

GUIDELINES FOR MAPS PRODUCED IN FI

Short overview

- 1) All maps should be sourced.
- 2) Please ensure your map complies with the UN maps available here (<https://www.un.org/Depts/Cartographic/map/profile/world.pdf>) . Note that all dashed/dotted lines that appear on UN maps must also appear on yours and all political boundaries must match (national and regional).
- 3) This is where you can find map-building resources:
<https://unfao.sharepoint.com/sites/OCCP/UN%20Maps/Forms/AllItems.aspx>
- 4) Add one of these sources below each map:
Source: United Nations [name] map, date on map
OR
Map conforms to United Nations [Name] map, [Date on map]
- 5) In your PWS record, please add the following note in the Comments box:
The Division has verified that all maps contained in the work conform to UN maps and that the Division accepts all responsibility in the event of reputational damage to FAO or FAO member countries as a result of inappropriate boundaries.

Guidelines for maps produced in FI

This document intends to provide guidelines for developing maps and dissemination products: i) static map images for paper FAO publications and, ii) web dynamic maps (provided and rendered by web-mapping GIS applications). The guidelines below are structured into three sections:

1. The use of GIS reference layers
2. Map production guidelines
3. Map clearance workflow

1. Use of GIS reference layers

Countries and Territories boundaries

- Do not emphasise, highlight and evidence on countries boundaries unless they are key components of your product. Country names with no boundaries over continent shapes can be sufficient in some or most cases.
- When displaying countries and/or territories boundaries are necessary, proper boundaries together with their types should be reflected, equally taking as reference maps those made available by the UN Geospatial Information Section. Such reference layer, obtained from the former UN Cartographic Section, and updated to reflect recent country changes (e.g. Sudan/South Sudan/Abyei region), is maintained by FIAS (*This information is not available for dissemination, as waiting for final clearance by CIO*)

Country, areas and territories names

- Please refer to FAO NOCS for official names of countries, areas and territories (full and short) <http://termportal.fao.org/faonocs/appl/>

Marine areas boundaries

- Avoid displaying the Exclusive Economic Zones (EEZs) while instead a layer showing the 200 nautical miles arcs can be used ([See layer](#)),
- Ocean and Sea names and related layer (the Gulf, etc.) should be correctly displayed ([See layer](#), zoom to finer scale and labels)
- FAO Major Areas for Fishing purpose and its breakdown, as well as CWP reference grid systems, are browsable and usable from the corporate FAO Geonetwork <http://www.fao.org/geonetwork>

2. Map production




Thematic map types

- Adopt as much as possible Graduated or Proportional Symbol Maps (eventually density maps) approach instead of coloured shape maps (referred as “choropleth” maps) for highlighting facts by country/territory; while using as background boundaries as defined and referred by UN Geospatial Information Section. Such an approach is particularly recommended for maps when:
 - A disputed region revealed. i.e. a map showing both Egypt and Sudan.
 - the purpose is to show a quantitative variable (e.g. total aquaculture production)
- For non-quantitative (qualitative) fact maps, choropleth maps might be chosen with the condition that the map doesn't show any disputed region. Indeed, the fact of colouring the shape of a country or territory may reveal the expression of an opinion on the disputed region, because it supposes choosing a boundary delineation revendicated by one country but not by the other. E.g. Disputed region of Hala'ib triangle between Egypt and Sudan.
- In the case of country-based maps (e.g. Fisheries and Aquaculture Country profiles), there will be the option to make the disputed region coloured respectively for each country maps, stating (separately) each country revendications. In any, the boundaries of disputed regions (or for which status is not clear) should be shown in each country profile where the country is involved in the dispute. E.g. display the Kashmir *Line of control* for both Pakistan and Indian country profiles. See below for a proper representation of boundaries.

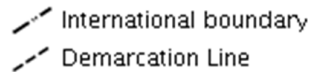
Map legend

- For both paper publications and web-products, it is required to append a proper map legend that will include legend items for all layers displayed on the map.
- For countries and territories, the legend should reveal the different boundary types as shown on the map. Semiology rules (“Symbology”) should be those used by the UN Geographic Information Section.

