

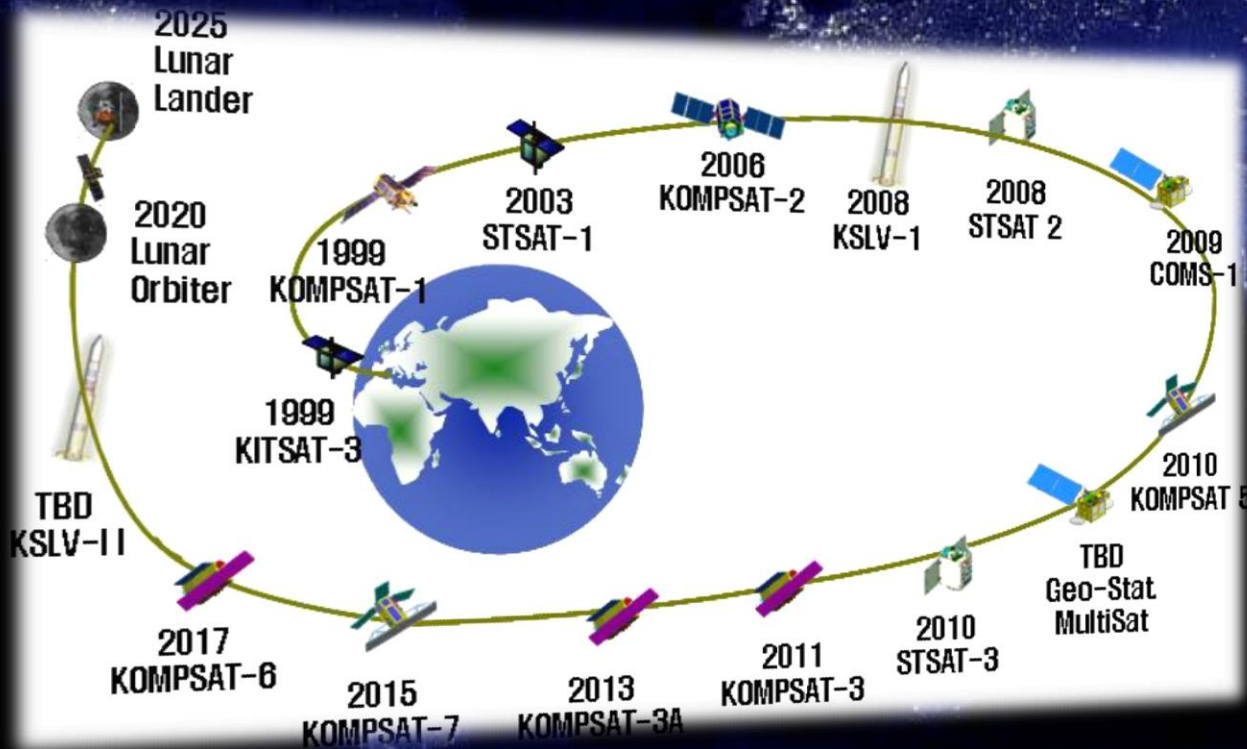
Korean Space Environment Forecast Center

Its Mission and Vision

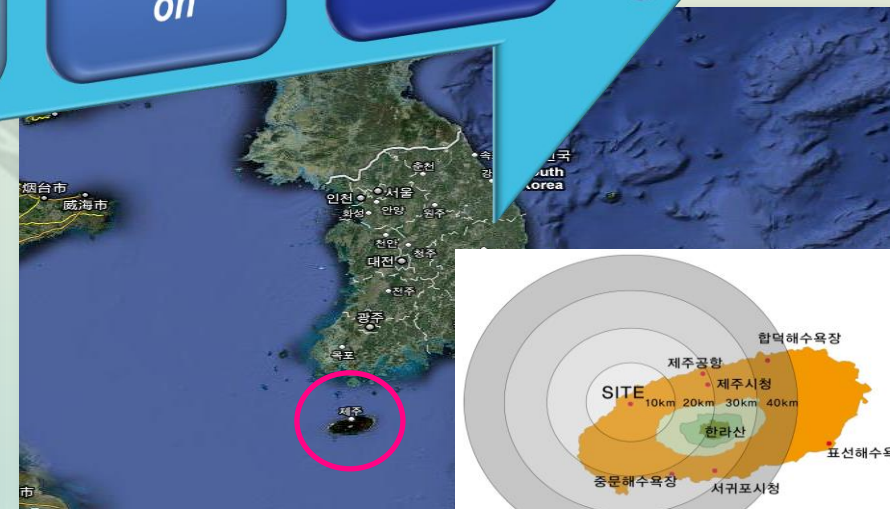


Seok-hee Bae, Sun-hak Hong, Jin-wook Han,
Jong-woon Kim, Whan-sang Lee, Chung-hyun Yu, Hun Youn,
Jung-tae Kim

Korea ?



