

UNITED NATIONS / UNITED STATES OF AMERICA

WORKSHOP ON

**“Use and Applications of
Global Navigation Satellite Systems”**

**Hosted by the Government of Chile
Co-sponsored by the European Space Agency**

*1-5 April 2002
Santiago, Chile*



FINAL PROGRAMME

United Nations/United States of America Workshop on “Use and Applications of Global Navigation Satellite Systems”

Monday, 1 April 2002

09:00-10:00	Registration	
10:00-12:00	Opening ceremony: Master of ceremonies: S. Villagran (Chile) Welcome address	N. Hadad, President Chilean Space Agency
	Opening statements	P.S. Goldbert (United States) Amb. R. González (Chile) Amb. P. Jankowitsch (Austria) M.-E. De Vel, (European Space Agency)
	Background and objectives of the Workshop	S. Camacho (United Nations)
12:00-14:00	<i>Lunch</i>	
14:00-16:00	Visit to GPS exhibit (USA)	All participants
15:00-17:00	FIDAE Opening	
17:00-18:00	Visit to FIDAE exhibits	All participants

Tuesday, 2 April 2002

Session I	Existing and Future GNSS Systems and Their Applications Chairperson: K. Pseiner (Austria)	
09:00-09:30	Status and development of Global Positioning System	D. Turner, (United States)
09:30-10:00	Status and development of Glonass	S. Revnivych, (Russian Federation)
10:00-10:30	Status and development of Galileo	F. Salabert (European Space Agency / European Commission)
10:30-11:00	<i>Coffee/Tea break</i>	
11:00-11:30	Status and developments in GPS augmentations	H. Skalski (United States)
11:30-12:00	Overview of GNSS applications	N. Johnson (United States)
12:00-12:30	Interactive discussion with the audience – objectives of the Workshop and how to achieve them	All Participants
12:30-14:00	<i>Lunch</i>	

Session II Use and Applications of GNSS in Civil Aviation

Chairperson: H. Matamoros (Colombia)

14:00-14:30	The use of GNSS in navigation in Chile	L. Rossi Jofre (Chile)
14:30-15:00	CNS/ATM activities in Peru	P. Gamboa, (Peru)
15:00-15:30	GPS augmentation status and challenges of the Southern Hemisphere	C. Fagan (United States)
15:30-16:00	<i>Coffee/Tea break</i>	
16:00-16:30	Status and Development of EGNOS	F. Salabert (ESA/EC)
16:30-17:00	GNSS Laboratory: "Human resources formation and research for civil aviation"	F. Walter (Brazil)
17:00-17:30	Inter-operability of GNSS as a solution for navigation in Latin America	J. Riveros (Colombia)
17:30-18:00	An Incremental Approach to Implementation of Certified Augmentation Systems	J. Lewellen (United States)

Wednesday, 3 April 2002**Session III GNSS Applications to Promote Sustainable Development and Support Disaster Management**

Chairperson: C. Illanes (Peru)

09:30-10:00	Overview of GNSS activities in Brazil	R. Schaal, (Brazil)
10:00-10:30	Identification of landslides and deforestation risks using the GPS system	O. Delgado (Ecuador)
10:30-11:00	<i>Coffee/Tea break</i>	
11:00-11:30	Use of orthophotos and GPS in preparing seismic and mudslide vulnerability maps	S. Arreaga (Guatemala)
11:30-12:30	Short Presentations by participants	
	GNSS and urban transportation	G. Pérez (Economic Commission for Latin America and the Caribbean)
	Maritime use and applications of GNSS	T. Rice (United States)
	Use of GPS in maritime field	I. Vargas (Chile)
12:30-14:00	<i>Lunch</i>	

Session IV GNSS Applications to Promote Sustainable Development: Management of Natural Resources and Agriculture

Chairperson: C. Vettorazzi (Brazil)

14:00-14:30	The use of GPS in South American precision agriculture	J. P. Molin (Brazil)
14:30-15:00	The use of GPS and mobile mapping for decision-based precision agriculture	M. Rasher (United States)
15:00-15:30	Georeferencing of coffee crops in Costa Rica using GPS	L. Tortós (Costa Rica)
15:30-16:00	<i>Coffee/Tea break</i>	

