



UN-GGIM
UNITED NATIONS
COMMITTEE OF EXPERTS ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT



75
Azadi Ka
Amrit Mahotsav

Second United Nations World Geospatial Information Congress
Theme: "Geo-Enabling the Global Village: No one should be left behind"

Topic: A Geospatial Research Perspective

Session 1: Educational and Research Perspective
Date :10-10-2022 Session timing: 14:45 - 15:30

Speaker: Jayachandra Ravi

Doctoral Research Scholar

Geomatics Division



REALITIES OF GEOSPATIAL TECHNOLOGY EDUCATION LANDSCAPE

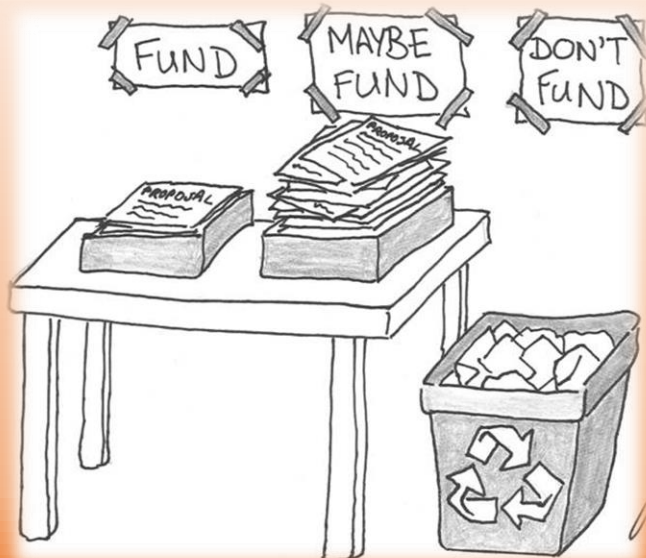
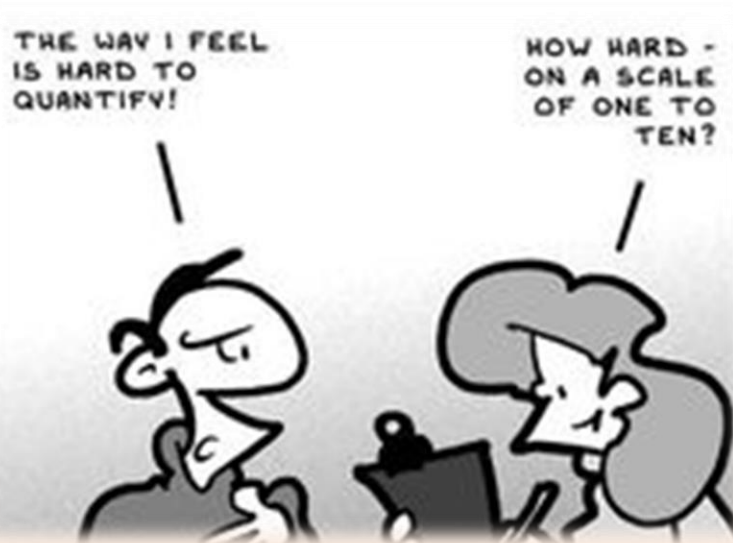
- **Empowerment:** General public has never before used as many geographic tools as today
- **Awareness:** Despite this, lack of awareness of spatial thinking and analysis and their importance in education persists
- **Adaptation:** Paradigm shift in Geospatial technology today from desktop tools to web-based GIS, Cloud-based, Online GIS platforms
- **Skill Updating:** GIS customization aided by programming languages and work with mobile devices, Web APIs, SDKs, and apps
- **Availability of Data:** Spatial data availability and permissions for its use vastly improved at global and regional scales, but at particularly at local scales, remains a serious challenge
- **Innovation:** Lack of more research in Geospatial Technology in education is a hindrance to its adoption



Driving Geospatial Research: Prioritizing Sustainability

Where? How much?