Ground Breaking Ceremony for KSEFC



Korean Space Environment Forecast Center



**Radio Research
Agency**



Korea Air Force



**Forecasting
Office**

**Observation
Division**

**R&D
Division**

**Customer Support
Division**

**Administrative
Division**

- Joint operation by RRA and KAF
- 45 staff and 5 divisions (excluding KAF resources)
- Official source of Korean space environment alerts, watches and warnings

KCC Org Chart



KCC Head Quarters

- Commission
- Planning and Coordination Office
- B&C Convergence Policy Office
- Broadcasting Policy Bureau
- Communications Policy Bureau
- Consumer Protection Bureau
- Network Policy Bureau
- General Service Division

Radio Research Agency

- Radio Research Division
- Radio Environment Research Division
- Regulation Research Division
- Certification Division

• Icheon Branch Institute

• Korean Space Environment Center

Central Radio Management Office

- Radio Management Division
- Radio Protection Division
- Radio Planning Division
- Radio Operation Division

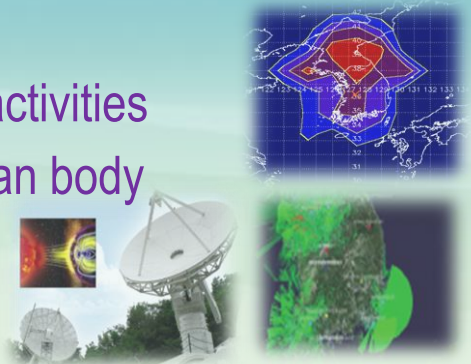
• Regional Radio Management Office
(12 Offices around nation)

• Satellite Radio Monitoring Center

Radio Research Agency

Duties

- Research on the efficient use of **radio wave resources**
- Research on **convergence technologies** and **standardization activities**
- Research on **electromagnetic interference** and **impact of human body**
- **Certification** on broadcasting & communications equipment
- Research on **space environment** and **forecasting service**



Brief History

- Feb. 1966 : Foundation of Radio Research Laboratory
- Nov. 1992 : Opened Icheon Branch Institute
- Feb. 2008 : Belonging to Korea Communications Commission



Observation Networks

Space Radiocommunications Environment Center

Home

한글

Tue Apr 20 09:40:23 MDT 2010

Space Environment

Prediction / Forecast

Real-time data

Instruments

Introduction

Contact Us

Radio Research Agency

KOREA COMMUNICATIONS COMMISSION



Local space environment

Space environment now

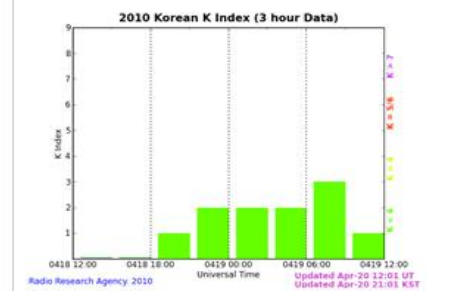
Satellite based plots

Site News

Terrestrial Environment

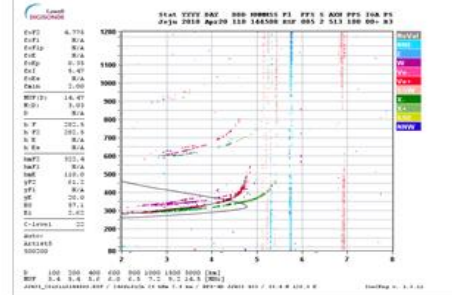
Geomagnetic Activity (K Index)

