Overview of the ICCAT data collection framework
(Requirements, data handling, data types, etc.)

Carlos Palma & Carlos Mayor (ICCAT Secretariat)

"CWP-tRFMOs Technical workshop on global harmonization of Tuna fisheries statistics"

FAO/CWP (Italy, Rome 2018-03-19 to 2018-03-22)

ICCAT CICTA CICAA

Introduction

ICCAT (International Commission for the Conservation of Atlantic Tunas)

✔ **Born in 1966**:   Convention signed in Rio de Janeiro (1966) by 17 Member States (*basic texts*)

- **In 2018**: 52 Contacting Parties (CP)+ 5 Cooperating parties (NCC)

✔ **Official languages**:   English, French, Spanish

✔ **Convention area**:   Atlantic Ocean and adjacent Seas

✔ **Mandate:** The conservation of tunas and tuna-like species (& associated by-catch species: sharks, etc.) in the Convention area

✔ **Main goal**: maintain the populations of tuna and tuna like species at levels which will permit the maximum sustainable catch (MSY) for food and other purposes

✔ **SCRS (Scientific Committee):**

- Ensure the "best" scientific information is compiled/used
- Stock assessments & advice on conservation and management measures
- Coordination of Research Programmes
- Identify data deficiencies, promote historical recoveries
- Develop data collection procedures, dissemination policies, etc.
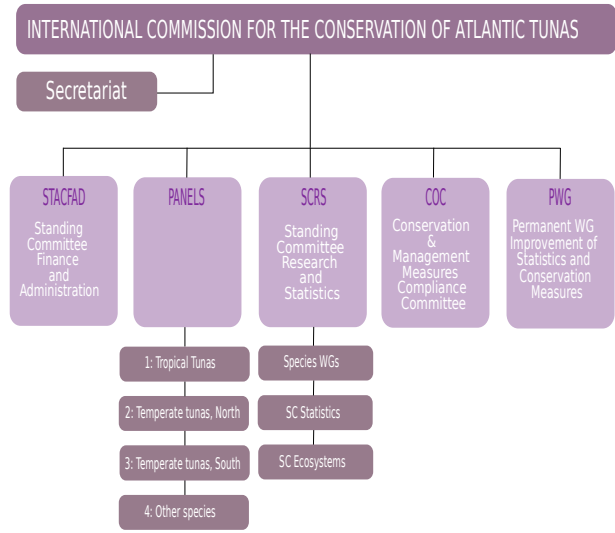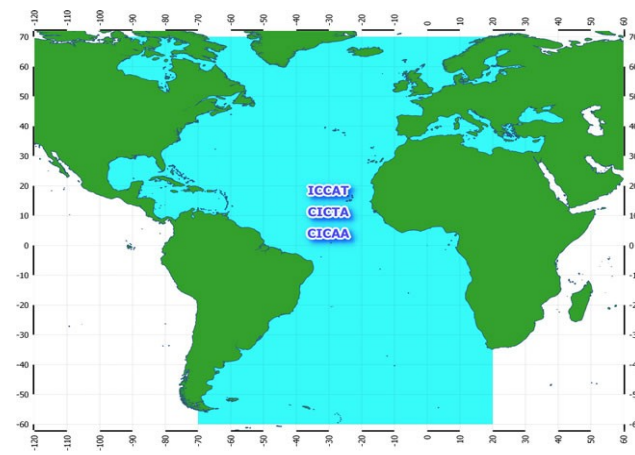
Evolution of ICCAT Regulations over time

ICCAT regulation history (map)

