

# Informal review of MRC Council Study reports

*Preliminary findings*

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# What is USGS?

- An independent science organization of the U.S. federal government, under Department of the Interior
- Science resources leveraged with 2,000+ partners (domestic and international)
- Science delivered via numerous mechanisms (such as this independent science review)

# Thanks to MRC for the opportunity

- An informal review, limited by time (~ 2 weeks)
- Selected reports based on available expertise during the time window
- A total of 6 reports reviewed:

## Discipline Reports



The zip file for the whole 10 disciplines reports (39.7MB) can be found [here](#).  
Separate reports can be downloaded from below links:

- [Modelling the Impacts of Climate Change and Development Infrastructure on Mekong Flow, Sediment Regimes and Water Quality](#) .
  - [Council Study Modelling Team in Collaboration with the University of Nice and M2 Euroaquae.](#)
- [Council Study Modelling Team.](#)
  - [Macro-economic Assessment Report.](#)
- [Cumulative Impact Assessment Key Findings Report.](#)
- [Biological Resource Assessment Technical Report Series.](#)  
*Volume 4: Assessment of Planned Development Scenarios*
  - [Social-Economic Impact Assessment.](#)
  - [Key Messages from the Study on Sustainable Management and Development of the Mekong River Basin, including Impact of Mainstream Hydropower Projects.](#)
  - [Key Findings from the Study on Sustainable Management and Development of the Mekong River Basin, including Impacts of Mainstream Hydropower Projects.](#)
- [Climate Change Report Climate Change Impacts for Council Study Sectors](#)

## Thematic Reports



The zip file for the whole 6 thematic reports (19.4MB) can be found [here](#).  
Separate reports can be downloaded from below links:

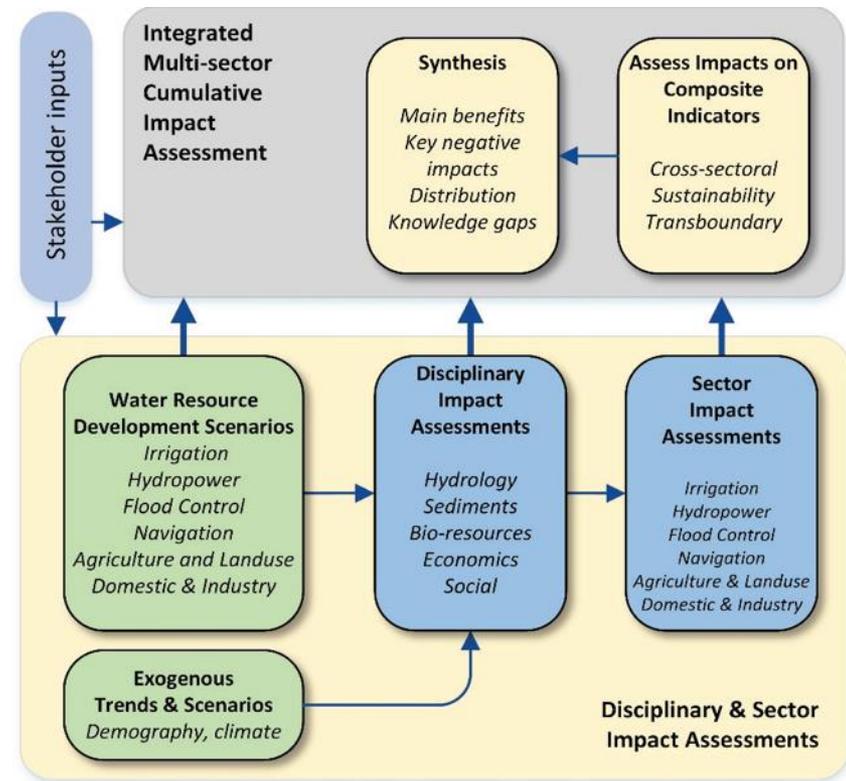
- [The Study on the Sustainable Management and Development of the Mekong River Basin, including Impacts of Mainstream Hydropower Projects.](#)
- [Thematic Report on Impacts of Non-Irrigated Agriculture Development and General Trends in Major Land-Use Categories in the Lower Mekong River Basin Including Recommendations for Impact Avoidance and Mitigation Measures.](#)
- [Thematic Report on the Positive and Negative Impacts of Domestic and Industrial Water Use on the Social, Environmental, and Economic Conditions of the Lower Mekong River Basin and Policy Recommendations.](#)
- [Report for Navigation Thematic Area \(Cambodia- Lao PDR- Thailand- Viet Nam\).](#)
- [Flood Sector Key Findings Report Flood Protection Structures and Floodplain Infrastructure.](#)
- [Thematic Report on the Positive and Negative Impacts of Hydropower Development on the Social, Environmental, and Economic Conditions of the Lower Mekong River Basin.](#)

# Key messages from the review

- An overall effective and integrated study, based on a carefully-designed methodology framework
- Demonstrated technical competence by MRC in several front: social, economic, hydrological and ecological
- Contribution of the study is not whether the hydropower projects would lead to negative impacts, but quantifications of such impacts in a temporally and spatially meaning way
- The study needs to be formally reviewed by independent science panels in order to achieve a broad acceptance in both UMR and LMR countries
- Future studies and monitoring efforts are needed to develop and implement mitigation strategies and to provide information for adaptation management