Why? What?



Direction action Goals : Geospatial Education and research for United Nations Sustainable Development Goals (SDGs)

GOAL 2: Zero Hunger

GOAL 6: Clean Water and Sanitation

GOAL 7: Affordable and Clean Energy

GOAL 9: Industry, Innovation and Infrastructure

GOAL 11: Sustainable Cities and Communities

GOAL 13: Climate Action

GOAL 14: Life Below Water

GOAL 15: Life on Land

GOAL 17: Partnerships to achieve the Goal

Research in Spatial thinking can facilitate change and the public good

- Enriching our understanding of almost any subject spatially related.
- Adding practical knowledge and capacity to implement effective solutions to challenging social problems.
- Developing problem solving skills related to complex issues in real-world contexts
- Integrating multiple sources of data into a visual presentation



Geospatial Education Agenda

Geospatial Researcher's Dilemma: Choosing a Research Topic

- Trivial vs Impact
- Time vs Timing
- Want vs Need
- Stagnation vs Innovation

Nobel laureates are not hot

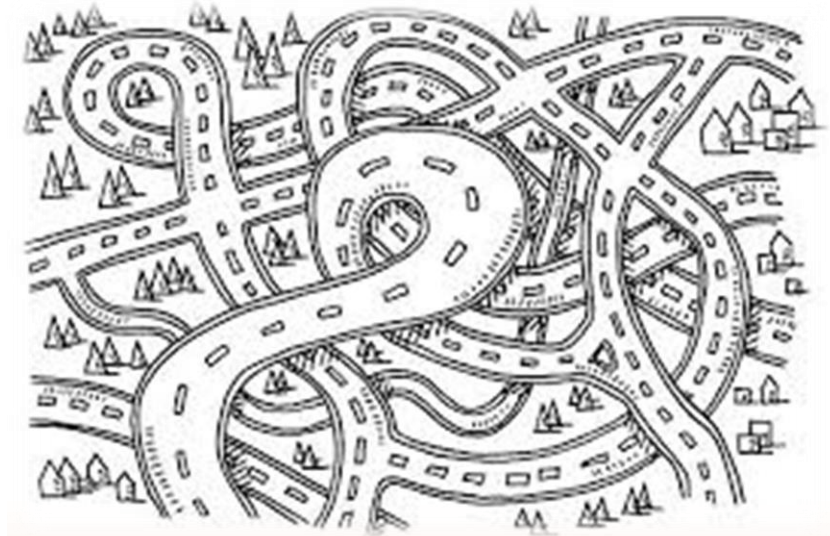
Marek Kosmulski¹

Received: 8 November 2019 / Published online: 22 February 2020
© The Author(s) 2020

Abstract

The achievements of all 97 Nobel laureates in Chemistry, Economy, Medicine, and Physics of the period 2010–2019 are compared with achievements of top non-Nobel scientists in terms of standard bibliometric indicators (number of publications, number of citations, Hirsch index), of the numbers of highly cited papers and of hot papers (as defined by WoS®), and of c , a composite score (Ioannidis et al. in PLoS Biol 14:e1002501, 2016). Ninety recent Nobel laureates were in top 100,000 scientists in terms of c , and 45 recent Nobel laureates were in top 6000 scientists in terms of c . Only 32 recent Nobel laureates were in top 6000 scientists in terms of ch (Hirsch-type index with self-citations excluded), 32 recent Nobel laureates were in top 6000 scientists in terms of the number of citations (self-citations excluded), 17 recent Nobel laureates were among the 6000 Highly Cited Researchers (WoS®), 4 recent Nobel laureates were in top 6000 scientists in terms of the number of hot papers, and 2 recent Nobel laureates were in top 6000 scientists in terms of the number of highly cited papers.