RegYear	TOTAL	Active	Inactive	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1966	1	1	0	RS1																														
1972	2	0	2	RC0	RS0																													
1974	1	0	1	RC0																														
1975	2	1	1	RS0	OT1																													
1979	2	0	2	RC0	RS0																													
1981	1	0	1	RC0																														
1982	1	0	1	RC0																														
1983	1	0	1	RC0																														
1984	1	0	1	RC0																														
1985	1	0	1	RC0																														
1986	1	0	1	RC0																														
1990	2	0	2	RS0	RC0																													
1991	2	0	2	RC0	RS0																													
1992	4	0	4	RC0	RS0	RS0	RC0																											
1993	12	2	10	RS0	RS0	RC0	RC0	RC0	RC0	RC0	RS1	RS1	RS0	RS0	OT0																			
1994	14	3	11	RS0	RS0	RC0	RS0	RS0	RS1	RS0	RS0	RS1	RS0	RC0	RC0	RC0	RC1																	
1995	15	1	14	RS0	RS1	RS0	RS0	RC0	RS0	RC0	RS0	RS0	RC0	RC0	RS0	RS0	OT0	OT0																
1996	15	2	13	RC0	RC0	RC0	RC0	RS0	RC0	RC0	RC0	RS0	RC0	RC0	RC0	RS0	RC1	RS1																
1997	17	3	14	RC1	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC1	RC0	RC0	RC1	RC0	RC0	RS0	RS0	RS0	RS0													
1998	19	1	18	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC1	RC0	RC0	RC0	RS0	RS0	RS0	RS0	OT0											
1999	13	4	9	RC0	RC0	RS0	RS0	RC0	RC0	RS1	RC0	RC0	RC0	RS1	RS1	RS1																		
2000	22	2	20	RC0	RS0	RC0	RC0	RS0	RC0	RC0	RC0	RC0	RS0	RS0	RS0	RC0	RC1	RC0	RC0	RC0	RS0	RS0	RS1	RS0	RC0									
2001	24	7	17	RC0	RC0	RS0	RS1	RC0	RC0	RED	RC0	RS0	RC0	RS0	RC1	RC1	RC0	RC0	RS1	RS0	RS1	RS0	RS0	RC1	RC1	RS0	RS0	OT0						
2002	30	2	28	RC0	RC0	RC0	RS0	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RS0	RC0	RS0	RED	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RS0	RS0	RS1	RS0	RC0	RS0	RS0	OT1
2003	21	8	13	RC0	RS0	RC0	RC1	RS0	RC0	RC0	RC0	RC0	RS1	RS0	RC1	RC1	RC0	RS0	RC1	RC0	RC0	RC1	RC1	RS1										
2004	17	2	15	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RS0	RC0	RC1	RC0	RC1	RC0	RC0	RC0	RS0	OT0														
2005	12	5	7	RC0	RC0	RS0	RC0	RC0	RC0	RS1	RS1	RC1	RS0	RS1	OT1																			
2006	19	8	11	RC0	RC0	RC0	RC0	RC0	RC0	RC1	RS1	RC0	RC0	RC0	RC1	RC1	RC0	RC1	RS1	RS1	RS1													
2007	10	3	7	RC0	RC0	RC0	RC0	RS0	RC1	RC1	RC1	RC0	RC0																					
2008	13	4	9	RC0	RC0	RC0	RC0	RC0	RS1	RC0	RS0	RC1	RC1	RC1	RC0	RC0																		
2009	13	3	10	RC0	RC0	RC0	RC0	RC0	RC0	RC1	RC0	RC1	RC0	RC0	RS0	OT1																		
2010	11	5	6	RC0	RC0	RC0	RC0	RC0	RC1	RC1	RC1	RC1	RC0	RC1																				
2011	26	14	12	RC0	RC0	RC0	RC0	RC0	RC1	RC0	RC1	RC1	RC1	RC1	RC0	RC1	RS1	RC1	RC0	RS1	RC1	RC0	RC1	RC0	RS0	RC1	RC1	RS1	RC0					
2012	13	7	6	RC0	RC0	RC0	RC0	RC1	RC0	RC1	RC0	RC1	RC1	RS1	RS1	OT1																		
2013	19	8	11	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC0	RC1	RC1	RC1	RC1	RC1	RS1	RC1	RC0	RC0	RC1													
2014	14	11	3	RC0	RC1	RC0	RC1	RC0	RC1	RC1	RC1	RC1	RC1	RS1	RC1	RC1	RC1																	
2015	13	8	5	RC0	RC0	RC0	RC0	RC1	RC1	RC1	RC1	RS1	RC1	RS1	RS1	RS0																		
2016	24	22	2	RC1	RC1	RC0	RC0	RC1	RC1	RC1	RC1	RC1	RC1	RC1	RC1	RC1	RC1	RC1	RS1	RC1	RC1	RS1	RS1	RS1	RS1	OT1								
2017	9	9	0	RC1	RC1	RC1	RC1	RC1	RC1	RC1	RC1	RC1																						

Legend

RC1	REC-active
RC0	REC-inactive
RS1	RES-active
RS0	RES-inactive
OT1	OTH-active
OT0	OTH-inactive
	?

"Every year, data requirements are updated according to the new regulatory measures"

Overview: Regulations & "data" Requirements

Regulation types (ICCAT)

RegTypeID	RegTypeCod	RegTypeAcr	Regulation	BindPriority	BindingYN
0	CV	CNV	Convention (ICCAT)	1	YES
1	RC	REC	Recommendation	1	YES
2	RS	RES	Resolution	2	NO
3	OT	OTH	Guidelines, Criteria, etc.	3	!!!

