

**Importance of Spectrum allocation for the
Earth Exploration Satellite Service**

SPECTRUM: HIGHWAY OF THE WIRELESS COMMUNICATIONS



ANE:
MANAGES THIS HIGHWAY AND PROMOTES THE
EFFICIENT AND STRATEGIC USE OF IT

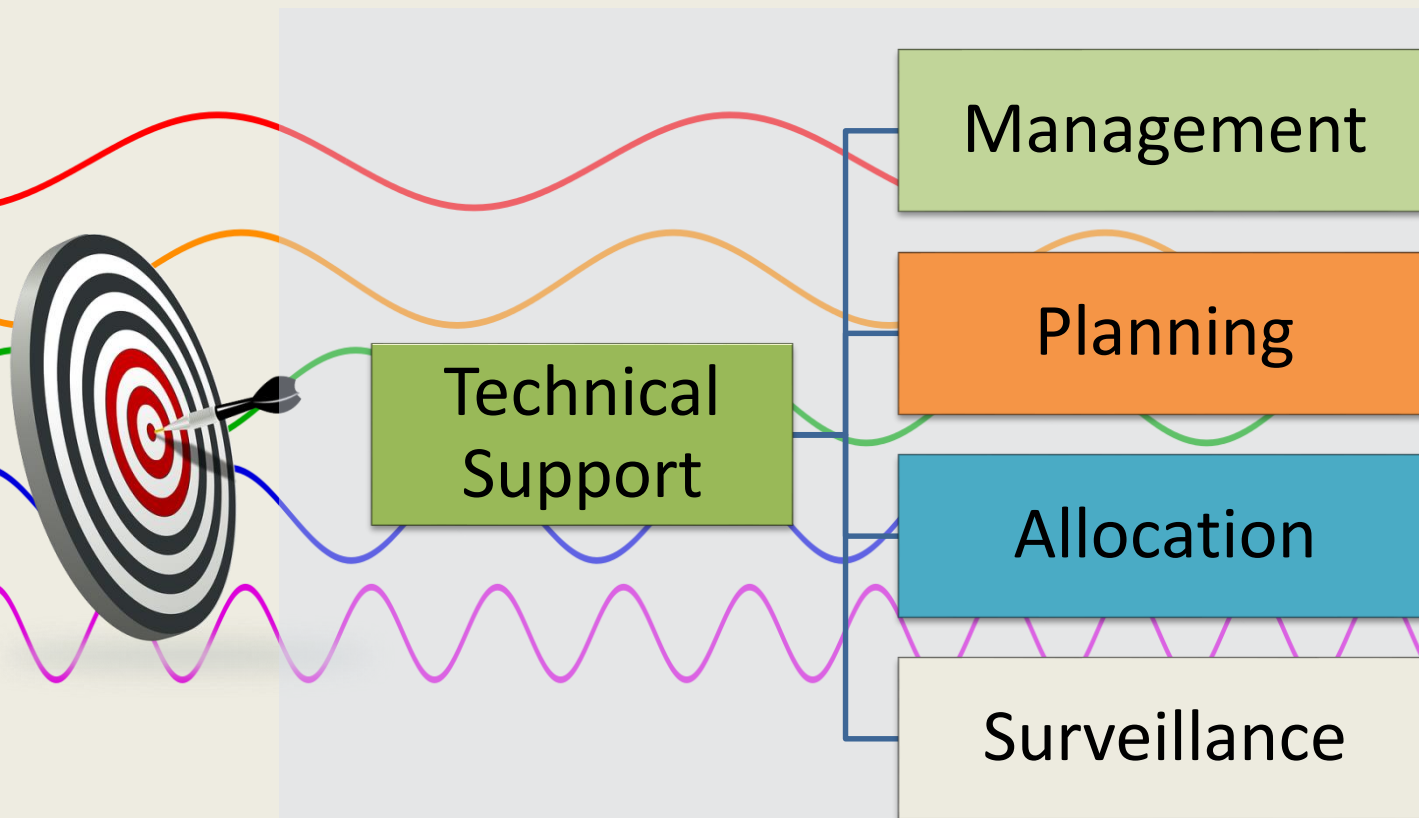
MISION

To perform the planning, allocation, monitoring and control of radio Spectrum in Colombia, as well as to provide technical advice for the efficient management of it and to promote its knowledge.

VISION

In 2018, ANE will be recognized as a specialized and innovative entity, leader to make Spectrum available for broadband communications, to apply new technologies to improve its modern monitoring and control system and to train of the community on Spectrum issues.