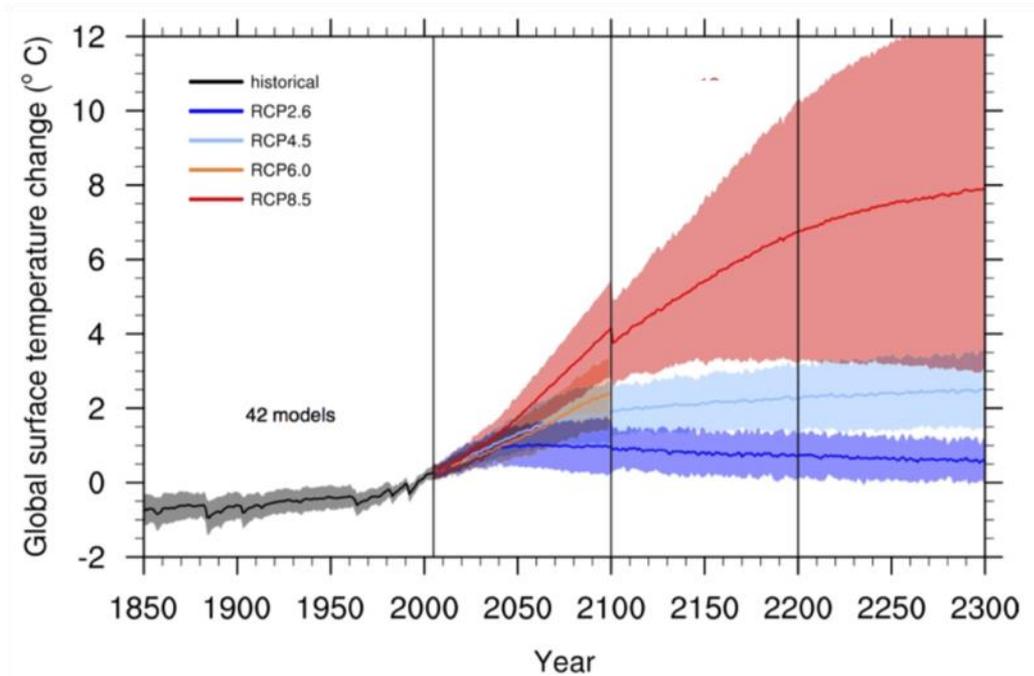
# Consistencies and standardization between reports

- Reports should be able to individually stand alone, readers should be able to understand the context, connections, methods, and implications without having to refer to other reports.
- Suggest all reports have a brief common background and “design of the assessment” section in the front similar to that of the CIA report
- Use consistent terminologies such as names of the scenarios



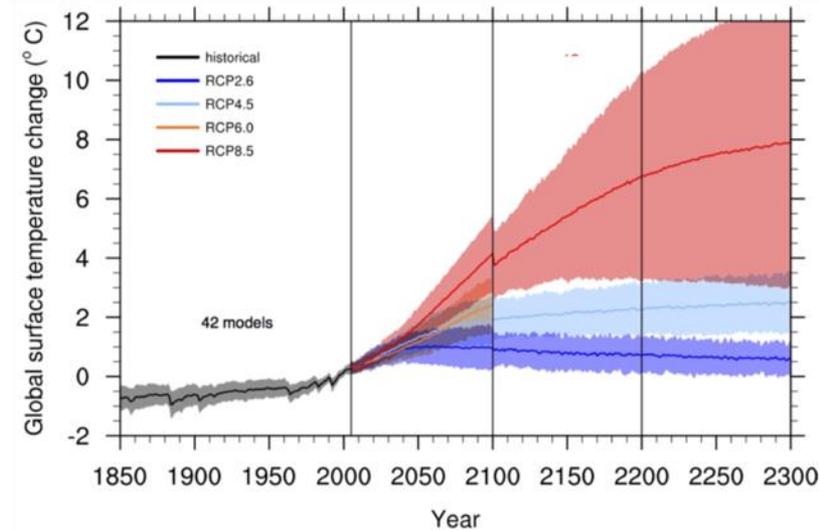
The climate change assessment noted that:

1. the projection horizon is too short, and
2. the choice of RCP4.5 may be too limited



# Establish uncertainty measures, avoid absoluteness

- Scenarios are a useful tool and a key design of the Council Study, however scenarios are not facts nor actual measurements
- Uncertainties come from several sources, with scenarios being the major one
- Stakeholders of the study need to know the size of uncertainties and their sources, in order to make policy decisions
- The Council Study should address this issue in future revisions
- Meanwhile, suggest to avoid terms that convey absoluteness, e.g. “will, predict”, Instead, use “would, projected, etc.”



# Confusions with scenarios

- As noted, scenarios are an effective way to examine potential impacts and policy responses
- But too many scenarios created confusions, losing their effectiveness in communicating about alternative futures
- Even the four main scenarios (and the baseline) were called different names between different reports, sub-scenarios labeled differently within reports
- Should figure out how to more effectively present the spread due to design, model uncertainty, and natural variability related to the scenarios
- What is the baseline? Is it the average of 1985-2008 (data summary), or M1 (modeled)?

# Other technical recommendations

- Model-data calibrations or verifications were not highlighted in the reports
- Sea level rise and intrusion of saline water in Mekong Delta: effects and responses
- Effects of hydropower developments on GHG emissions and carbon sequestration
- Mitigation measures and risk management strategies discussed but not centrally highlighted, particularly at a suitable scale (e.g. project by project)

# The need for a formal review

- The Council Study needs to be reviewed formally by independent science panels for it to be accepted broadly
- MRC should request that reports be edited by professional technical editors
  - grammar errors and incomplete paragraphs
  - Terminologies and units need to be consistent
  - Captions for tables and figures including abbreviations and acronyms
- And more importantly, a formal review is needed to address conflicting statements and technical errors including conceptual problems

# Look to future

In summary, we commend MRC for conducting the ambitious, necessary, and creditable report

Recommendations from the review can be implemented with ease

While it is an informal review, the USGS appreciates the opportunity.

And we are interested in continued engagement, coordinated through the US government

Thank you!