- A regulation can have various requirements and vice-versa (00 ↔ 00)

- Requirements are updated every year (as Regulations change)

Regulation matrix by type (active/inactive) and subject

RegTypeCod	Active	ALB	BET	BFT	BIL	BYC	GEN	MISC	SANC	SDP	SWO	TOR	TRO	YFT	tot
Res	no		7	12	2	4	18	12	1	5	8	7		1	77
	yes			2		2	14	14			1	8			41
Res Total			7	14	2	6	32	26	1	5	9	15		1	118
Rec	no	28	14	54	10	4	20	1	20	14	33	4	10	3	215
	yes	2		5	3	18	35	4		9	5	8	3		92
Rec Total		30	14	59	13	22	55	5	20	23	38	12	13	3	307
Oth	no						1	4				1			6
	yes			1			3	2							6
Oth Total				1			4	6				1			12
tot		30	21	74	15	28	91	37	21	28	47	28	13	4	437

RegTypeCod	inactive	active	total
Res	77	41	118
Rec	215	92	307
Oth	6	6	12
tot	298	139	437

Requirement scopes (ambit/types)

RqScopeID	RqScopeCod	RqScope
1	S	Scientific
2	M	Management

(n)	RqScopeCod		
ReqTheme	M	S	Total
ALB	7		7
BFT	33	7	40
BIL	3	2	5
BYC	3	5	8
GEN	31	14	45
MIX	1		1
SDP	1		1
SHK	7	3	10
SWO	20		20
TRO	11	8	19
	117	39	**156**

00 <-> 00

STATS are here:
- nominal catche
- catch & effort
- size

Information types & collection mechanism

✔ **Information types:**
- **Structured data**: stored in relational databases
- **Non-structured data** (notifications, reports, articles, papers, etc.): mostly file storage
  (some XML schemas are under development)

✔ **Collection tools:**
- Normalised forms ("eforms": XLSx/ODS): try-lingual, embedded instructions, embedded codes, basic validation, ready for "unattended integration" [macros/VBA forbidden]
- Basic forms/templates (WORD/XLS): often for metadata compilation (surveys, etc.)
  (Number of forms: ST (11) + TG (3) + CP (~30))
- Special agreed formats (fixed, CSV, etc.): only statistics (T2CE, T2SZ, T2CS)
- "eBCD" (BFT Catch Documentation Scheme): real time tracking Production => Consumption)
- VMS system (BFT monitoring only :: automatic system)
- Others: ("free form"): various needs

✔ **Submission:**   95 % by Email (Correspondents on statistics, tagging, compliance, etc.)

✔ **On reception:**   Registered (date, reference, supplier INFO, etc.) and inventoried

✔ **Next steps**:   Validation (often 2 to 3 levels) => integration (new/revisions) & storage => use
      ("old" data replaced, are never lost: stored in "historical" DB layers/schemas)
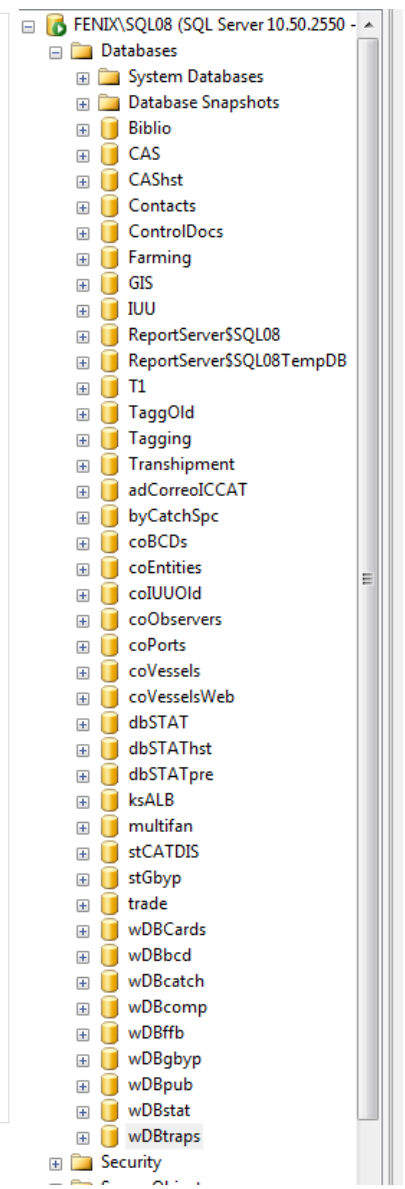
Infrastructure: data handling

- ✔ **Deployed environments:**
  - · **Intranet**:   AD domain resources (windows/linux) [production]
  - · **Cloud**:   4/5 linux servers (rackspace)   [develop, test, prototype]