GOAL OF THE NATIONAL SPECTRUM AGENCY:



INTERNATIONAL GUIDELINES:



Andean Telecommunications Authorities
Committee -CAATEL-



Interamerican Telecommunications
Commission -CITEL- Specially PCCII



International Telecommunications Union
-ITU-, Specially UIT-R



REGLAMENTO DE
RADIO



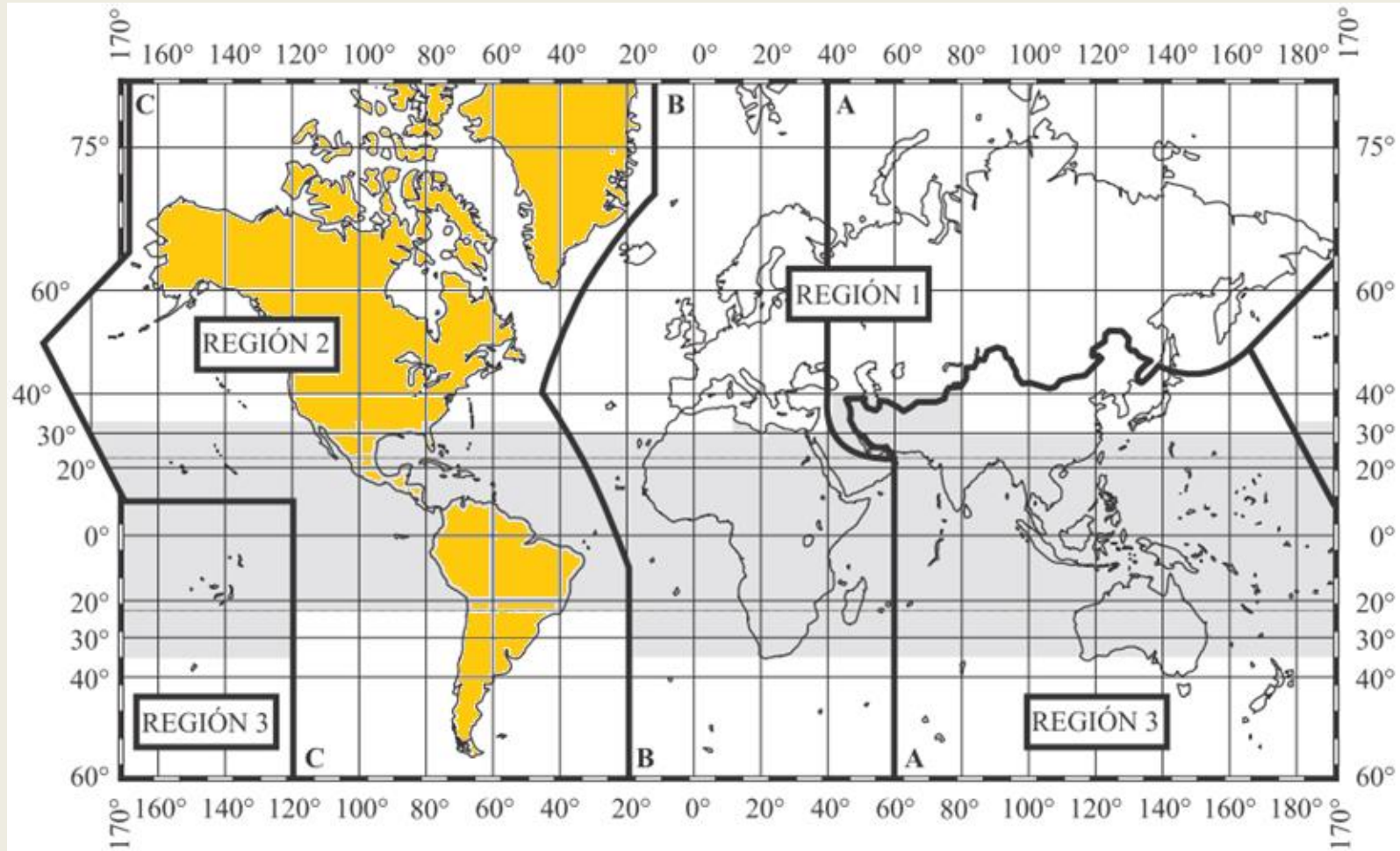
CONFERENCIAS
MUNDIALES DE RADIO

COLOMBIA

está vinculada a los organismos
internacionales de gestión de
espectro



ITU ESTABLISHES THE WORLDWIDE SPECTRUM ALLOCATION IN THE RADIO REGULATIONS



Allocation: decision about which service (or services) will use a specific frequency band.