Example 1: Legend for boundaries shown in Fisheries and Aquaculture Country Profile of Sudan <http://figisapps.fao.org/fishery/facp/SDN/en> highlighting three types of boundaries:

-  International boundary
-  Administrative boundary
-  Abyei region

Example 2: Legend for boundaries shown in Fisheries and Aquaculture Country Profile of Israel <http://figisapps.fao.org/fishery/facp/ISR/en> highlighting two types of boundaries:



Map projection

- As much as possible, The map projection name (and ideally its EPSG code) used for producing the map should be specified.
- The Mercator projection is NOT recommended. For thematic maps production, it is recommended to use an *equal area* projection system (projection system that conserves ratio of areas in all part of the world) such as Eckert IV (used by FI as reference projection system), Mollweide or Robinson projection systems. For polar maps, prefer polar projections.

Map disclaimers

- FAO disclaimer for maps is available at <http://intranet.fao.org/departments/occ/publishing/guidelines/production2/disclnotices/disclmaps/> That text differs from the one provided by UN (see next bullet point).
- Any image containing a map should go with the disclaimer ***“The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.”*** (from UN GIS <http://www.un.org/Depts/Cartographic/english/htmain.htm>)
- When needed, additional specific disclaimers could include the undetermined boundaries (E.g. “Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.” <http://www.un.org/Depts/Cartographic/map/profile/SouthAsia.pdf>)

Map layer(s) source attribution (provenance)

- When a reference layer (especially if it comes from an external source), an source attribution should be properly set. For example:
 - Country and Territories boundaries: United Nations Geospatial Information Section <http://www.un.org/Depts/Cartographic/english/htmain.htm>
- For products maintained and made available by FI (e.g. FAO Major areas for fishing purpose, FAO species distributions, reference CWP grids) and available on the corporate [FAO Geonetwork](#), a link to the product metadata should be made available, as a unique and persistent identifier for this resource. E.g. FAO Major area 27 and its breakdown: <http://www.fao.org/geonetwork/srv/en/main.home?uuid=fao-fsa-nested-map-27>
Following this guideline is also requested to external users who request information on FI GIS products and use them as part of derivative works.

Map - other annotations

- For paper publications, the date of map production should be added.

Map production techniques

- When possible, and depending on the available resources for the map production, an automated map production (such as the one made available for the FAO statistical yearbook from 2012) should be preferred to a manually produced map, this to foster a better map reproducibility and alignment with up-to-date data sources. Such automation are facilitated by GIS desktop software or any programmatic language that supports GIS.
- “*A map is not a painting*”: For thematic maps, the association of quantitative or qualitative values to a geographic entity (e.g. *total catch by country or FAO area*) as well the assignment of a particular class (range) of values and symbol/colour associated must be operated with a GIS software and not done manually to avoid human errors. Hence, the operation consisting for a designer in assigning manually one by one colour or symbols on a map is not recommended.
- The use of free and open-source GIS desktop software Quantum GIS is highly recommended to foster map reproducibility and sharing of maps among officers: <https://qgis.org> The use of proprietary software such as ESRI ArcGIS is not recommended for map reproducibility.
- Building maps may be facilitated by fetching existing FI reference layers directly into the GIS desktop software using standard web map services, hence guaranteeing to rely on the latest version of the FI reference layers and avoid outdated user’ copies of these layers. To use directly FI web map services in Quantum GIS, a tutorial is available on the [FIGIS wiki](#) (FIGISWiki login required, usr: figis pwd: visitor). Support may be requested to FIAS* if needed.

(*) Focal points:

Emmanuel Blondel (FI geospatial expert consultant)

Aureliano Gentile (FI Information manager)

Kiran Viparathi (FI data systems officer)

Map examples

Web maps:

- The Fisheries and Aquaculture Country profiles <http://figisapps.fao.org/fishery/countryprofiles/search/en> (*test server for the time being waiting for final clearance*) display countries boundaries as per UN Geospatial Information Section <http://www.un.org/Depts/Cartographic/english/htmain.htm> and according to FAO corporate guidelines

Static maps:

- To build static map images, basic automatically generated maps can be found at http://figisapps.fao.org/FIGISwiki/index.php/GIS_Maps (FIGISWiki login required, usr: figis pwd: visitor). Additional map layers can be developed by FIAS upon request.

3. Map clearance workflow

- Please submit any new maps to Marianne Guyonnet who will circulate to get FIA division clearance