

# GOFC-GOLD Fire Program and Meeting Objectives

Chris Justice

UMD

# Program Origins 1.

- The GOFC-GOLD Fire Implementation Team was established as a component of GOFC, following the recommendations of a planning Workshop in 1999 held at the Space Applications Institute of the JRC (Ahern, Gregoire and Justice 2000 - EUT 19588 EN).
- The workshop recommended that a Fire Monitoring and Mapping Component of GOFC be established 'GOFC-Fire' and an Implementation Team (IT) consisting of representatives of various Fire Projects be established to:
  - track the progress of the GOFC-Fire component
  - formulate new tasks
  - form working groups to conduct algorithm intercomparisons,
  - identify user requirements
  - and develop specifications for operational sensors.

# Program Origins 2

- It was recommended that the IT would meet annually.
- Chris Justice was invited to Chair GOFC-Fire IT in 1999 and in 2002 Johann Goldammer was invited as Co-chair. The Co-chair positions were for 3 years renewable (17 years later) !
- The overarching principles of GOFC-Fire have remained largely unchanged since 1999, with the stated goals of:
  - transitioning experimental missions into the operational chain,
  - promoting the provision of high quality operational fire products;
  - provision of frameworks for multi-sensor calibration and validation;
  - supporting the maintenance of long term data records of EO fire data;
  - encouraging widespread, low cost and rapid access to EO data for fire monitoring and mapping;
  - working with the user community through regional networks to define requirements for observations and dissemination and increase use of existing EO data

# Origins 3

- In 1999 the community research priorities were for:
  - algorithm improvement, clear documentation of the shortcomings of existing algorithms and products to avoid misrepresentation,
  - development of multi-sensor algorithms and fusion of products,
  - rigorous validation and clear documentation on product accuracy
  - continuity of long-term data records.
- At that time, no sensors were in orbit, with elements designed specifically for fire monitoring
  - That has changed largely due to the efforts of the IT Members

# GOFC-GOLD Program Status

- GTOS parent organization remains at FAO but unfunded and inactive (John Latham- lead on paper only )
- Tony Janetos (BU) – GOFC Chair (supported by NASA LCLUC)
- NASA LCLUC supports Chris Justice and GOFC-Fire Office – 5 year commitment (Budget TBD). Krishna stepping down as Exec Director of GOFC Fire (continue as IT member). Johann Goldammer self-supported/GFMC.
  - Justice and Goldammer (Co-Chairs) have agreed to step down but will continue as IT Members
- NASA LCLUC contributes to Regional Network meetings and activities through START (Senay Habtezion) – 1 year more funding renewable
  - Chiekh Mbow (new Director, previously WARN) supportive of GOFC – intends to try and build Africa networks (sent apologies)
- ESA supports GOFC - Land Cover Office, Martin Herold and Curtis Woodcock (Co-chairs), Brice Mora Exec Director (leaving -possibly temporarily)
  - LC Office funding up for renewal
  - Increasing regional training for REDD+ (Pontus Olufson)
- GOFC Biomass Group Christiana Schnullius

# The Previous GOFC Fire IT Meeting

## July 2014



# 2014 IT Meeting at NOAA NESDIS

- Foci for the IT identified at the meeting were as follows:
  - Operational fire monitoring capabilities on JPSS VIIRS and METOP, Sentinel 3 SLSTR providing data and product continuity (NOAA/ESA/NASA) including Near Real Time access to the data
  - Space Agency coordination of global moderate resolution data, processing and access (Landsat 8, Sentinel 2 (NASA/ESA/USGS), China/Brazil, India)
  - Meteorological Agency support for establishing a Global Geostationary Fire Network (NOAA/CGMS)
  - Implementation and regional calibration of operational Global Fire Early Warning Systems (Canada, EC JRC)
  - Global Burned Area Products and Validation (Stage 3) – NASA/ESA
    - CEOS LPV WG Fire
  - Support for the Regional Fire Networks and developing capacity building programs on the use of satellite fire data (e.g. START, NASA)
  - Coordination / refinement of requirements of fire observations in support of the International Conventions and articulating implementation methods / best practices e.g. ECV's for UN FCCC, GOFC-GOLD Sourcebook for UN REDD+
  - Building the Global Wildfire Information System (GWIS) as a GEO Task.

# This Meeting: Updates and Program Direction

- New systems: S-NPP and JPSS VIIRS, Sentinel 3 SLSTR, GOES-R, Sentinel 1 and 2, Landsat 9
- Global Fire Products and Validation
- GOFC-Fire IT Program Liaison – GCOS ECV's, CEOS LPV, UN REDD+, GMFC
- Contributory Projects – AFIS, GWIS, MUSLI, Fire Early Warning (Canada), NASA ASD
- Regional Network Activities – REDLATIF, SEARRIN, SAFNET, Balkan/Mediterranean Network and GWFN inc. S. America
- Discussion of Program Direction and New Leadership

Presentations Split between two meetings – IT meeting and GWIS (tomorrow)



# Things for IT to explore at the Meeting 1

- Fire IT Outreach opportunities to strengthen the fire research and data user community
  - Community briefings on current status of systems and products
  - Best practices: e.g. fire validation, REDD+Fire
  - Recent research findings
- Strengthening Regional Networks
  - NASA LCLUC START workshop support
  - New network funding opportunities
    - Visiting scientist program ?
  - Can JRC/GEO GWIS strengthen regional fire activities?

