
2015	29892	65376	5448	2.19
2014	23293	54990	4583	2.36
2013	23926	67781	5648	2.83
2012	21450	60640	5053	2.83
2011	23089	63880	5323	2.77
2010	18664	51712	4309	2.77
2009	16943	42676	3556	2.52
2008	17633	44714	3726	2.54
2007	3220	7533	628	2.34

Figure 2.1 and Table 1 show that the overall number of page views and sessions mainly increased through time.

The upward trend of 2015 - 2017 shows a considerable overall increase in FIRMS usage, after a period (2012 - 2014) of fluctuation (as described in the previous reports FSC8-FSC9-FSC10). The negative trend reflected in 2018 was most likely due to a deficient availability of the FAO web server with frequent downtimes (to be further investigated).

In 2018 the server experienced a total downtime of about 33 days, i.e. 9% of time unavailability. Figure 2.2 shows detailed downtime per month, it should be noted that this preliminary investigation might include also some false positives.

It should be noted that this 9% unavailability closely matches the negative difference between 2017 and 2018 for the number of sessions. And with the understanding that a frequent downtime is a discouraging factor to users for coming back, it can be fairly reasonably assumed that the growth recorded during previous years would have steadily continued.
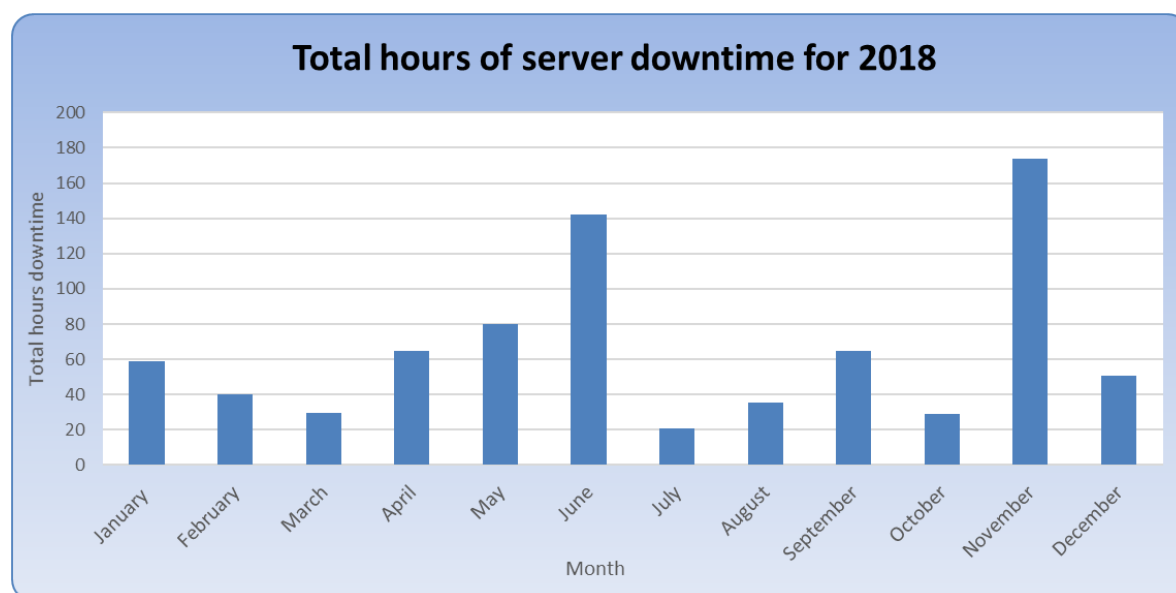

Fig. 2.2 Total hours of downtime the FIRMS webserver experienced in 2018

The average bounce rate (the percentage of visitors who enter the site and leave it rather than continue viewing other pages) is about 69%. The bounce rate is about 50% or even less for the home page and for the search interfaces; it is more variable for fact sheets with higher and lower values. In general a bounce rate less than 50% is considered good for further interactions with other pages of the web site. But in case of fact sheets for which single-page sessions are expected, then a high bounce rate should be normal.