Minor



Ionospheric Activity

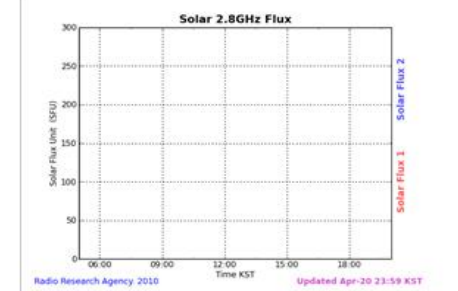
Minor



Solar Environment

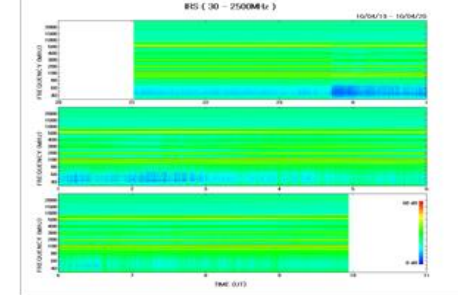
Solar Activity (2.8GHz absolute Flux)

Minor



Solar Spectrum (30MHz~2.5GHz Flux)

Minor



<http://solarradio.rra.go.kr>

Observation Systems in KSEFC



KSEFC Operational Flow

Observation

Ground Based		Ionosondes & TECs
		Magnetometers
		SRS
		F10.7 Meter
		IPS('12)
Space Based		RIMS('12)
		ACE Tracker('11)
		K-STAR('16)

Products



Ionospheric Conditions
 Korean K index
 Solar Flare Type
 Solar Activity Products
 Solar Wind
 Solar Radio Noise
 Magnetic Storm Warning
 More...

Communication Link

Cross Agencies
 International

Customers



Aviation
 Research

Concepts of KSEFC Services

P2P INPUT GUIDE

국립전파연구원 전파정보서비스

- **목적수 입력** : SSN
- 년/월 선택하면 자동추출
- 0~300까지 소수점1자리
- **사용 주파수** : khz
- f1~f8 자동추출 또는
- 2~30, 소수점3자리
- **사용자 요구 S/N비** : db
- 기본값: 45 (-30~99정수)
- **최소송신각** :
- 0.01~40, 소수점1자리
- **송신가속력** : kw
- 0.001~9999

자료입력

지점-지점 예보를 위한 자료를 입력해 주세요

• 시간: 2008년 3월 시간대 선택: KST

• 목적수: 4.3 ※ 시간선택(년,월)을 하시면 자동 산출되며, 직접 입력도 가능합니다. (입력범위: 0~300, 소수점2자리)

• 송신지: ☒ 국내 ☐ 국외 대진 위도(A6): 36.19N 경도(A7): 127.25E

• 수신지: ☐ 국내 ☒ 국외 GUAM 위도(A6): 13.21N 경도(A7): 144.45E

• 경로정보: 최단거리

• 사용주파수: **아미추어** ※ 사용주파수 선택 후 개별 주파수값의 수정 입력도 가능합니다. (입력범위: 2~30, 소수점3자리)