Keywords Nobel laureate · Citations · H-index

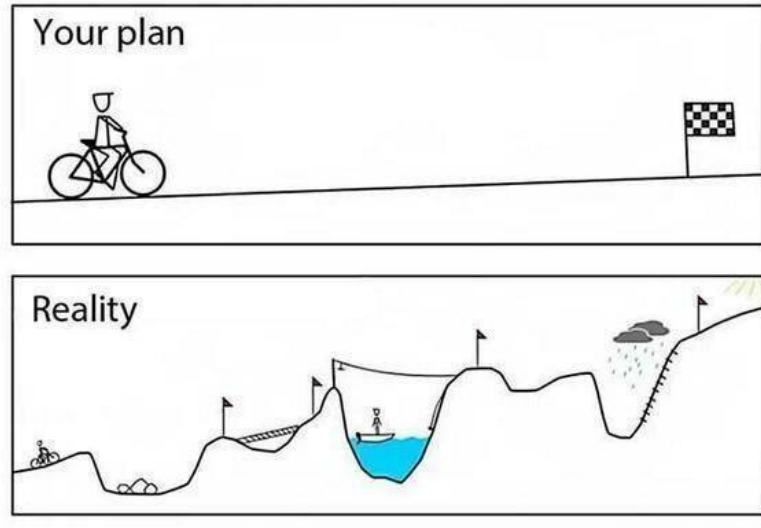


GUIDING PRINCIPLES

- Design and Plan for Sound Educational Research
- Recognize That a Range of Research Types and Approaches Are Needed
- Address Contemporary, Current Educational Concerns
- Build From and Design for Multidisciplinary Teams
- Engage Both Formal and Informal Learning Environments

Geospatial Researcher's Journey

- Iterative development of solutions
- Time consuming ~ Patience + Planning



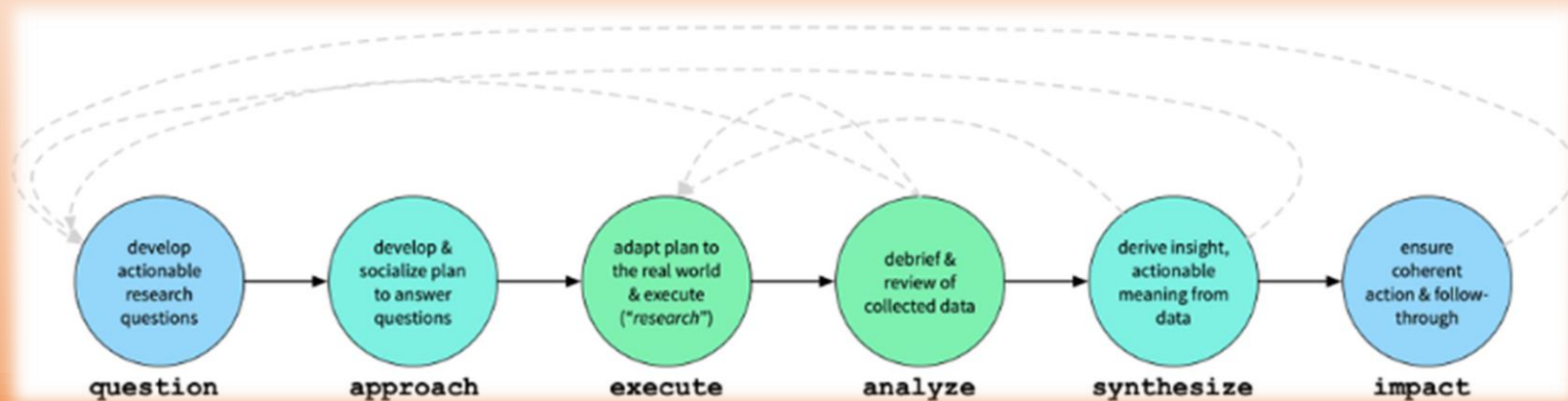
Credit: Bob Patterson

Downsizing: An Ancient Art

Hagar the Horrible by Dik Browne



Hagar the Horrible, by Dik Browne, 11/4/98. © King Features Syndicate. Used with permission. All Rights Reserved