- ✔ **RDBMS**:
  - · Main system (intranet): mssql 2008R2 (in migration to 2016)
        (ICCAT-DB :: 32 databases in production, ~800 tables, ~40 GB)
  - · Others (cloud): mariadb 10.2, pgsql 9.6
  - · Stand-alone: sqlite 3.22 (replacing msaccess 2007/10)

- ✔ **Development (apps, tools, utils)**:
  - · Past: amalgamation of VBA, .NET (C#, VB), Delphi/Kylix (t-pascal), etc.
  - · Now: majority of the front/back/middle-end developed in JAVA (front: VAADIN)

- ✔ **Roadmap on technologies** (also learnt from FORS):
  - · DB dev.:   mariadb, sqlite (stand-alone)
  - · "back/middle-end" dev.:   JAVA 8+
  - · "client-side" dev: Angular 5+
  - · RESTfull web services (Representational State Transfer APIs)
  - · (?) docker, micro services, block-chain, … [never know !!!]

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- ⊟ 🖥 FENIX\SQL08 (SQL Server 10.50.2550 -
  - ⊟ 📁 Databases
    - ⊞ 📁 System Databases
    - ⊞ 📁 Database Snapshots
    - ⊞ 🛢 Biblio
    - ⊞ 🛢 CAS
    - ⊞ 🛢 CAShst
    - ⊞ 🛢 Contacts
    - ⊞ 🛢 ControlDocs
    - ⊞ 🛢 Farming
    - ⊞ 🛢 GIS
    - ⊞ 🛢 IUU
    - ⊞ 🛢 ReportServer$SQL08
    - ⊞ 🛢 ReportServer$SQL08TempDB
    - ⊞ 🛢 T1
    - ⊞ 🛢 TaggOld
    - ⊞ 🛢 Tagging
    - ⊞ 🛢 Transhipment
    - ⊞ 🛢 adCorreoICCAT
    - ⊞ 🛢 byCatchSpc
    - ⊞ 🛢 coBCDs
    - ⊞ 🛢 coEntities
    - ⊞ 🛢 coIUUOld
    - ⊞ 🛢 coObservers
    - ⊞ 🛢 coPorts
    - ⊞ 🛢 coVessels
    - ⊞ 🛢 coVesselsWeb
    - ⊞ 🛢 dbSTAT
    - ⊞ 🛢 dbSTAThst
    - ⊞ 🛢 dbSTATpre
    - ⊞ 🛢 ksALB
    - ⊞ 🛢 multifan
    - ⊞ 🛢 stCATDIS
    - ⊞ 🛢 stGbyp
    - ⊞ 🛢 trade
    - ⊞ 🛢 wDBCards
    - ⊞ 🛢 wDBbcd
    - ⊞ 🛢 wDBcatch
    - ⊞ 🛢 wDBcomp
    - ⊞ 🛢 wDBffb
    - ⊞ 🛢 wDBgbyp
    - ⊞ 🛢 wDBpub
    - ⊞ 🛢 wDBstat
    - ⊞ 🛢 wDBtraps
  - ⊞ 📁 Security

Statistics: nominal catches, catch & effort, size samples

✔ **Statistical datasets (mandatory):**

Task I (yearly based, full coverage)

- **T1FC** (fleet characteristics) [form ST01-T1FC]
- **T1NC** (I nominal catches) [form ST02-T1NC]

- Task II (monthly based, partial coverage)
  - T2CE (catch & effort) [form ST03-T2CE]
  - T2SZ (size samples) [form ST04-T1SZ]
  - Others (ST05 to ST11)

✔ **STATS workload (yearly):**

- ~ 2200 files/forms
- ~ 1.5 million records processed (**Table 1**)
- ~7 % are revisions (back to normal)
- ~7% overall growth (ICCAT-DB)

✔ **Derived estimations (Secretariat):**

- **CATDIS** (catch distribution): 9 major tuna species
  :: Flag/fleet/gear group/year/trimester/5x5/catch type
  :: weight (t/kg)
- **EFFDIS** (effort distribution): LL only (soon: PS)
  :: Flag/fleet/gear group/year/month/5x5 (1x1 PS)
  :: LL (hooks) / PS (fishing hours)
- **CAS** (catch-at-size): ALB, BFT, BET, YFT, SKJ, SWO
  :: Flag/fleet/gear/[retains T2SZ detail on time-area]