The average session duration (the average length of a session) is 00:02:34 but with greater peaks in selected pages. In the previous analysis (2007-2016, reported in FSC10), the average session duration was similar (00:02:41).
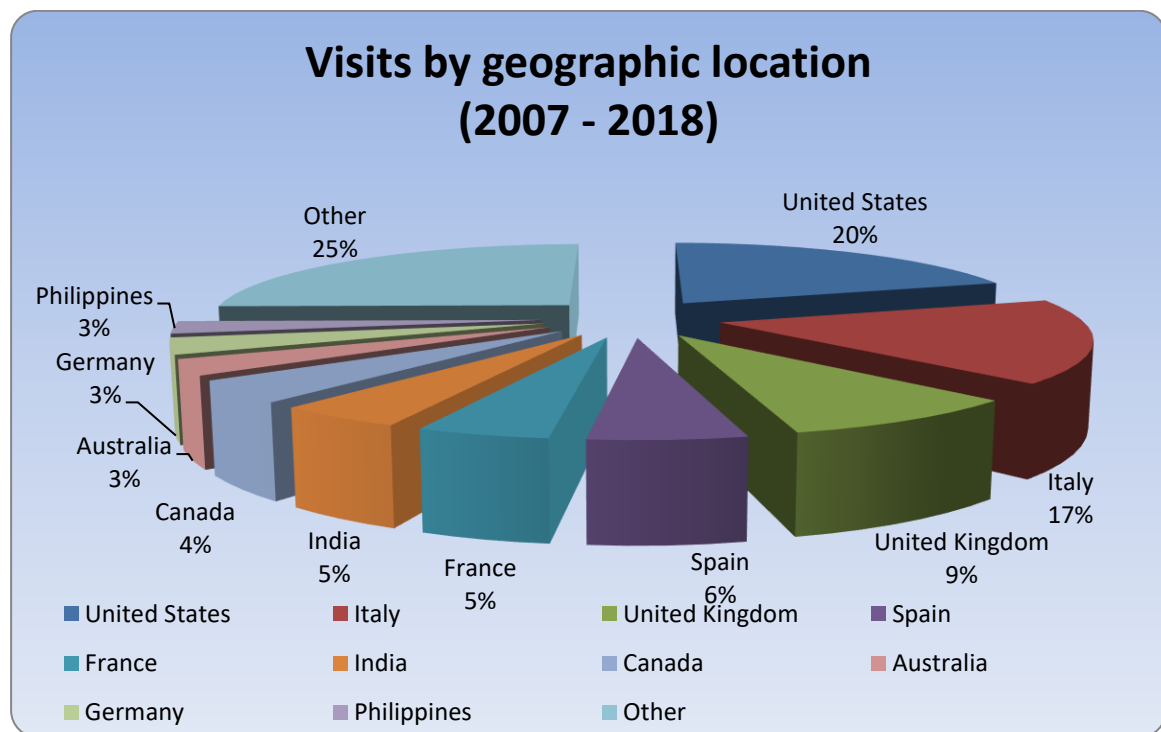

Fig. 2.3 Visits by geographic location (2007 - 2018)