1: 3.525 2: 3.795 3: 7.050 4: 10.125 5: 14.175 6: 18.118 7: 21.225 8: 24.940

수신지 잡음레벨: 주가지역(-144.7) dBw

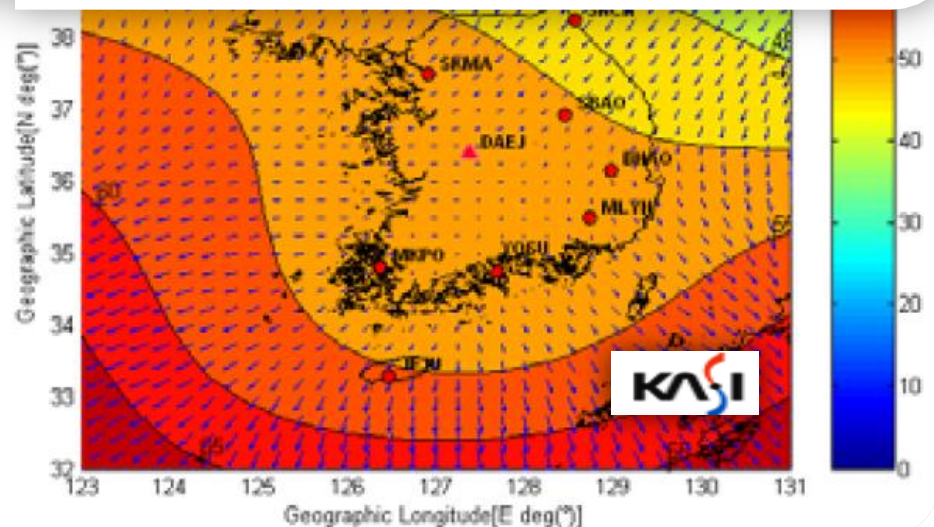
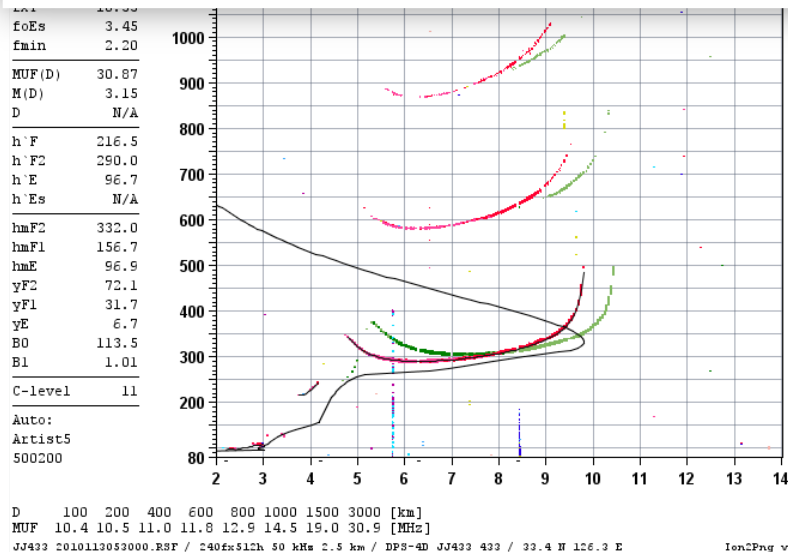
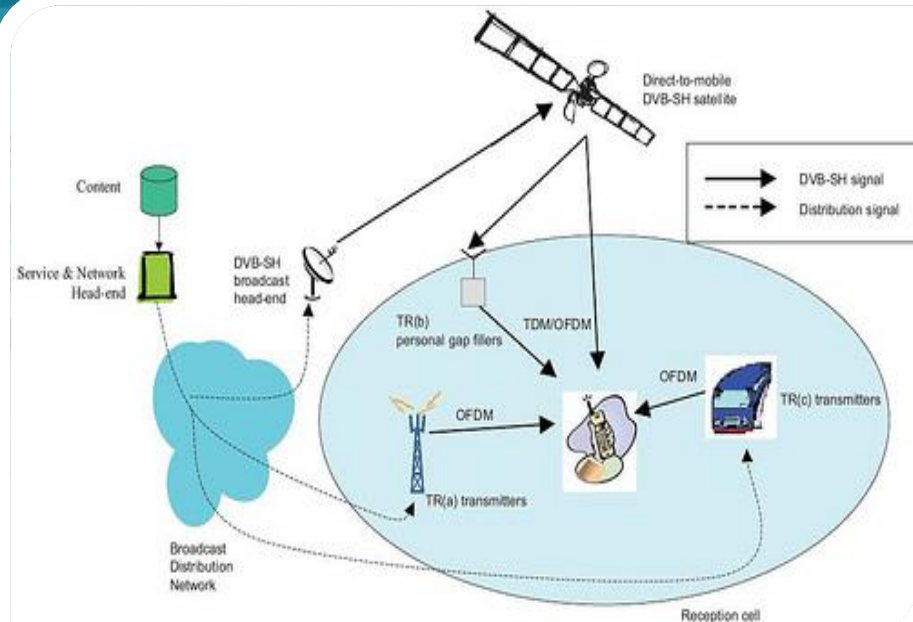
• 통신환경: 사용자요구 S/N비: 45 dB (입력범위: -30~99사이 정수값 | 기본값: 45)

최소송신각: 0.01 (입력범위: 0.01~40, 소수점2자리)

• 기기환경: 송신가속력: 1.0 kw (입력범위: 0.001~9999 사이, 소수점3자리)

• 안테나 선택: 송신안테나: Horizontal Rhombic 수신안테나: Horizontal Dipole

입력완료 다시입력



Effective Partnership



International

ISES

NOAA

IPS



KMA



National
Defense



KASI

More ...



ITU



Ubiquitous Communication Society

Advanced Prediction Service of the Space Environment's Impacts to IT Systems