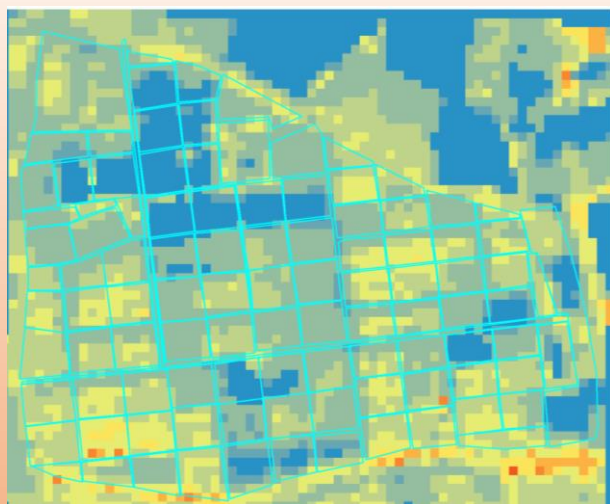
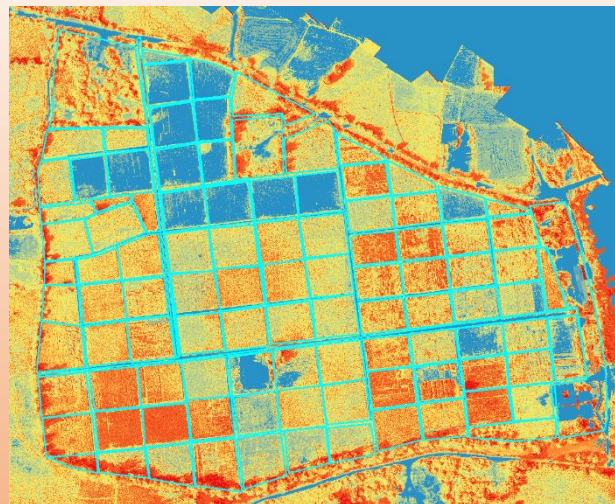
My Current Research Journey experience

United Nations Sustainable Development Goal 2 :
Ending hunger, achieving food security and
improved nutrition and promoting sustainable
agriculture

Proposed solution: Farm management solutions:
Information sharing, analytics and precision
farming tools

UAV

Satellite



- The scientific collaboration in academic community with scientific community inspire the spirit of research and transform young individuals into scientific thinkers.
- Research in science and technology needs both “scanner” as well as “diver” type of thinking.
- Literature review need not be a necessarily only limited to initial steps in process of research.
- Scientific writing is a skill that researcher will need to inculcate to publish his research.
- Developing “constant learning mind set” is most needed for growth and development of a researcher.

- Conference paper for NS-ARS21 - National Symposium on Advances in Remote Sensing: Trends, Challenges and opportunities for development (Authors: Dr. Rahul Nigam, Jayachandra Ravi, Dr.BK Bhattacharya, Devansh Desai, Dr. Parul Patel)
- Conference paper titled “Effect of Diurnal and Angular Thermal infrared measurements on field-scale evapotranspiration” in IEEE INGARSS. (Authors: Dr.Rahul Nigam, Devansh Desai, Dr.BK Bhattacharya, Jayachandra Ravi, Dr. Parul Patel)
- Advances in Space Research “Retrieval of Crop Biophysical-Biochemical Variables from Air Borne AVIRIS-NG data using Hybrid Inversion of PROSAIL-D.” (Manuscript in pipeline First Revision done in manuscript)
- Upcoming ISRS-ISG Symposium “Sun Induced Fluorescence (SIF) as stress indicator in Wheat crop and its relation with key photosynthetic parameters ”
- Upcoming ISRS-ISG Symposium “Hyperspectral Image classification and un-mixing of classes from AVIRIS-NG image”