Figure 2.3 describes the geographic location of the visits; the percentage is calculated upon a sample of 25 countries. The highest percentages of visits are originated by United States, Italy and UK. It should be noted that the figure for Italy may be inflated by the activity of the Secretariat which is regularly monitoring and updating the FIRMS site. The category "Other" includes (listed in decreasing order of importance): Malaysia, China, Indonesia, Portugal, Japan, Netherlands, Thailand, Russia, Norway, Mexico and Belgium as top visitors among other countries.
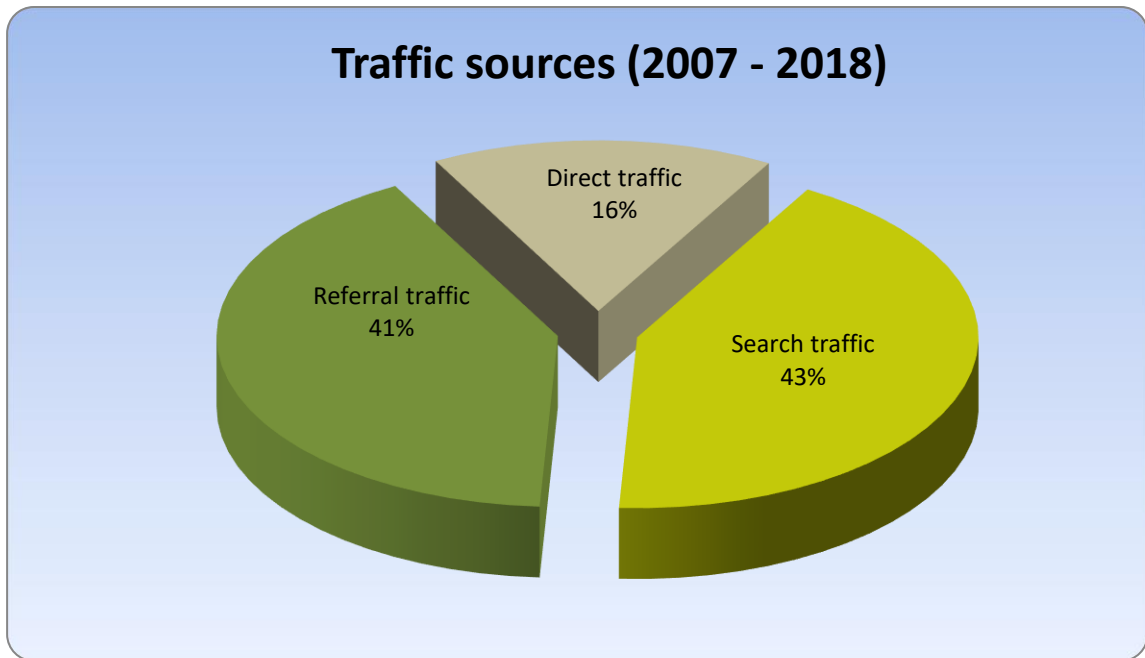
Fig. 2.4 Traffic sources (2007 – 2018)

Figure 2.4 shows that traffic sources for the FIRMS web site are generated mostly by search engines and by referral sites.

Search traffic (43%) is mostly generated by Google search engine (more than 90%), followed by Bing, Yahoo, and others.

The majority of referral traffic (41%) is due to the following web sites (listed in decreasing order of importance): fao.org, fishbase.org, en.wikipedia.org.

Direct traffic (16%), visitors who clicked a bookmark or entered a URL, are the third way FIRMS is accessed.