Table 1. Number of records processed in statistics (T1 & T2) databases

Year	DB	Pending (preDB)	New (curDB)	Revisions(hisDB)	Total	%revisions
2016	t1fc		8029		8029	0 %
	t1nc	11	5674	1065	6750	16 %
	t2ce	0	91134	35859	126993	28 %
	t2sz	0	1102682	56820	1159502	5 %
	TOTAL	11	**1207519**	93744	1301274	**7 %**
2015	t1fc		21816		21816	0 %
	t1nc	2	3993	620	4615	13 %
	t2ce	0	272993	39947	312940	13 %
	t2sz	0	1236884	688489	1925373	36 %
	TOTAL	2	**1535686**	729056	2264744	**32 %**
2015	t1fc	0	15	0	15	0 %
	t1nc		6688	839	7527	11 %
	t2ce	18789	83884	28684	131357	22 %
	t2sz	0	1034109	569654	1603763	36 %
	TOTAL	18789	1124696	599177	**1742662**	**34 %**
2014	t1fc	0	263	34	297	11 %
	t1nc	399	4848	132	5379	2 %
	t2ce	4901	49894	5447	60242	9 %
	t2sz	0	750933	12749	763682	2 %
	TOTAL	5300	805938	18362	**829600**	**2 %**
2013	t1fc	3	182	8	193	4 %
	t1nc	625	3905	664	5194	13 %
	t2ce	0	50489	9122	59611	15 %
	t2sz	5965	877933	64996	948894	7 %
	TOTAL	6593	932509	74790	**1013892**	**7 %**

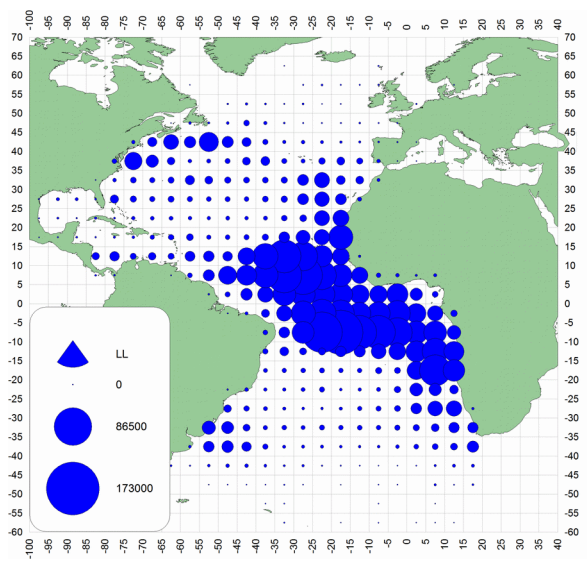**Updates:**

CAS: stock assessments (SA) only

CADIS: once/year & SAs
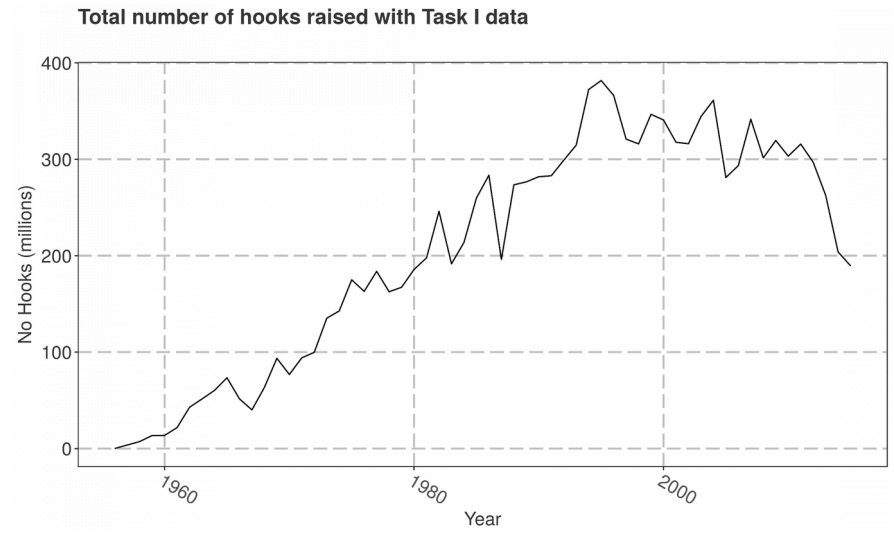
EFFDIS: once/year (or SCRS request)

