

Space Weather & Ionospheric Data – Government & Commercial

**Royal Observatory of Belgium
Solar Influences Data Analysis Centre (SIDC)**
<http://www.sidc.be/index.php>

IPS Australia
http://www.sws.bom.gov.au/Space_Weather

NOAA Space Weather Prediction Center
<http://www.swpc.noaa.gov/>

European Digital Upper Atmosphere Server (DIAS)
<http://hertz2.space.noa.gr:8080/LatestDias2/loginPage.jsp>

European Space Agency (ESA) Space Situational Awareness
<http://ssa-be-vm-fe-09p.ssa.esa.int/web/guest/solar-weather>

NASA Jet Propulsion Laboratories
http://iono.jpl.nasa.gov/latest_rti_global.html

**IAASARS
National Observatory of Athens - Digisonde**
<http://www.iono.noa.gr/>

**Istituto Nazionale di Geofisica e Vulcanologia (INGV)
Rome Digisonde**
<http://ionos.ingv.it/spaceweather/start.htm>

Space Weather & Ionospheric Data – Amateur

SunSpotWatch.com
Radio Propagation Space Weather Sunspot Cycle Information
Tomas David Hood (NW7US)
<http://sunspotwatch.com/>

HF Propagation Tools & Solar Data
Paul L Herrman N0NBH
<http://www.hamqsl.com/solar.html>

Solar Ham
<http://www.solarham.net/>

Serge Stroobandt ON4AA
<http://www.stroobandt.com/propagation/en/index.html>

Propagation News

RSGB GB2RS Propagation News
<http://rsgb.org/main/gb2rs/propagation-news/>

HF Propagation Predictions Commercial – Online (Free)

IPS Australia
http://www.sws.bom.gov.au/HF_Systems/7/1

VOACAP Online Prediction Services
<http://www.voacap.com/>

HF Propagation Predictions Amateur – Online

RSGB RadCom HF Propagation Predictions Gwyn Williams G4FKH

<http://rsgb.org/main/operating/propagation-predictions/>

Steve Nichols G0KYA

<http://www.infotechcomms.co.uk/propcharts/>

Serge Stroobandt ON4AA

<http://www.stroobandt.com/propagation/en/index.html>

HF Propagation Predictions Software – To Buy

IPS Australia

<http://www.sws.bom.gov.au/>

ASAPS Version 6 \$AUD 350

ASAPS Lite \$AUD 85

Solar Terrestrial Dispatch

<http://www.spacew.com/>

Proplab-Pro Version 3 \$US 260

HF Propagation Predictions Software – Free

U.S Department of Commerce

National Telecommunications & Information Administration

Institute for Telecommunication Sciences

Boulder, Colorado

<http://www.its.bldrdoc.gov/resources/radio-propagation-software/radio-propagation-software.aspx>

ITU-R Working Party 3L (WP 3L) - Ionospheric propagation and radio noise

<http://www.itu.int/en/ITU-R/study-groups/rsg3/rwp3l/Pages/default.aspx>

Real-Time Propagation

HF Propagation Beacons

Northern California DX Foundation (NCDXF) / International Amateur Radio Union (IARU Beacon Network)

<http://www.ncdxf.org/beacon/intro.html>

G3USF's Worldwide List of HF Beacons

<http://www.keele.ac.uk/depts/por/28.htm>

Amateur Digital Modes

PSK Automatic Propagation Reporter

<https://www.pskreporter.info/pskmap.html>

WSPR - Weak Signal Propagation Reporter Network

<http://wsprnet.org/drupal/wsprnet/map>

Further Reading

RSGB Propagation Studies Committee (PSC) & RadCom

'Understanding LF and HF Propagation' by Steve Nichols G0KYA and Alan Melia G3NYK - Published in RadCom.

http://www.infotechcomms.co.uk/Understanding_LF_and_HF_propagation.pdf

Ionospheric Sounders – Presentation by Steve Nichols G0KYA

http://www.infotechcomms.net/ionospheric_sounding.pdf