16:00-16:30	Short presentations by participants	
	GPS: a tool for agricultural statistics in Haiti	G. Porcena (Haiti)
	Teaching geotechnologies in the agricultural sciences careers	C. Vetorazzi (Brazil)
16:30-	Working group session	
	Working Group on Aviation and Transportation	
	Chairperson: H. Matamoros	
	Working Group on Disaster Management	
	Chairperson: C. Illanes (Peru)	
	Working Group on Agriculture	
	Chairperson: C. Vetorazzi (Brazil)	

Thursday, 4 April 2002

Session V GNSS Applications to Promote Sustainable Development: Geodesy, Surveying, and Mapping

Chairperson: T. Yunck (United States)

09:00-09:30	The Geocentric Reference System for the Americas (SIRGAS): Achievements and Prospects	W. Martinez (Colombia)
09:30-10:00	Development of the Transportable Integrated Geodetic Observatory (TIGO)	H. Hayo (Germany) O. Cifuentes (Chile)
10:00-10:30	The Active National Geodesic Network of Mexico	A. Hernández (Mexico)
10:30-11:00	<i>Coffee/Tea break</i>	
11:00-11:30	Unification of global coordinate systems related to navigation safety – precise ground location	J. Barriga (Chile)
11:30-12:00	Participation of Trinidad and Tobago in the SIRGAS 2000 Project	S. Elder-Alexander T. Leong (Trinidad and Tobago)
12:00-12:30	Working group session	
	Working Group on Education and Training	
	Chairperson: F. Walter (Brazil)	
12:30-14:00	<i>Lunch</i>	

Session VI GNSS and Precision Timing - Applications to Telecommunications and Earth Sciences

Chairperson: A. E. Garcia Rivero (Cuba)

14:00-14:30	GPS and Precision timing	A. Gifford (United States)
14:30-15:00	GNSS applications in telecommunications	C. Junqueira (Brazil)
15:00-15:30	Use of GPS in studies of the ionosphere	A. Meza (Argentina)
15:30-16:00	<i>Coffee/Tea break</i>	
16:00-16:30	GPS and its applications in Earth sciences	T. P. Yunck (United States)
16:30-17:00	Using GNSS for Earth Sciences in Brazil	J. F. Monico (Brazil)

17:00- Working Group session
 Working Group on Geodesy and Earth Sciences
 Chairperson: W. Martinez (Colombia)
 Working Group on Education and Training
 Chairperson: F. Walter (Brazil)

Friday, 5 April 2002

Session VII Expanding the use of GNSS in protecting the environment and managing natural resources

Chairperson: L. E. Molina (Panama)

09:00-09:30	CBERS and GNSS data as cost-effective tools for regional mapping and monitoring	P. R. Martini (Brazil)
09:30-10:00	Positioning and Point Sampling of Natural Protected Areas in Peru	G. Germana (Perú)
10:00-10:30	The use of GPS and GIS in detecting flow problems in irrigation systems	A.M. Bustamante, (Chile)
10:30-11:00	<i>Coffee/Tea break</i>	
11:00-11:30	Integrating GPS into information technologies: applications to rain water drainage	D. Flores (Chile)
11:30-12:00	Use of GPS in the automation of earth moving equipment	C. Lannata (Chile)
12:00-12:30	GPS information Systems	T. Rice (United States)
12:30-14:00	<i>Lunch</i>	

Session VIII Conclusions and recommendations

Chairperson: T. Rice (United States)

14:00-14:30	Report on the Session on GNSS Systems and Reports by Working Groups	H. Skalski (United States) and Chairpersons of the Working Groups
14:30-15:30	Discussion: conclusions and recommendations	
15:30-16:00	<i>Coffee/Tea break</i>	
16:00-16:30	Closing ceremony	F. Salabert (ESA/EC) L. Lenon (Chile) N. Johnson (United States) S. Camacho (United Nations)