Good news : Government policies are boosting geospatial research across multiple sectors

I want to see a drone in every farm, phone in every hand, says Modi



Jagriti Chandra

MAY 27, 2022 21:42 IST
UPDATED: MAY 28, 2022 00:14 IST

SHARE ARTICLE | | | | | |



'We used technology as a bridge to take government benefits to the poor'

At the launch of a two-day festival on drones, Prime Minister Narendra Modi on Friday hailed the use of technology in the past eight years as a "bridge" for reaching government benefits to the poor and mocked those who create "fear" about it. He said that while technology was earlier seen as anti-poor, under him its use had proliferated among the masses, instead of being the preserve of the few.

India: Why The New Geospatial Policy Can Do Wonders For Indian Economy

09 December 2021

by [Meghna Mishra - Partner](#) and [Dheeraj P. Deo](#)

Karanjawala & Company

Your [LinkedIn Connections](#) with the authors



You can't use an old map to explore a new world.

-- Albert Einstein

What the late Nobel laureate and physicist said about maps, could not have been more apt in a digitally interconnected world.

Unlike the past, when maps were used mostly by explorers, navigators and Colony seeking adventurers, to find their way, today almost everyone is walking with a map in their pocket, ready to be accessed, any time, any where.

PM GatiShakti a game-changing initiative; entails geospatial mapping of everything: Goyal

By: [Business Desk](#) • [News18.com](#) • Last Updated: MARCH 26, 2022, 14:10 IST



Union Minister Piyush Goyal (File Image: Money SHARMA/AFP)

Goyal said PM GatiShakti is a geospatial mapping of everything in the country, including forests and highways

Follow us: Facebook | Twitter | Instagram | Telegram | Google News

Commerce and Industry Minister Piyush Goyal has said the PM GatiShakti National Master Plan is a game-changing initiative and will help fast-track infrastructure projects in the country with better planning and implementation through geospatial mapping.

He said the PM GatiShakti will help in making infrastructure plans in a better way. It can help avoid places that can come in the way of infrastructure projects like forests, water bodies or mountain ranges by spotting them using technology, he said.

Indian Farming's Next Big Moment: Farming as a Service

Improving the efficiency and productivity of Indian agriculture.

By Chris Mitchell, Shivani Sehgal, Priyanka Chopra and Hemendra Mathur

February 08, 2018 • 3 min read

Authors



Chris Mitchell

India is predominantly an agrarian economy. Farming contributes about 17% to India's GDP, and about 60% of the country's rural households depend on agriculture and its associated industries. Despite having the second-largest arable land parcel—its 160 million hectares make it second only to the US—India is way behind some



شكراً جزيلاً

ngiyabonga

рахмат

спасибо

Баярлалаа

faafetai lava

danke

謝謝

spas

tesekkür ederim

merci

kia ora

barka

welalin

tack

vinaka

blagodaram

dank je

misaotra

matondo

paldies

grazzi

mahalo

tapadh leat

hвала

asante

manana

obrigada

tenki

thank you

gracias

hvala

mauruuru

köszönöm

akun dankon aciü

moichchakkeram

chhorakaloutioun

gratias ago

gracies

sulpáy

go raibh maith agat

djiere dieuf

tau

дякую

mamnun

dziękuje

sobodi

dėkuji

sagolun

sukriya

kop khun krap

taiku

arigatō

takk

dakujem

trugarez

obrigado

mesii

didi madloba

najis tuke

kam sah hamnida

rahmat

terima kasih

tanemirt

rahmet

grazie

arigatō

takk

dakujem

trugarez

merce

merci

shukriya

merce

merci

ευχαριστώ

dioich

dhanyavadagalu

shukriya

merce

merci

감사합니다

xiexie

তোমাকে ধন্যবাদ