COLOMBIA'S NATIONAL ALLOCATION CHART - CNABF

CNABF

Organize the
spectrum use in
Colombia

Sets the Colombia's
purpose of the use of
spectrum by one or
more *services* under
specified conditions



Radio Regulations
(World Radio Conference - WRC)



MinTIC
Ministerio de Tecnologías
de la Información y las Comunicaciones

National Regulations

41 Radio Services



Spectrum

PRIMARY OR SECONDARY ALLOCATION

432 – 438	Frequencies
RADIOLOCALIZACIÓN	Primary Allocation
AFICIONADOS	Secondary allocation.
Exploración de la Tierra por Satélite (activo) 5.279A	Footnote references
5.278 5.282	International note.

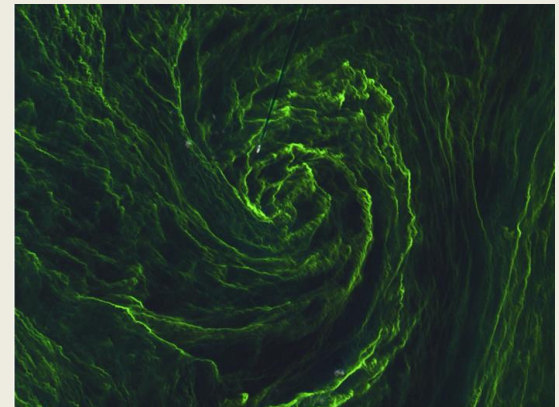
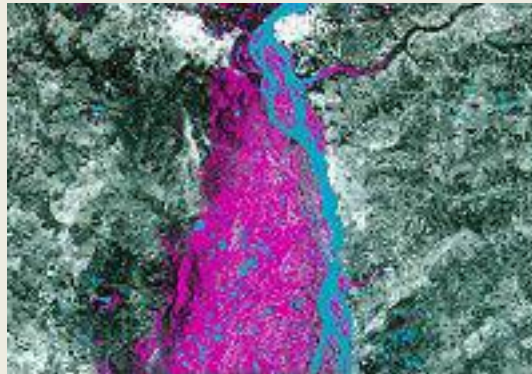
Unidad	Región 2	Colombia	Notas nacionales
MHz	1710 - 1930 FIJO MÓVIL 5.384A 5.388A 5.388B	1710 – 1890 FIJO MÓVIL 5.384A 5.388A 5.388B	CLM 5 CLM 48

Primary allocation services has priority and protection against interference, Secondary allocation does not have protection against interference and must protect the primary allocated services

	5.149 5.341 5.385 5.386 5.387 5.388	MÓVIL 5.388A 5.388B 5.149 5.341 5.385 5.386 5.388	CLM 62
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EARTH EXPLORATION SATELLITE SERVICES

A radiocommunication service between earth stations and one or more space stations can include links between space stations, in which: information about the characteristics of the Earth and its natural phenomena, including data relating to the state of the environment is obtained through active or passive sensors on Earth satellites sensors.



EESS ALLOCATION IN COLOMBIA (CNABF)

INITIAL FREQ (MHz)	FINAL FREQ (MHz)	BW (MHz)	ALLOCATION
401	402	1	PRIMARIO
402	403	1	PRIMARIO
432	438	6	Secundario
1215	1240	25	PRIMARIO
1240	1300	60	PRIMARIO
1400	1427	27	PRIMARIO
1525	1530	5	Secundario
1530	1535	5	Secundario
2025	2110	85	PRIMARIO
2200	2290	90	PRIMARIO
2655	2670	15	Secundario
2670	2690	20	Secundario
2690	2700	10	PRIMARIO
3100	3300	200	Secundario
5250	5255	5	PRIMARIO
5255	5350	95	PRIMARIO
5350	5460	110	PRIMARIO
5460	5470	10	PRIMARIO
5470	5570	100	PRIMARIO
8025	8175	150	PRIMARIO

INITIAL FREQ (MHz)	FINAL FREQ (MHz)	BW (MHz)	ALLOCATION
8175	8215	40	PRIMARIO
8215	8400	185	PRIMARIO
8550	8650	100	PRIMARIO
9300	9500	200	PRIMARIO
9500	9800	300	PRIMARIO
9800	9900	100	Secundario
10600	10680	80	PRIMARIO
10680	10700	20	PRIMARIO
13250	13400	150	PRIMARIO
13400	13750	350	PRIMARIO
13750	14000	250	Secundario
15350	15400	50	PRIMARIO
17200	17300	100	PRIMARIO
18600	18800	200	PRIMARIO
21200	21400	200	PRIMARIO
22210	22500	290	PRIMARIO
23600	24000	400	PRIMARIO
24050	24250	200	Secundario
25500	27000	1500	PRIMARIO
28500	29100	600	Secundario

