

IONOSPHERIC RADIO PROPAGATION
U.S. ARMY Radio Propagation Agency Tech. Report
#9
NATIONAL BUREAU OF STANDARDS
Circular 462
1942 - 1948

**Environmental Science Services Administration - Institute
for Telecommunication Sciences and Aeronomy**

1st general release of computer prediction program
ITSA-1
[Lucas and Haydon, 1966]

Naval Research Laboratories
over-the-horizon radar
Prediction computer programs
RADAR-A, RADAR-B, RADAR-C
early 1970's

2nd Generation Ionospheric
Telecommunications prediction
programs
ITS-78
[Barghausen, et al., 1969]

HFMUFES-4
[Haydon, et al., 1976]

**National Telecommunications and
Information Administration**
**Institute for Telecommunication Sciences
(ITS)**
IONCAP
3rd generation Ionospheric
Telecommunications Prediction Program
[Lloyd, et al., 1978]

VOICE OF AMERICA
Selects IONCAP for Modernization
Program - 1985

Improves and develops Area Coverage
Model as
VOACAP
(development by NRL, ITS and VOA
staff)
released to the public 1993
Rockwell Collins user's guide
[Lane, 2001]

Released to
public in 1985
by NTIS

Daily Prediction Methods with
improved High Latitude propagation
models (NSA and USAF support)

ICEPAC
1996
[Stewart, undated]

www.voacap.com

VOACAP, ICEPAC and ITU-R Rec. 533 are available from ITS
<http://elbert.its.blrdoc.gov/hf.html>