Derived estimations: output examples

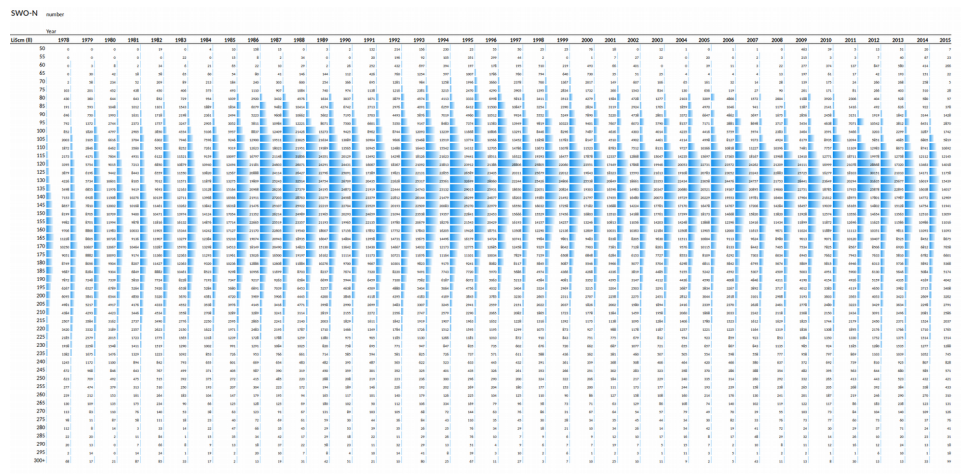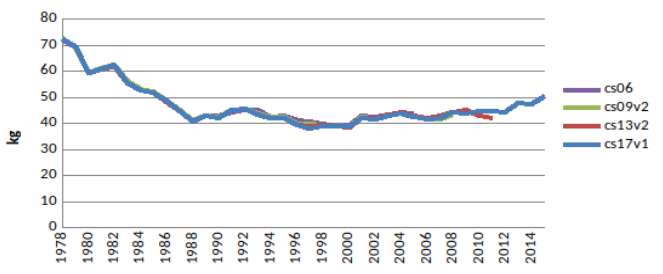CATDIS: overall catch distribution by trimester & 5x5 grid (biomass - t)

CAS/CAA: catch-at-size matrix (SWO-N 78-15) (structure depends on T2SZ)

SWO-N: mean weights (kg) - CAS

EFFDIS: overall effort estimations (month/ 5x5 grid) (LL: hooks, PS: fishing hours)

Total number of hooks raised with Task I data

- ✔ **Definition ("**new model" since 2014**):** Fishing vessels (direct/indirect) activity: fishing days, fishery participation:
  - · By vessel (LOA >= 20 m) // By vessel classes [LOA/GT combination](LOA<20m)
- ✔ **Composed of:**
  - · Official submissions + SCRS analyses of ICCAT vessel record (2003+)
- ✔ **Coverage**
  - · Time series: 1970-2013 only vessel numbers by category (size-gear combination) // 2014+ (new model)
  - · All fishing vessels (commercial, artisanal, recreational/sport)

Detail	Vessel attributes	Vessel ID	ICCAT Serial Number	ICCAT code
			Nat. Registry N° (NRN)	string
			Internat. RCS	string
			Vessel name (latin)	string
		Fleet ID	Flag of Vessel (cod)	ICCAT code
			Base port/zone	string
		Other attributes	Gear group (cod.)	ICCAT code
			LOA (m)	integer
			Tonnage (t)	float
			Tonnage type	ICCAT code
	Activity in ICCAT Fisheries (participation)	Total effort (OPTIONAL)	Fishing days (ATL)	integer
			Fishing days (MED)	integer
		Fisheries (activity, 1 or +)	Fishery 1 (cod)	ICCAT code
			Fishery 2 (cod)	ICCAT code
			Fishery 3 (cod)	ICCAT code
			Fishery 4 (cod)	ICCAT code
			Fishery 5 (cod)	ICCAT code
		BFTE fishery only (details)	Authorised FROM	date
			Authorised TO	date
			Total fishing days	integer
			Catches (kg) in Auth. Per.	float
			Bycatch (kg) outside Auth. Per.	float

ICCAT major fisheries

FisheryCod	Fishery
ALBN	ALB Northern stock
ALBS	ALB Souther stock
ALBM	ALB Medditerranean stock
SWON	SWO Northern stock
SWOS	SWO Souther stock
TROP	Targeting Tropicals (YFT/BET/SKJ)
BFTW	BFT Western stock
SMTuna	Targeting small tuna sp.
SHARKS	Targeting sharks (major sp.)
MULTIFISH	Multiple fisheries (>=6 ICCATfisheries)
NONE-BC	None of the ICCAT fisheries (by catch)
SWOM	SWO Medditerranean stock
BFTE	BFT Eastern stock (ATE + MED)

T1NC (nominal catches): definition, coverage, structure

✔ **Definition:**
- **Yearly** based best scientific (SCRS) estimations of overall biomass removals (all fishing activity) of a given biological stock (species/population) :: Always in live/round weight (kg/t)