In terms of device categories, an analysis for the period 2016 - 2018 indicated a higher share of mobiles and tablets vs. desktop, respectively about 15% and 3% of the total sessions. To note that the mobile devices has nearly doubled in comparison with the previous analysis made for FSC10 where the share for mobile devices was about 9%.
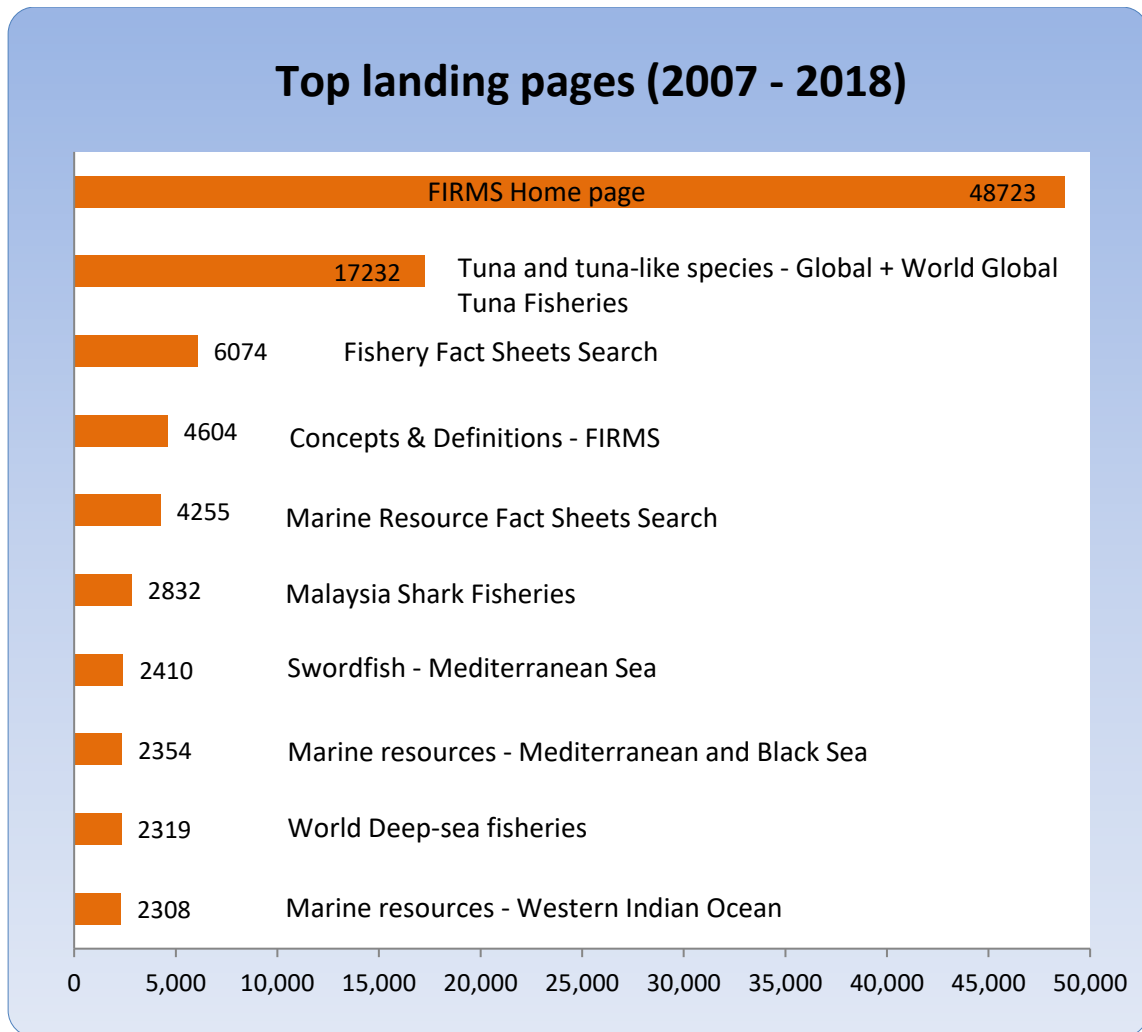
Top landing pages (2007 - 2018)

Page	Sessions
FIRMS Home page	48723
Tuna and tuna-like species - Global + World Global Tuna Fisheries	17232
Fishery Fact Sheets Search	6074
Concepts & Definitions - FIRMS	4604
Marine Resource Fact Sheets Search	4255
Malaysia Shark Fisheries	2832
Swordfish - Mediterranean Sea	2410
Marine resources - Mediterranean and Black Sea	2354
World Deep-sea fisheries	2319
Marine resources - Western Indian Ocean	2308

Fig. 2.5 Top landing pages (2007 – 2018)

Figure 2.5 shows the sessions per "landing" page, those pages which are accessed by users through textual links, banners or others references, including search engine results. The Home page is still the main entry point followed by the Tuna Resources and Fisheries pages, and the Fishery Fact Sheet Search page. The FIRMS Concepts and Definitions is still among the top visited pages. There were some other recent changes to the top ten landing pages compared to the 2007 - 2016 review, with the Malaysia Shark Fisheries and the World Deep-sea fisheries now appearing.

If the investigation is carried out only for the last 3 years (2016 - 2018), no major changes are observed among the top five landing pages (with minor reshuffling). Other top landing pages for that period include: the introductory page of the FAO Review of the state of world marine fisheries resources, Swordfish - Mediterranean Sea, the Thailand Sea cucumber fisheries and Indonesia Shark Fisheries.

Regarding the recent release of the FIRMS **Stocks and Fisheries map viewer** (http://firms.fao.org/firms/stocks-fisheries-map-viewer monitored in Google Analytics since February 2017), the following is observed: i) a higher average session duration (00:03:41), ii) a higher ratio of pages per session (2.99), and iii) it would be positioned within the top ten landing pages if the analysis is constructed from the time of its release until December 2018.