

Contents

Foreword by Jack Dangermond vii

Part I: The International Geodesign Collaboration 1

Improving our global infrastructure 3

Brian Orland, Carl Steinitz, and Thomas Fisher

Geodesign systems 11

Kristina Hill, Richard Kingston, and Alenka Poplin

Design assumptions 15

Allan Shearer

Geodesign innovations 21

Neil Sang, Christian Albert, and Shiau-Yun Lu

Part II: Geodesign projects 29

How to read the projects in the book 30

Leibniz University Hannover, Germany 32

University of Georgia, United States 34

Beijing Forestry University, China 36

University College London, United Kingdom 38

Leibniz University Hannover, Germany 40

University of Ljubljana, Slovenia 42

Peking University, China 44

Università di Cagliari, Italy 46

The University of Manchester, United Kingdom 48

The Pennsylvania State University, United States 50

Hochschule Weihenstephan-Triesdorf, Germany 52

Politecnico di Milano, Italy 54

Tohoku University, Japan 56

Harvard University, United States 58

Harran University, Turkey 60

Virginia Polytechnic Institute and State University, United States 62

Ankara University, Turkey 64

University of Buenos Aires, Argentina 66

University of New South Wales, Australia 68

University of Thessaly, Greece 70

Ahmadu Bello University, Nigeria 72

Chulalongkorn University, Thailand 74

Ritsumeikan University, Japan 76

California State Polytechnic University, Pomona, United States 78

National Sun Yat-sen University, Taiwan 80

Iowa State University, United States 82

University of Seoul, South Korea 84

Oregon University System, United States 86

California State Polytechnic University, San Luis Obispo, United States 88

University of Virginia, United States 90

National University of Singapore, Singapore 92

Leibniz University Hannover, Germany (Lahn River region) 94

University of Illinois, Urbana-Champaign, United States 96

Universidade de São Paulo, Brazil 98

Federal University of Minas Gerais, Brazil 100

School of Environment and Architecture, Mumbai, India 102

Universidad Autónoma Metropolitana, Mexico 104

Swedish University of Agricultural Sciences, Sweden 106

University of Southern California, United States 108

University of North Carolina at Charlotte, United States 110

University of Basilicata, Italy 112

Texas A&M University, United States 114

Universidad Simón Bolívar, Venezuela 116

University College Dublin, Ireland 118

Georgia Institute of Technology, United States 120

Hiroshima University, Japan 122

San Diego State University, United States 124

University of California, Berkeley, United States 126

The University of Tokyo, Japan 128

Addis Ababa University, Ethiopia 130

National Institute for Environmental Studies, Japan 132

Part III: Reflections 135

Introduction 137

IGC 2019: What we learned 139

Christian Albert and Edward Ott

How geodesign processes shaped outcomes 145

Michele Campagna, Stephen Ervin, and Stephen Sheppard

The natural language of geodesign 149

Mintai Kim

Individual reflections 155

Maimuna Saleh-Bala, Kelleann Foster, Ana Clara Mourão Moura, Jörg Reikittke,

Keiji Yano, Shiau-Yun Lu, and Tess Canfield

Afterword and the direction forward 159

Thomas Fisher, Brian Orland, and Carl Steinitz

Appendix A: University team participants 163

Appendix B: Project sources and acknowledgments 171