✔ **Composed of:**
- Official submissions (CPC scientific estimations !)
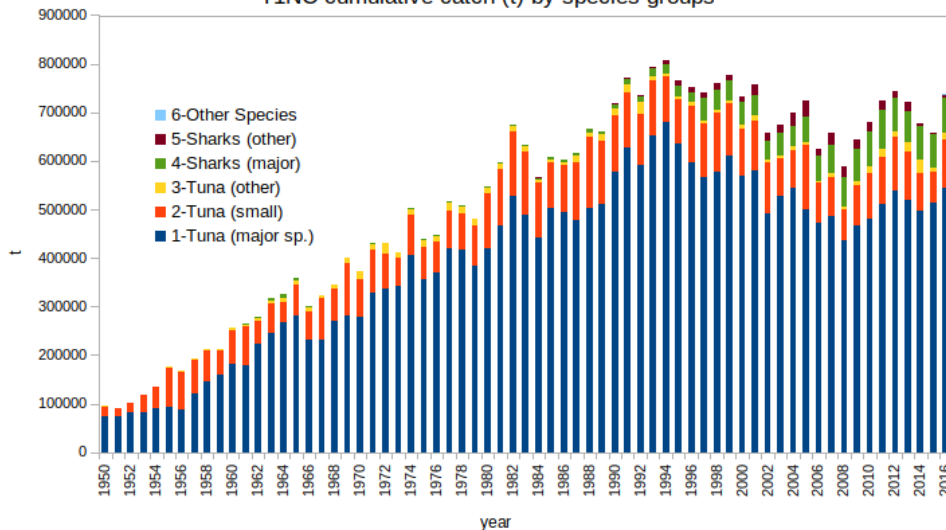- SCRS "preliminary" estimations (corrections/gap completion, NEI, etc.)

✔ **Coverage:**
- Time series: general 1950 to 2016+ (BFT: goes back to 1500; ALB: goes back to 1920)
- All fishing activities (commercial, artisanal, recreational/sport, research)

✔ **Discrimination work**: eliminate species groups (BIL, SMT, etc.) / reduce UNCL gears / simplify "fleets"
  (Rebuild history of catches on major sharks: BSH, SMA, POR)

Structure:
- Flag   (~ ISO-3166 A3 + custom)
- Fleet   (custom) (mostly SA purposes)
- Year
- Species   (ASFIS)
- Stock   (custom)
- Sampling area (custom)
          (depends on species: geo defs.**)**
- Gear   (custom & <> ISSCFG)
- Fishing zone (EEZ/HSEA/COMB)
- Catch type (landings, discards (dead/alive))
- QTY (kg)

T1NC cumulative catch (t) by species groups

Legend:
- 6-Other Species
- 5-Sharks (other)
- 4-Sharks (major)
- 3-Tuna (other)
- 2-Tuna (small)
- 1-Tuna (major sp.)

T2CE (catch & effort): definition, coverage, structure

✔ **Definition:** Monthly catch (all species catch composition) & effort (1+ measures) statistics disaggregated by fleet, gear, month, and, geographical squares (LL: 5x5, surface gears: 1x1)
- Observed (partial coverage): logbooks, landings, auction sales, observers, etc.)
- Estimated (100% coverage): full extrapolation (usually 1 species) to T1NC

✔ **Composed of:**
- Official submissions (grouped, NO vessel discrimination)
- SCRS estimations (corrections, improvements, etc.) :: unusual (except tropical fisheries)

✔ **Coverage**
- Time series: 1950 to 2016+
- All fleet components (fleet/gear combination ~ "metier")

✔ **Ongoing work**: harmonisation of all datasets (1950-2016+): month / (1x1(surf)/5x5(LL)
- Eliminate year/quarter & large grids 20x20/10x20/10x10 (SCRS/Secretariat data recovery plan)

✔ **Structure:**
- Flag   (~ ISO-3166 A3 + custom)
- Fleet (mostly SA purposes)   (custom)
- Year/month
- Gear   (custom)
- Geog. grid (square type, Quad, Lat, Lon)
  - (?) moving to centroids : 1x1, 5x5
- Effort1 / Effort type   (custom)
- Effort2 / Effort type   (custom)
- Species catch composition   (kg, number)
  - Species   (ASFIS)
  - Catch type (L, DD, DL)
  - fishing mode (FAD/FSC/MFAD)

Detail	Catch and effort attributes	Fleet ID	Flag of Vessel (cod)	ICCAT code
			Base port/zone	text
		Time series / gear	Year	integer
			Month	integer
			Gear (cod)	ICCAT code
		Geographic area	Square t. (cod)	ICCAT code
			Quad (cod)	ICCAT code
			Lat	float
			Lon	float
		Effort data	Effort 1	float
			Effort 1 type (cod)	ICCAT code
			Effort 2	float
			Effort 2 type (cod)	ICCAT code
	Species catch composition	Tuna & tuna-like species, sharks (targetted and by-catch)	Species (cod)	ICCAT code
			School t. (cod)	ICCAT code
			L/D	ICCAT code

T2SZ (size samples): definition, coverage, structure

✔ **Definition:** Actual (measured fish) size/weight frequencies with number of fish sampled and distribution in classes (size/weight), disaggregated by fleet, year, month catch, gear, sampling area (catch) and/or geographic square.
  · Observed (partial coverage): port sampling, observers, etc.