INITIAL FREQ (MHz)	FINAL FREQ (MHz)	BW (MHz)	ALLOCATION
29100	29500	400	Secundario
29500	29900	400	Secundario
29900	30000	100	Secundario
31300	31500	200	PRIMARIO
31500	31800	300	PRIMARIO
35500	36000	500	PRIMARIO
36000	37000	1000	PRIMARIO
37500	38000	500	Secundario
38000	39500	1500	Secundario
39500	40000	500	Secundario
40000	40500	500	PRIMARIO
50200	50400	200	PRIMARIO
52600	54250	1650	PRIMARIO
54250	55780	1530	PRIMARIO
55780	56900	1120	PRIMARIO
56900	57000	100	PRIMARIO
57000	58200	1200	PRIMARIO
58200	59000	800	PRIMARIO
59000	59300	300	PRIMARIO
65000	66000	1000	PRIMARIO

INITIAL FREQ (MHz)	FINAL FREQ (MHz)	BW (MHz)	ALLOCATION
86000	92000	6000	PRIMARIO
94000	94100	100	PRIMARIO
100000	102000	2000	PRIMARIO
109500	111800	2300	PRIMARIO
114250	116000	1750	PRIMARIO
116000	119980	3980	PRIMARIO
119980	122250	2270	PRIMARIO
130000	134000	4000	PRIMARIO
148500	151500	3000	PRIMARIO
155500	158500	3000	PRIMARIO
164000	167000	3000	PRIMARIO
174800	182000	7200	PRIMARIO
182000	185000	3000	PRIMARIO
185000	190000	5000	PRIMARIO
190000	191800	1800	PRIMARIO
200000	209000	9000	PRIMARIO
226000	231500	5500	PRIMARIO
235000	238000	3000	PRIMARIO
250000	252000	2000	PRIMARIO
TOTAL		88,035 GHz	

USE OF EESS IN COLOMBIA



EESS IN THE WORLD RADIOCOMMUNICATION CONFERENCE 2015 WRC-15



Many WRC-15 Agenda Items propose more spectrum allocations to the EESS (Earth Exploration Satellite Service).

One of the services with more Agenda Items

1.11 Additional Allocation to EESSS (Earth - Space) in 7190-7250MHz

Interamerican Proposal –IAP- in CITEL

1.12 New Allocation to EESS (active) in 9 900-10 500 MHz.

IAP in CITEL. (CLM support). Support in other regions.



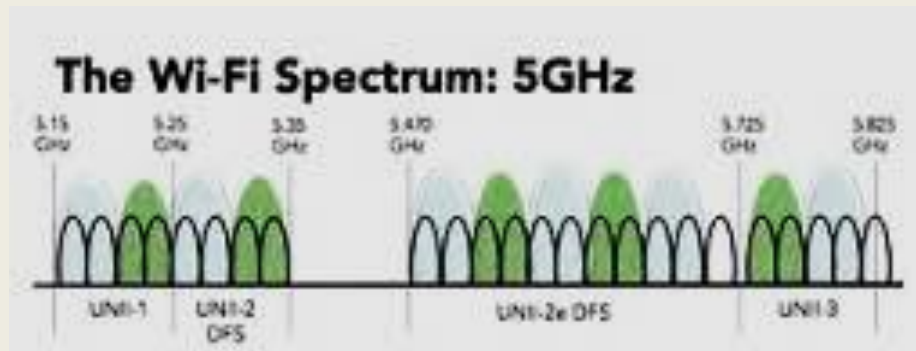
1.1 Possible new allocations to Mobile service.

EESS band studied: 5350-5470MHz to RLAN's (WiFi).

*IAP in CITEL to NOC
(No new allocation to mobile)*

EESS IN THE NEXT WORLD RADIOCOMMUNICATION CONFERENCES: WRC-19 AND WRC-2023

- CITELE's proposals to study in the next study cycle (WRC-19)
- Further studies to evaluate feasibility to the use of 5350-5470MHz range to RLAN (Wi-Fi).



WRC-2023:

- Studies to evaluate feasibility of a new EESS allocation in 40-50MHz.

Both proposals are CITELE's IAPs for the WRC-15



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