# Things for IT to explore at the Meeting 2

- Regional Network Meetings and Activities
  - SEARINN SARI Workshop Ho Chi Minh City (2016)
  - Southern Africa SAFNET 2017 ?
  - Latin America - REDLATIF 2017?
  - SEARINN/SARI Regional Network - Land Use, Biomass Burning and Emissions Workshop – Chiang Mai, Thailand (June 2017) – GOFC, NIES Japan, START, NASA LCLUC, – and other?
  - Others ? – EaRSEL SIG
- Change in GOFC- FIRE IT Leadership
  - Vision for the next phase of GOFC-Fire
  - Access to resources
- Expanded IT Membership ?
- Next Team Meeting
  - 2017 w. London RS Soc (w. plenary Fire Session) ?
  - Oct 2018 w. Forestsat ((w. plenary Fire Session) NASA/UMD Hosting ?

# GOFC-GOLD Fire Implementation Team Meeting November 15<sup>th</sup>

- 9:40 GOFC–GOLD Fire Program and Meeting Objectives – Chris Justice
- 10:00 Updates on Suomi-NPP, JPSS and GOES-R Fire Data Products – Ivan Csiszar

*10:20 – 10.40 Tea/Coffee Break*

- 10:40 M-Band for VIIRS Fire Retrieval – Wilfrid Schroeder
- 11:00 Global Fire Products and Updates – Louis Giglio
- 11:20 ESA Fire-CCI - Burnt Area Product Updates – Emilio Chuvieco
- 11:40 Update on European Satellite: Fire Capabilities – Martin Wooster

*12:00-1:20 Lunch*

- 1:20 GCOS ECV Fire Update – Kevin Tansey
- 1:40 UN-REDD Fire-GOFC source book /CEOS LPV Updates – Luigi Boschetti
- 2:00 Fire Research at Canadian Forest Service – Tim Lynham
- 2:20 AFIS and SAFNET Updates – Philip Frost
- 2:40 REDLATIF (Latin America) Update – Jesus Anaya (Columbia U) /Alberto Setzer (INPE, Brazil)
- 3:00 Balkan Network Update - Ionnis Gitas

*3:20 – 4:00 Tea/Coffee*

- 4:00 SEARRIN/SARI Update – Krishna Vadrevu (NASA MSFC, USA)
- 4:20 GFMC South America – Patricio Sanhueza (CONAF, National Fire Service Chile)
- 4:40 The Future of GOFC-GOLD Program and Management: Discussion Session - Chris Justice.

*6:00 Adjourn and Invited Social Dinner*

# Global Wildfire Information System (GWIS) Meeting

November 16

- 9:40 Overview of the Global Wildfire Information System – Jesus San-Miguel-Ayanz

*10:15- 10.45 Tea/Coffee Break*

- 10:45 Global Fuel Products (ML Pettinari)
- 11:05 Global analysis of vulnerability (E. Chuvieco)
- 11:20 Fire Ignition Sources (J.M. Pereira (tbc)) /Fire Danger Assessment (D. Viegas)
- 11:40 Copernicus Global Burnt Area Mapping (Kevin Tansey)

*12:00-1:00 Lunch*

- Potential Contributions of Regional Fire Information Systems to GWIS:
  - 1:00 Australia (Gary Morgan)
  - 1:20 Southern Africa (Philip Frost)
  - 1:40 Brazil (Alberto Setzer )
  - 2:00 Canada (Tim Lynham)
  - 2:20 Europe (J. San-Miguel)
  - 2:40 New Zealand (Richard Parker)
  - 3:00 South America, Redlatif (J. Anaya)
  - 3:20 Russia (Sergei S. Eritsov)

*3:40 - 4.00 Tea/Coffee*

- 4:00 Regional Network Coordination Suggestions (A. Hoffman)
- 4:20 Future activities around the GWIS (All)

*5:30 Adjourn*

# Foresat Conference Session: Fire Regime

Thursday : 2:30-6:00pm; Room: F2

Chairs: Chris Justice (UMd) and Jesús San-Miguel-Ayanz (JRC)

12:30 Global Fire Regimes Inferred from Satellite Data – Emilio Chuvieco (Universidad de Alcalá , Spain)

2:50 Advancing the use of VIIRS fire data in operational fire monitoring and applications- Ivan Csiszar (NOAA, USA)

3:10 Fire Regimes in South Africa and AFIS multi-sensor detection capabilities – Philip Frost ( South Africa)

3:30 Mapping Burned Area with Landsat Class Observations – David Roy (SDSU, USA)

3:50 Fire monitoring from European Satellites – Martin Wooster (Kings College London, U.K.)

4:10 Coffee/Tea Break

4:30 GFED Burned Area Caveats and Cautionary Notes- Louis Giglio (UMd)

4:40 Inter-comparison and Validation of Burned Area products – Luigi Boschetti (U. Idaho, USA)

5:00 Fire Regimes Cerrado – Anja Hoffman

5:20 Satellite and Model Fire Behavior – Wilfrid Schroeder (University of Maryland, USA)

5:40 Examination of pyrophytic plant combustion and the relationship between fuel moisture, energy released and emissions. – Evan Ellicott (UMD, USA)

6:00 Adjourn