✔ **Composed of:**
  · Official submissions
  · ICCAT sampling programs (various)

✔ **Coverage**
  · Time series: 1950 to 2016+
  · All fisheries (fleet+gear+species/stock)

✔ **Ongoing work**: harmonisation of all datasets (1950-2016+): month / (SaArea, 5x5, 1x1) / smaller classes
  · Eliminate year/quarter & large grids 20x20/10x20/10x10 (SCRS/Secretariat data recovery plan)

Structure:

Detail	Sample attributes	Fleet ID	Flag of Vessel (cod)	ICCAT code
			Base port/zone	string
		Catch strata associated to samples	Year (calendar)	integer
			Month	integer
			Gear (cod)	ICCAT code
			Catch type (cod)	ICCAT code
			School t. (cod)	ICCAT code
		Geographic area	Sampling area (cod)	ICCAT code
			Square t. (cod)	ICCAT code
			Quad (cod)	ICCAT code
			Lat	integer
			Lon	integer
			Data source (cod)	ICCAT code
			Total catch (kg)	float
	Sample strata		Sample unit ID (SU)	integer
			Month (sample)	ICCAT code
		Total fish sampled	Weight (kg)	integer
			Number	float
	Size frequency details		Size class	integer
			U	integer
			M	integer
			F	integer
			I	integer

Development roadmap:

✔ **With the:**
- · Acquired experience with FORS (feasibility study)
- · Acquired experience with ICCAT Online STAT validation system (under testing during 2018)
- · Other tRFMO experiences on "online reporting" (e.g.: e-MARIS) & TCN recommendations
- · **Rec.16-19** "RECOMMENDATION BY ICCAT FOR THE DEVELOPMENT OF AN ONLINE REPORTING SYSTEM"
- · Guidance of ICCAT "Online Reporting Technology Working Group" (meeting next week)

✔ **Development foreseeing the "ICCAT Integrated Online Management System (IOMS, I2OMS !!)"**
- · Dynamics of: regulations, requirements, reporting threads, validation, integration/storage, dependency, querying, assembling/rendering, history trends/scores, …
- · Problem: "no budget yet !! " & ICCAT IT staff too short/busy

✔ **With current situation, the next steps foreseeing "online reporting":**
- · Adaptation of eForms (ST, TG, CP)   :: ongoing (ready 10 out of ~40)
- · Adaptation of ICCAT-DB   :: lot of work here
- · Elimination of requirements redundancy, deadlines complexity, etc.
- · Adapt/transform current "unattended integration tool" code base (JAVA) into a RESTfull API
- · Extend it to read the eForms
- · Design of the "core" database of I2OMS

✔ **As time & current ICCAT workload (+20 meetings/2018) permits**

Discussion: "ICCAT coding system and CWP code harmonization"

- ✔ Changes in the ICCAT coding system always passes trough SCRS (SC-STAT) approval.

- ✔ ICCAT is in the process (started in 2010) of simplifying "codes" (redundancy, meaningfulness, etc.)
  - ✔ Gears: eliminated SURF, SPORT, and, gears with discards components (LL_D, PS_D, GILL_D, …)
  - ✔ Species groups (family, genera) discrimination: SMT, MAK, BIL, KGX, etc.
  - ✔ Flag/fleet simplification: possibly shorter (ISO-3166-A2) & more meaningful
  - ✔ T1/T2 series normalization: grid system (dead: 20x20, 10x20), Frequency types, effort units, etc.

- ✔ Current CWP proposed DSDs do not completely match ICCAT fishery statistics dataset structures, neither the ICCAT coding system (e.g.: gears with higher granularity / specific details)

- ✔ However, a mapping between the two systems is possible ("not simple")
  - ✔ (CAVEAT: data dissemination will need both codes to guarantee "reversibility on grouping")

- ✔ The ICCAT "simplification work" could benefit/simplify code mapping "CWP ↔ ICCAT"

- ✔ ICCAT has some flexibility to accommodate possible codes changes:
  - ✔ If they do not affect SCRS main objectives (SA & advice to the Commission) &
  - ✔ Always after SC-STAT study/deliberation